

# Benchmarking Explain Text for Enterprise Profile

---

Gartner, Inc.

April 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Overview .....</b>	<b>2</b>
<b>2.0 Enterprise Information.....</b>	<b>3</b>
<b>3.0 Enterprise Financial Data .....</b>	<b>5</b>
<b>4.0 Enterprise IT Budget and Head Count Distribution.....</b>	<b>7</b>
<b>5.0 Enterprise IS Staff .....</b>	<b>13</b>
<b>6.0 Spending and Staffing .....</b>	<b>14</b>
<b>7.0 Cost Allocations to IT Functions .....</b>	<b>16</b>

## 1.0 Overview

The *Enterprise Profile* section captures information that helps to describe the broadest scope of the overall engagement. This section includes items such as the geographical scope of business operations, total IT budget and total revenue.

As you provide answers to these questions, please keep in mind that spending, staffing and workload information provided for each of the subsequent IT functional area views are compared to these answers, providing insights regarding the business context of each functional area view. For example, the enterprise profile may indicate an IT Budget supporting global business units, although one of the functional area views analyzed may be scoped to include client and peripheral support for end users in the European market only. Metrics such as “analyzed IT spend as a % of total IT budget” are calculated to help Gartner understand the contribution of that investment within the scope of the entire IT budget and to help prioritize actions that may provide the largest returns.

**General Guideline to Follow**—It is expected that the *Enterprise Profile* section will hold the highest level of information that is pertinent to the analysis. The IT functional area views are defined at least one level below the enterprise profile level. Therefore, the “roll-up” or aggregate of the IT functional views will result in figures that are less than or equal to the information provided in the enterprise profile level.

## 2.0 Enterprise Information

The *Enterprise Information* section captures general information about your enterprise as well as begins to scope the interview (high level).

**Enterprise Name:** name of organization undertaking the benchmark.

**Primary and Secondary Industry Classifications:** Select a classification from the options presented at the most granular level that is appropriate for your organization. A secondary classification is offered to refine the first selection, if desired, (e.g., primary = commercial banking; secondary = credit card services) or to accommodate another selection if the primary and secondary are in significantly different lines of business (e.g., primary = manufacturing, secondary = sales financing).

**Geographical Scope of Business Operations:** Select a classification from the options presented at the most granular level that is appropriate.

**Number of Major Enterprise Locations Supported:** Indicate the number of locations including headquarters and field/branch offices but excluding the offices of employees working remotely (out of their homes).

**Number of Employees (including IT):** Indicate the count of employees (i.e., head count excluding contractors or consultants) regardless of whether these employees are frequent users of the technology supported by the IS organization.

**Number of Contract Employees (including IT):** Indicate the count of contractors employed by your organization regardless of whether these employees are frequent users of the technology supported by the IS organization.

**Insourced IT Full-Time Equivalent Head Count:** Indicate the full-time equivalent head count of internal IT staff.

**Contract IT Full-Time Equivalent Head Count:** Indicate the full-time equivalent head count of IT contractors.

**Number of End Users of Technology Supported:** Indicate the count of people who may use the technology supported, regardless of whether they are employees (e.g., contractors or consultants may be included).

**Organizational Scope Represented by This Assessment Data:** Indicate whether the data provided will represent the enterprise (all business units), a particular division (some defined set of business units) or a particular business unit.

**Technology Adoption Profile or Your Organization:** Indicate the dominant IT adoption profile for the business areas under analysis. Take into account not only what is in place or planned but also whether IT benefits from management backing, enterprise funding and enterprise vision.

**Type A: Leading-Edge IT Adopter:** We compete at the cutting edge of innovation, using IT as a weapon. We have management commitment and funding.

**Type B: Mainstream IT Adopter:** We use IT to improve productivity, product quality and customer service, but we generally do not use it to compete on price or innovation.

**Type C: Conservative IT Adopter:** We compete on the thin edge of cost margin or economies of scale. Management regards IT primarily as a tool for reducing costs.

**Fiscal Year and Month:** The fiscal year and month entered here should coincide with the revenue and OPEX being provided for this analysis.

**Analysis Year and Month:** This is the year and month representing the IT budget under analysis.

**Number of Months of “Actual” vs. “Projected” Data:** Depending on specific situations, some clients may decide that the most-representative view of their environment requires sampling and projection of key pieces of data. If your data includes some projections, please quantify the number of months projected as well as provide a brief explanation of the method used.

**Value Added Tax (VAT) or Goods and Services Tax (GST):** Some clients are subject to Value Added or Goods and Services taxes, the impact of which needs to be understood in the course of a benchmark. In many cases some or all of these taxes are recoverable or refunded to the IT organization and therefore should be excluded from this analysis. If you are subject to VAT/GST that are non-recoverable, then a few more questions regarding amount and effective rate of these taxes will be required and will appear on the ‘Unrecoverable Value Added/Goods and Services Tax Information’ table.

## Unrecoverable Value Added/Goods and Services Tax Information

Please enter the annual spending and percent effective rate for the non-refundable VAT/GST associated with each category listed.

**Annual Spending:** The amount provided here should include only the non-refundable VAT/GST associated with the comparative analysis scope defined, i.e., the comparative views for which you are providing spending, staffing, workload and other data. For example, if you indicated in the ‘Enterprise Information’ table that the Total IT Budget was \$50 million including applications and infrastructure but the scope of costs actually compared was limited to infrastructure at \$35 million, then the VAT/GST spending provided should include only those taxes that relate to the \$35 million.

**Percent Effective Rate:** This refers to the percentage tax rate that is non-refundable. It is possible that the **standard** rate levied on your organization tax rate is higher than the percent **effective** rate, since some of that tax **may be** refundable. For example, if the standard rate is 8% but 5% is actually refundable, then the 3% that is non-refundable should be entered here.

## 3.0 Enterprise Financial Data

The *Enterprise Financial Data* section captures enterprise wide revenue, expense and IT budget information including volumes and growth rates. This information is used to generate metrics such as 'IT Spend as a % of Revenue' which bring a business focus to the benchmark analysis to complement the operational focus provided by traditional IT performance metrics.

**Revenue and Expense (most recently reported):** The size and distribution of the current year IT budget is typically determined by recent business performance (most recently reported revenue and expense) and business initiatives for the coming year. The Enterprise Financial Data is intended to capture this relationship. Consider the following example.

An organization decides to benchmark their performance in Q1 2011. Planning for their 2011 IT budget actually started in mid-2010, as the business units determined their 2011 priorities. However, final approval of the 2011 initiatives was largely dependent on year-end 2010 business performance. In this scenario, the Enterprise Financial Data would be provided as follows:

### ***For Revenue and Expense:***

- Previous Year = 2010
- % Change to Previous Year—this is the percent change from 2009 to 2010
- % Change Expected This Year— this is the percent change during 2011

### ***For IT Spending:***

- Current Year = 2011
- % Change from Last Year—this is the percent change from 2010 to 2011
- % Change Expected Next Year—this is the percent change from 2011 to 2012

**Total Revenue:** Indicate the enterprise revenue associated with the business units supported by the IS organization under evaluation. (Banks: use net fee and interest income; insurance: use gross premium and other income; government and nonprofit: use enterprise operating budget.)

**Business Operational Expense:** Indicate the enterprise expenses associated with the business units supported by the IS organization under evaluation.

**IT Budget (Infrastructure and Applications):** This response should account for the CIO's entire budget, including infrastructure as well as application development and support. It should also be classified to identify capital projects, ongoing operations and depreciation/amortization separately for the current year. If capital and operations cannot be provided separated, the combined total can be entered into the 'Unallocated Capital and Operations' category.

IT Budget/Spending can come from anywhere in the enterprise that incurs IT costs, and it is not limited to the IT organization. It is calculated on an annualized "cash out" basis and therefore contains capital spending, and operational expenses, but not depreciation/amortization.

**IT Budget includes (From a resource or accounting perspective):** Hardware, software, personnel (including travel and benefits and training), contractors and consultants, outsourcing, disaster recovery, occupancy, data and voice communications/transmission, associated with supporting Information technology within the enterprise. Occupancy costs include fully burdened costs for the facilities being used by the staff supporting the enterprise. Some examples include

office space, furniture, electricity, maintenance, property taxes, security, and office supplies. Occupancy costs for space dedicated to IT functions such as the data center and help desk are also included. All taxes (except VAT when recovered or refunded to the organization).

**IT Budget includes (From an IT domain or activity perspective):** The data center (servers, storage etc), client devices (desktops, laptops, PDAs, smartphones), voice and data networks (including but not limited to voice and data transmission, fixed and mobile telephony, remote access services, Internet access services), help desk, application development and maintenance. IT Support functions such as the office of the CIO, supervisory management, finance and administrative costs, such as purchasing, asset management, process management, and marketing of IS services. Dedicated data processing equipment used in operations, production and engineering environments—Examples of this are CAD/CAM, and standard computing equipment used in devices for factory automation, and tablet PCs used by healthcare professionals.

**IT Budget does not include:** Costs for technology or services that are resold—An example of this is salaries for developers involved in building commercially packaged software. Operational technology that is equipment built or purchased for non data processing purposes but which has computerized components—Examples of this include robotic manufacturing machines, Automated Teller Machines, specialized point of sale devices, scanners, blood pressure monitors etc. Depreciation or amortization expenses as that could lead to double counting from an accounting perspective. Internal “cross charges” and corporate allocations related to expenses such as, early retirement, incentive bonuses, human resources, and chairperson's salary etc. Business data subscriptions and services (such as Bloomberg), even if they are managed by the IT organization.

**Percentage Distribution—Run, Grow, Transform:** Indicate the distribution of IT budget and operational expense by type of investment:

- Run—these investments tie to activities that support core business operations. Efficiency and performance optimization should be key themes.
- Grow—these investments tie to organic growth and increased customer demand.
- Transform—these investments are linked to changes in the business model and the introduction of new products and services.

## 4.0 Enterprise IT Budget and Head Count Distribution

The *Enterprise IT Budget Distribution* section captures the percent allocation of current year IT capital and operations spending by cost category and functional area. Distributions by cost category should include all functional areas in their scope. Likewise, distributions by function should include all cost categories.

**Hardware:** This includes the capital and operational IT budget costs in the chosen year of:

1. Mainframe system (OS390, VM, VME, VSE, Z/OS, IFL, zAAP, zIIP) processors, attached disk devices, print devices, tape storage devices, console devices and other peripherals associated with the centralized systems (production and non-production including disaster recovery) as well as other miscellaneous devices needed to support the processing equipment, plus circuit or similar costs needed to connect multiple data centers or processors/devices to each other.
2. Same costs for Unix (AIX, DEC, HP, S/390, SCO, SCI-Cray, Sun, etc.), Wintel (OS2, Windows Server 2003, Windows Server 2007, Novell, etc.) and other OS (iSeries, Linux, VAX, Tandem etc.) servers and associated devices in the data centers and server rooms of the enterprise and its service providers
3. Storage devices such as Storage Controllers, Storage Servers, Virtual Tape Libraries, Offline Supplies (Media), etc.
4. Desktop, Mobile, Handheld Client PCs and associated devices of all forms, Personal and Shared Printers, Multi-function devices, and all hardware devices (PCs, servers or other) used as platforms or consoles for IT Management
5. IT Help Desk PBX, Automated Call Distribution ACD, Interactive Voice Response (IVR, Computer Telephony Integration (CTI), IT Help Desk Client and Peripheral Devices and Application Servers
6. Telephone System Equipment, Premise System Phones, Voicemail, MAC (Materials), Wide Area Voice Switching & Routing, Terminating, Microwave/Satellite, Voice Compression, Multiplexers, PBX/PABX Interface Cards, Channel Service Unit / Data Service Unit (CSU/DSU) Hardware, Cellular Handsets, IT Management - Network Operating Centre (NOC) Client PCs and Servers
7. Data Network (WAN, MAN, LAN, Internet Access) hardware including Switching & Routing (Multiplexers, Satellite, Boundary Routers, Backbone Routers & Switches), Terminating (Gateways, Modems, CSU/DSU), Internet Access / Proxy Servers, Accelerators, RAS Servers, Security (Firewall, Encryption), Other Hardware (DNS, DHCP, UPS), Hardware Supplies (MAC Materials), IT Management (NOC) - Test Equipment, Console PCs, Servers etc.
8. Maintenance & Support Contracts: Annual costs of maintenance & support contracts related to specific hardware including Disaster Recovery.

**Software:** This includes the capital and operational IT budget costs in the chosen year of:

1. Mainframe Operating System, Virtualization and Logical Partitioning, Utilities (non-storage), Database & Data Management, Middleware, Content / Document Management & Search Engines, Messaging, Communications, Security, Routine Libraries, DR, IT Management etc.
2. Server (Unix, Wintel, Other) Operating System, Virtualization and Partitioning, Utilities (non-storage), Database & Data Management, Middleware, Content / Document Management & Search Engines, Messaging, Communications, Security, DR, IT Management etc.

3. Storage Software for Creation & Setup, Storage Maintenance, Reporting, Security, Monitoring, Backup/Restore, Archival, Replication, Media Handling, Data Migration/Tiering etc.
4. Client & Peripheral Executing Software - Personal Productivity and Database, Messaging and Groupware - plus all Software used for Managing the Clients & Peripherals including diagnostics, remote control, software distribution and so on.
5. IT Help Desk Software - Expert Knowledge Tools, Problem Management Tools, Quality Monitoring, Web Self Service, Workforce Management Software, Workflow Management Software, IT Help Desk Management Portal Software, E-Mail Response Management, Contact Management etc.
6. Voice Network Management Software used for Voice Switch/Server & Peripherals (ACD, VRU, etc.), Voicemail, IT Management (NOC)
7. Data Network Management Software used for Network Operating System, Security, Internet Access / Proxy Server, RAS Server, Firewall / Encryption, Other Software (DNS, DHCP), IT Management (NOC), Network System Management (NSM)
8. Applications - Software required by the application development and support staff to do their jobs such as languages/compilers/databases, development/testing tools and IS management software. For application development, include the purchase costs for any off-the-shelf vendor packages implemented within the study time frame. If the package implementation spanned multiple years, prorate the purchase costs included in the analysis based on the amount of effort completed on the project in the study year over the total project effort. For application support, provide the maintenance cost of off-the-shelf vendor packages.
9. Maintenance & Support Contracts: Annual costs of maintenance & support contracts related to specific software products including Disaster Recovery.

**Personnel Costs (fully burdened):** Annual costs of internal IT staff including all employer on-costs such as pension contributions, national insurance contributions, bonuses, health schemes, sickness benefits, overtime, company cars, and so on. Covering all IT functions including: Operations/Maintenance, Engineering/Technical Services, Planning & Process Management, Services Administration, Management & Administration, Facilities Management

**External Contractor & Consultant Fees:** Annual costs of external IT personnel employed on a "per head" contract or consultancy basis (time and materials) at some time during the year of analysis. Potentially covering all IT functions mentioned above.

**Outsourcing:** Subcontracting work to an external source (e.g. microfiche, print, maintenance, procurement, systems management, equipment, etc.)

**Outsourced Service Contracts:** Outsourced is defined as subcontracting IT work to an external source for a period of more than one year on a fixed fee or non-personnel unit price basis (e.g. microfiche, print, support services, procurement, systems management, equipment, implementation projects etc.)

**Transmission (Categorized as Outsourcing):** Annual costs relating to Wide Area Voice Access & Usage (Outbound, Inbound), Combination Trunks (local calling), DID Trunks (local calling), DOD Trunks (local calling), Number Blocks (primarily Europe), ISP Dial-up, Toll-Free Dial, Internet Access/Port, Data Dial Backup Service, Private Data Network, Carrier Digital Services (Frame Relay, ATM, MPLS), T-3 (43Mbps), SONET, Metropolitan Ethernet, Dark Fiber, Intra- and Inter-Data Center Connectivity, IT Help Desk Inbound 800, Dedicated Trunking, Local Service, Outbound Long Distance, Internet Access, and Network Between IT Help Desks, and Disaster Recovery Connectivity Usage

Abbreviations:

IAS = Internet Access Services

LAN = Local Area Network

MAN = Metropolitan Area Network

PBX = Private Branch Exchange (also PABX = Private Automatic Branch Exchange)

VoIP = Voice Over Internet Protocol

VPT = Voice Premise Technology

WAN = Wide Area (Data) Network

WAV = Wide Area Voice

**IT Domains (inclusive of budget categories noted above)**

**Enterprise Computing**

Enterprise Computing includes the provisioning of the full life cycle management of processing/hosting services on both mainframe and midrange (Unix, Wintel, iSeries etc.) platforms including acquisition, deployment, maintenance, change management and disposal.

**Storage**

Storage includes the provisioning of the full life cycle management of storage services utilizing on-line, near-line and offline technologies including acquisition, deployment, maintenance, change management and disposal.

**Client & Peripheral Support**

Client & Peripheral Support includes provisioning of the full life cycle management of desktop, mobile, handheld and peripheral assets including acquisition, deployment, maintenance, change management and disposal.

**IT Help Desk**

An IT help desk is defined as any single location that evenly distributes the receipt and/or placement of technical support calls or contacts to a predetermined group of support staff. The IT help desk assessment examines IS efficiency and effectiveness with respect to the provisioning of remote Tier 0/Tier 1 support provided to end users by the technical support centers (e.g., network, data center, PC and consolidated).

Because help desks may be organized differently across enterprises, you may be required to capture some information that is beyond your specific budget lines to ensure consistent comparisons. Examples include telecommunications equipment used specifically by the help desk, transmission expenses attributable to the inbound support calls and remote user support resources that may physically reside in other support groups (e.g. network operations or applications support).

**Voice Network**

*Wide-Area Voice Network (WAV)* -Traditional Outbound Domestic Long Distance and Inbound (Toll Free) voice services. A client can support voice network services by either carrier provided

Long Distance and Inbound calling in a virtual network arrangement, and/or their own private voice network for Outbound calling between specific client sites in a private tandem network infrastructure.

*Voice Premise Technology (VPT)* - Local voice services including voice mail and all move/add/change activity associated with local voice equipment (e.g., switches, circuits and handsets), and local (i.e., not Long Distance) calling. These assessments can encompass PBX/PABX and VoIP technologies. These assessments are not, intended to capture the voice processing/handling infrastructures in Call Centers.

### **Data Network**

*Wide-Area Data Network (WAN)* - Connectivity and transmission of business-critical data between enterprise locations and business partners.

*Metropolitan Area Network (MAN)* - Network services provided via high-speed, high-capacity fiber networks, connecting enterprise locations and business partners operating in a close geographical area (typically a “metropolitan area”).

*Local Area Network (LAN)* - Accounts for the provisioning of communications and connectivity to critical business systems within enterprise sites and campuses.

Note: Costs associated with permanent building cabling, both horizontal and vertical, are excluded. Likewise, costs for any inter-building cabling (copper, and/or fiber) that would be found on a campus are also excluded.

*Internet Access Servers (IAS)* - Enterprise access to the global Internet, both for the use of its personnel, and for the use of its external customers to access enterprise WEB sites.

**Application Development and Support:** Examines the efficiency of the IS programming groups that are creating or implementing new applications, adding new functionality to existing applications and providing programming support for these applications after they are installed and running in the production environment.

For purposes of this assessment, support refers to the programming maintenance of currently operational computer applications. This will include some enhancements to these applications as well.

Use the following guidelines to distinguish between development and support:

#### *Development Projects*

New code for a new application

Functional enhancements to current code that take more than two person-weeks or typically add greater than eight function points (see notes below)

#### *Support Workload*

Bug fixes of any size or duration

Maintenance of hard-coded data or tables (including field size changes) embedded within the programs (any size or duration)

Functional enhancements to current code that take less than two person-weeks and typically add fewer than eight function points

Any project that produces no new business functionality for the user

A functional enhancement is defined as a change made for a user that allows additional capabilities (from a business point of view) that were not there before. In some environments,

major enhancements actually can be added in less than two person-weeks. If this is the case, and more than eight function points are added (about 800 lines of COBOL or 300 lines of a database language), this enhancement is recorded as a project and marked as an enhancement.

### **Corporate IS Management**

*IT Management:* If an individual is clearly a management person (e.g., a QA manager), but has no direct reports, that person should still be classified as management.

*Office of the CIO/CTO:* This includes the “C-level” IS management including the CIO and CTO functions. Direct reports of the CIO that spend the majority of their time providing enterprise wide support other than those functions outlined below (i.e., special projects) are also included here.

*IS Human Resources:* This includes resources dedicated to human resource issues surrounding the recruiting and retaining of IS staff.

*IS Marketing:* This includes resources dedicated to marketing the capabilities of the IS organization to the business units.

*Technology Planning and Process Management:* This includes activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, product management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection, and business continuity/recovery.

*Disaster Recovery:* This includes resources dedicated to planning, testing and implementing contingency procedures across all IS functions. This includes the staff dedicated to safeguarding the enterprise's ability to continue operation of vital business functions following physical damage or other catastrophes impacting business facilities. Responsibilities include the following items:

- Maintaining disaster recovery documentation
- Negotiating contingency site arrangements and serving as liaison with the vendor
- Managing off-site data retention

*Security:* This includes resources who oversee the development of standards and procedures for ensuring overall network and systems integrity.

### **Finance & Administration**

*IS Administration:* This includes direct administrative and clerical support to enterprise-level IS. Positions include secretary, receptionist and administrative assistant.

*Budget and Chargeback:* This area establishes the overall IS budget, monitors actual expenses vs. the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These individuals also handle the operation of the chargeback system. Positions include financial analyst and chargeback administrator.

*Asset Management: Tracking:* This area provides the administrative support for tracking systems and system components. This area accounts for labor and contract costs for managing depreciation records and lease contracts, performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing,

troubleshooting, counting, and assigning assets, or performing other technical and business functions without the need to visit repeatedly the asset location or reassemble data records. It also includes the determination of an asset's useful life including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan. Procurement: This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration.

*Quality Assurance:* This includes staff having responsibility for monitoring, tracking, and recommending solutions for improving the content and delivery of services provided by the customer service contact center.

*Training:* This refers to the primary source for the delivery of training, both within the IS organization and for end users out in the business units. This area may also prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the organization.

## 5.0 Enterprise IS Staff

The *Enterprise IS Staff* section captures various administrative, planning and process management functions that may be occurring within a corporate-level IS organization for the benefit of all IS support groups and service delivery enterprisewide. As with the enterprise information, it is expected that this information is provided at the highest levels pertinent to the overall engagement.

This information is used in conjunction with the Enterprise Profile information to gain insight regarding the normalized costs of providing these enterprise-level services. Because some allocation of these administrative functions may be directly attributable to a specific IT functional area, there is also a table that allows you to work through these allocations.

## 6.0 Spending and Staffing

**Office of the CIO/CTO:** This includes the “C-level” IS management including the CIO and CTO functions. Direct reports of the CIO that spend the majority of their time providing enterprisewide support other than those functions outlined below (i.e., special projects) are also included here.

**IS Human Resources:** This includes resources dedicated to human resource issues surrounding the recruiting and retaining of IS staff.

**IS Marketing:** This includes resources dedicated to marketing the capabilities of the IS organization to the business units.

**Technology Planning and Process Management:** This includes activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, product management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection, and business continuity/recovery.

**Disaster Recovery:** This includes resources dedicated to planning, testing and implementing contingency procedures across all IS functions. This includes the staff dedicated to safeguarding the enterprise's ability to continue operation of vital business functions following physical damage or other catastrophes impacting business facilities. Responsibilities include the following items:

- Maintaining disaster recovery documentation
- Negotiating contingency site arrangements and serving as liaison with the vendor
- Managing off-site data retention

**Security:** This includes resources who oversee the development of standards and procedures for ensuring overall network and systems integrity.

### Finance and Administration

- **IS Administration:** This includes direct administrative and clerical support to enterprise-level IS. Positions include secretary, receptionist and administrative assistant.
- **Budget and Chargeback:** This area establishes the overall IS budget, monitors actual expenses vs. the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These individuals also handle the operation of the chargeback system. Positions include financial analyst and chargeback administrator.

### Asset Management

- **Tracking:** This area provides the administrative support for tracking systems and system components. This area accounts for labor and contract costs for managing depreciation records and lease contracts, performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions without the need to visit repeatedly the asset location or reassemble data records. It also includes the determination of an

asset's useful life including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan.

- **Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration.

**Training:** This refers to the primary source for the delivery of training, both within the IS organization and for end users out in the business units. This area may also prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the organization.

**Account Management:** This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including the monitoring of service levels and ensuring that the evolving support and technology needs of the business are proactively identified and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Outsource Contract Management:** This area is similar to supplier/vendor management in that these resources have oversight of the outsource service provider's performance. However, this area is explicitly separated from supplier/vendor management because of the scale and complexity involved in large outsourcing deals.

**Supplier/Vendor Management:** This area is responsible for the oversight of all supplier/vendor relationships, ensuring that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

**Occupancy:** This includes support for the physical space inhabited by systems, system components and IS staff.

## 7.0 Cost Allocations to IT Functions

This table enables you to work through how you would like the corporate level staff costs to be allocated to the IT functional areas considered in the scope of this analysis. Enter the percentage of cost to be allocated to each functional area by personnel category. As you do so, the 'To be Allocated' field will decrement so that you can see how much of the spending has not yet been allocated. Note that this is a work space only, and allocations done here will not automatically flow through to the individual views analyzed within each functional area. Work done here will need to be manually transferred into each view by the Gartner consultant.

For the OFM (State of Washington) TCO assessment, a Personnel Allocation workbook has been provided to make it easier for agencies to consider then distribute the cost of staff (FTE) across IT functions as defined by Gartner. This Excel file is for internal use as you complete the assignment. It does not need to be filed with OFM but should be retained by your team to ease follow-on questions about your reported TCO workbooks. The Personnel Allocation workbook can be downloaded from OFM's web page for the TCO engagement and can also be found on the compact disc (CD) provided to your team at the September 2011 training program with Gartner

# IT Overview Benchmark Explain Text for Enterprise Computing

---

Gartner, Inc.

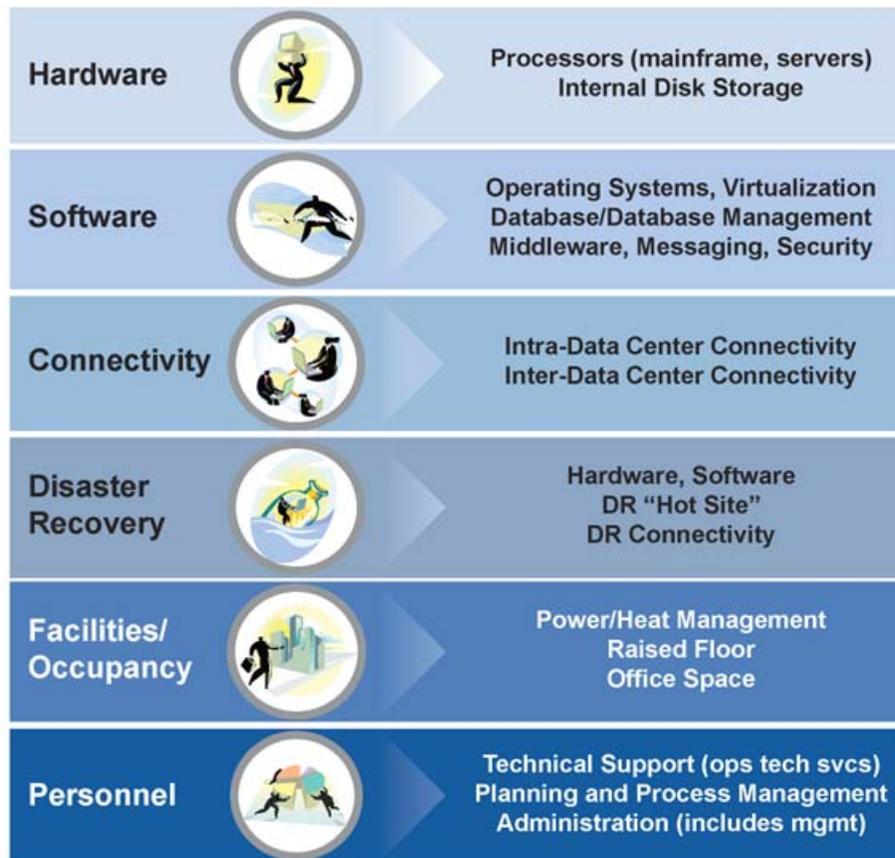
June 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 ITOB Spending and Staffing.....</b>	<b>4</b>
<b>3.0 Workload.....</b>	<b>13</b>

Figure 1. Enterprise Computing



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your organization. Keep in mind that this name also appears in outputs.

**Operating System:** Select the specific operating system being analyzed here.

**Region Supported:** Select the lowest level in the hierarchy that appropriately represents the regions using this platform for processing. (For example, the platform may reside in an operations center in New York City but may be used by locations around the globe; therefore, in this example, select “global”).

**Region Located:** Select the lowest level in the hierarchy that appropriately represents the location of this platform.

## 2.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support head count are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your organization (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**View Name:** This user-entered field enables you to give the view a name that makes sense within your organization. Keep in mind that this is the name that will appear on outputs, as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsource contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is completely handed over to an external service provider.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the

network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.

- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit's money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group's scope of support.

## Non-personnel

### Hardware

**Processing Devices:** Includes all hardware in server platform configurations, including internal disk storage (but NOT external disk arrays), processors, memory, cards, etc.

**Client Devices:** These include the equipment used by the operations staff to support the environment (e.g., desktops, laptops, PDAs). However, this EXCLUDES all devices associated with storage, backup and retrieval of data.

### Software

**Operating System:** Include annual costs of both host and virtual OS licenses.

**Virtualization and Partitioning:** Include costs of software used to create and manage multiple OS instances on the same physical server, such as hosted Virtual Machine Managers (VMMs)—(e.g., EMC's VMWare Server GSX, MS Virtual Server (VS)) and hypervisors—(e.g., VMWare ESX, Open Source Xen, MS “Viridian”).

**Utilities (non-storage):** e.g., for performance monitoring, job scheduling, change management.

**Database:** Annual costs of DBMS licensing e.g., Oracle, SQL Server. Include costs for both host and virtual OS systems.

**Middleware:** Annual costs of software used to allow applications to interact and exchange data across diverse hardware and network environments, especially “plumbing” together different database structures.

**Content/Document Management and Search Engines:** Annual costs of software used to manage and track the location of and relationships between content elements within a data

repository, in particular Web pages (e.g., Documentum). DO NOT INCLUDE any Web development tools or languages such as WebSphere or Java.

**Messaging:** Annual costs of software executing on servers which provides e-mail and messaging services to users (e.g., MS Exchange).

**Communications (TCP/IP, FTP and host based communications software):** Annual costs of communications software specific to the mainframe, midrange servers and/or data center (but not including the storage area network—SAN).

**Security:** Include annual cost of all software used to provide access security and protection against attacks (e.g., anti-spam, anti-malware, antivirus, Web filtering, intrusion prevention systems, activity monitoring, n/w firewall). Include also the costs of software for developing and managing virtual security partitions (VSPs).

## Connectivity

**Intra-Data Center Connectivity:** Annual cost of communication devices specifically designed for intra-data center communication. Excludes the communications devices dedicated to disaster recovery and storage networks. Specifically includes all devices from the demarcation point of the Wide-Area Network (WAN) up to but not including the adapter card or network interface card on the server or host. This typically includes: routers, switches, load balancers, controllers and appliances. Data center communication networks are dedicated networks that are segregated or isolated from the general purpose Local-Area Networks (LAN), Metropolitan Area Networks (MAN) or WAN. General purpose or shared network cost are excluded.

**Inter-Data Center Connectivity:** Annual costs of dedicated inter-data center network connections, including fiber backbone links between data centers for backup/recovery/purposes, and links for purposes of clustering, redundancy and resiliency. Excludes the communications devices dedicated to disaster recovery and storage networks. This typically includes: transmission cost and hardware cost for the fiber, both utilized and unutilized (dark fiber) and the switches and controllers. Data center remote communication networks are dedicated networks that are segregated or isolated from the general purpose Local-Area Networks (LAN), Metropolitan Area Networks (MAN) or WAN. General purpose or shared network cost are excluded.

## Disaster Recovery

Disaster Recovery costs should be collected in total and then allocated to each server platform and data storage costs pro rata to total other costs, total physical devices, total OS instances or any other basis considered reasonable by the client. If the hardware and software used for DR “doubles up” and is also used, in whole or part, to provide a test and development environment, the costs should also be split on what the client considers a “reasonable” basis.

**DR Contract (Compute and Communications):** If DR services cannot be separated into all the elements in this section, enter the total annual DR costs in this row.

**DR Hot Site (Shell Facility):** Annual rental, service, maintenance or other costs of maintaining an alternative “hot site” location for DR purposes so that critical systems can be migrated to run out of this site within agreed (and fairly tight) timescales if the normal data center suffers a disaster and is unable to function or recover quickly.

**DR Dedicated Hardware:** Annual rental or depreciation costs of hardware located and maintained at the DR “hot site.”

**DR Dedicated Software:** Annual software license and support costs of duplicate software maintained on devices located at the DR “hot site.”

**DR Dedicated Connectivity:** Annual cost of communications devices, software and network connections (rentals) specifically between the operational data center(s) and the DR site(s).

## Facilities/Occupancy

Facilities costs should be collected in total and then allocated to each server platform and to data storage costs pro rata to total other costs, total physical devices, total OS instances or any other basis considered reasonable by the client. Including consideration of power/cooling costs, particularly for blade and rack frame form factors.

**Power/Heat Management:** Include costs of power point provision, electricity supply, under floor cooling, chillers, fans, air conditioning and other ventilation or piping systems, fire detection and suppression devices (e.g., halon gas systems), power distribution units (PDUs), uninterruptible power supplies (UPS), batteries, generators and backup generators.

**Other Facilities Costs—(furniture, access systems, office space etc.):** Include costs of security systems, office furniture, office space used by data center staff outside raised floor area, etc.

**Raised Floor:** Include annual cost of maintaining the area of raised floor in the data center which is specifically designed to carry cables, wiring, electrical supply, air conditioning and chilled water pipes, with access for maintenance and upgrade.

**Unallocated (Non-Personnel):** Include costs here only for those non-personnel categories for which a more-detailed accounting is unavailable at this time.

## Personnel – Technical

### Operations/Maintenance

**Operations Support:** Task management is a general process to manage specific IT tasks, operational processes and output associated with daily mainframe and midrange server operations, to ensure they are resourced appropriately and all relevant stakeholders are included in decisions, authority, implementation and communication as appropriate. These personnel specifically have responsibility for overall efficient operation of installed computer systems, such as System start/stops, Monitoring system jobs, responding to console messages, Diagnosing and correcting production failures are part of operations support. Typical positions: Shift supervisors, shift operators, and operations automation. Include only implementation staff here, not those devising or measuring the process.

**Production Control:** Task management is a general process to manage specific IT tasks, operational processes and output associated with daily mainframe and midrange server operations, to ensure they are resourced appropriately and all relevant stakeholders are included in decisions, authority, implementation and communication as appropriate. These personnel have responsibility to maintain the integrity of the production environment, specifically: Turnover of applications from test into production after the systems have been developed and tested, Ensuring that systems to be placed in the production environment meet certain standards, Providing job procedural documentation such as scheduling requirements and rerun procedures, Establishing and adjusting the batch job schedule, Providing ongoing job monitoring, Reviewing the service level of production jobs to improve quality and/or efficiency Typical positions: Production turnover, production scheduling and production monitoring. Include only implementation staff here, not those devising or measuring the process.

## Engineering/Technical Services

Second tier support of the compute management systems relating to performance monitoring, root cause analysis of problems, capacity monitoring and management, change and release management, security management and so on. Please remember to include any FTEs involved in supporting the dedicated inter- or intra- data centre connectivity related to the computer systems in the scope of this assessment.

## System Support

**Change and Release Management:** This is designed for the efficient and effective handling of Changes—installations, add, moves and changes to the servers—which is vital to the successful operation of any IT organization. This includes evaluation, installation, maintenance (e.g., fixes and upgrades) as well as removal of system software, security packages, systems utilities and database transaction packages. Changes must be carefully managed throughout their entire life cycle from initiation and recording, through filtering, assessment, categorization, authorization, scheduling, building, testing, implementation and eventually their review and closure. The Release process takes a holistic view of Changes to IT services, considering all aspects of a Release both technical and non-technical. It is responsible for all legal and contractual obligations for all hardware and software in use within the organization.

**Problem and Incident Management:** This covers the second and third-line management of all mainframe and midrange server related Incidents from detection and recording through diagnosis to resolution and closure, but not the first-line IT Help Desk. The objective is to restore normal service as soon as possible, and with minimum disruption to the business, and to minimize the adverse impact of both Incidents and Problems on the business. It manages all major Incidents and Problems, while endeavoring to record all workarounds and “quick fixes” as Known Errors where appropriate, also raising Changes to implement permanent structural solutions wherever possible. Problem Management further analyses and trends Incidents to proactively prevent the occurrence of repeat or associated Incidents and Problems. Includes systems administrators.

**Performance Monitoring and Management:** Ensuring that the availability and response of each mainframe or midrange server service meets or exceeds its targets, and is proactively managed on an ongoing basis. Specifically, this process establishes technical standards, monitors key components of the infrastructure and applications services to collect metrics for review, takes key measures and reports, and reviews them against targets, to determine if actions are required to manage the service more compliantly. This Involves tuning system performance in reaction to monitoring work. Measures include availability, reliability, maintainability, serviceability and security.

**Capacity Management:** Ensuring that adequate “non-storage” capacity is available at all times to meet the requirements of the business by balancing “business demand with IT supply.” Contributes to a Capacity Plan which is closely linked to the business strategy, and plans are produced and reviewed on a regular basis, covering business, service and resource capacity management.

**System Security Management:** The process of planning and managing a defined level of security for information and IT services in relation to the mainframe and servers, including all aspects associated with procedures for and reaction to security incidents. It also includes the assessment and management of risks and vulnerabilities, and the implementation of cost justifiable countermeasures. Specifically includes System Access (controlled, for example, by user-id and password), Standards for file access software (security software), and Auditing system security and correcting violations. Typical positions: Security Analyst Personnel involved

in ad hoc activities around developing security policies and documentation are also included here. Personnel who are dedicated to, or are part of a multi-functional team that is dedicated to developing and managing security policies and documentation should be included in the Planning and Process Management category.

## Personnel – Planning and Process Management

These functions are most often found in larger more mature enterprises as centralized multi-disciplinary teams. Costs/staff for these functions are often allocated to the data center from the central team, although roles may exist within the data center itself. Apportion staff by role accordingly.

**Systems Researching and Planning:** Covers activities related to the planning for and management of current and future technology needs. This includes activities such as project portfolio management, the development of plans for major initiatives such as mass product or application migrations, and research of new technologies. Also design, build, evaluation and testing of new products, packages, systems, tools and images to run on the mainframe and servers.

**Process Development and Management:** Development and establishment of formal policies and documentation around the connected sets of activities that define IT processes for the data center mainframe and midrange servers, plus the ongoing oversight and control (but not the actual carrying out) of these processes. Processes include, but are not limited to, Configuration Management, Incident/Problem Management, Change Management, Release Management, Security Management.

**Project Management:** Specific labor overhead for project management and QA on change and release implementations on the mainframe and midrange servers. Includes activities related to organizing and managing IT resources in such a way that these resources deliver all the work required to complete a project within defined scope, time, and cost constraints. A project is a temporary and one-time endeavor undertaken to create a unique product or service. It is important to note that this category includes only the organizing and managing of IT projects, and not all the activities that are a part of an IT project. Project Management Office (PMO) personnel are generally included in this category. Activities other than organizing and managing should be included in the Technical Services/Engineering, Operations, or Management categories.

**Data Center Disaster Recovery:** Producing recovery plans for the mainframe and midrange operational services designed to ensure that, following any major Incident or sudden, unplanned calamitous event causing or potentially causing disruption of the service, IT services are provided to an agreed level within an agreed schedule. It should be recognized also that IT service continuity or disaster recovery is only one component of Business Continuity Planning (BCP). The objective is to assist the business and BCP to minimize the disruption of essential business processes during and following a major Incident. The process includes such activities as business impact analysis, risk analysis and risk management exercises, maintaining disaster recovery documentation, conducting periodic tests and audits, and negotiating contingency site arrangements. However, ONLY INCLUDE costs/FTEs related to IT personnel and infrastructure. While there are other functions around disaster recovery/business continuity such as developing manual processes, and ensuring business unit personnel are able to function, they are not within the scope of this definition. As these costs are often combined in budgets it may be necessary to allocate out the portion related to IT personnel and infrastructure.

## Personnel – Services Administration

Management of these functions varies greatly among enterprises. While these functions are centralized within IS in some organizations, in others they may be performed by corporate finance group, a purchasing group, or even within a business unit. In order to ensure consistent data collection the following guidance has been provided:

1. Corporate finance or procurement personnel supporting the IS department or supporting the IT related activities of individual business units should be included in these categories.
2. Personnel within individual business units performing these functions should also be included. HOWEVER, only include costs from outside IS if they are “significant.” If the enterprise is confident that costs for any individual category incurred outside IS are less than 10% of those incurred within IS, data collection does not need to be attempted.

**Budget, Chargeback and Service Level Reporting:** This provides the basis for running IT as a business and for developing a “cost conscious” and “cost-effective” organization. The principle activities consist of understanding and accounting for the costs of provision of each IT service or business unit and the forecasting of future IT expenditure. This also covers the implementation of a charging strategy, which attempts to recover the costs of IT from the business in a fair and equitable manner. Typical tasks include monitoring actual expenses vs. the budget, arranging financing for purchases and performing financial reporting to other enterprise areas. These personnel handle the operation of the chargeback system, and any service level reporting systems. Typical positions include financial consultant and chargeback administrator, IT Measurement specialist. An apportionment is needed for costs of service related to mainframe and midrange servers.

**Product Management:** Personnel responsible for an IT service end-to-end, in terms of its description, financials and performance against contracted service levels. It also typically involves managing the “outward-facing” activities and tasks associated with a product or offer such as selling strategy, collateral development, advertising, public relations and branding, and pricing. The existence of this function is usually limited to larger more mature enterprises. This function also negotiates, documents, agrees and reviews business service requirements and targets, within service level requirements (SLRs) and service-level agreements (SLAs). These relate to the measurement, reporting and reviewing of service quality as delivered by IT to the business, with specific reference to the mainframe and servers. The process also negotiates and agrees the support targets contained in operational level agreements (OLAs) with support teams and in underpinning contracts with suppliers, to ensure that these align with business targets contained within SLAs.

**IS Training:** Resources (internal or external) used to provide training to IS staff in relation to operating and managing the mainframe and servers. This includes tasks related to the needs assessment, development, coordination, and delivery of IS associate training related to core job functions. This category DOES NOT INCLUDE any tasks related to training of end-user personnel. “Human Resources-centric” training (such as company benefits training) is not included in this category. IS training can be insourced or outsourced. Fees for classes taken by IS professionals should be included in IS Training—Outsourced.

## Asset Management

**Procurement:** Maintaining procurement and depreciation details of server assets above a certain value. This includes two main sets of activities, namely: 1) Purchasing agent who solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills,

coordinates with accounts payable for payment and handles contract administration. 2) Asset administration staff who manage depreciation records and lease contracts and performing asset inventories (physical or automated management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds changes, removals and final disposal of all assets (i.e., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan. While this may include information on description, values, current ownership and location of assets in a register or database, it will not record the relationship between assets, as the Config Mgmt database does. Asset management is generally partial information focused on financials.

**Asset and Configuration Tracking:** This area provides the administrative support for tracking systems and system components. This area accounts for labor and contract costs for managing depreciation records and lease contracts, performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. This also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to repeatedly visit the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan.

## Account Management

**Business Unit Relationship Management:** Developing and nurturing relationships with business customers, to promote an appreciation of the value of IT and its role within the business value chain. BRM managers need to continually publicize this, and reinforce the message of business and IT alignment. They need to represent business views and needs to the rest of IT, ensuring that the evolving support and technology needs of the business are identified proactively and addressed, while generating synergy and empathy with their business unit customers by improving information flows, communication and synergy with supplier services. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management. This row takes an apportionment of the total effort insofar as it relates to the data center, mainframe and servers.

**Contract and Service Provider Management:** Includes oversight of performance of large outsourcing deals, plus ongoing management of all supplier/vendor relationships. To ensure that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures. It relates to all contracts and external services and supplies related to the mainframe and midrange servers.

## Management and Administration

Includes managers of operations, maintenance, technical services, engineering and technical design and evaluation teams within the data center, plus associated administrative support personnel. Could be specific line managers within the data center, or an apportionment of central IS management (if it is judged to represent more than 15% of his/her total hours). Tasks include but are not limited to setting strategic direction, communications activities, hiring and

firing of staff, personnel performance reviews, expense management, approving relevant documents, planning day to day personnel workload etc. Time spent by managerial personnel on non-supervisory or departmental administration tasks (for example a data center supervisor who spends half his time managing servers) should be represented in the relevant category. Admin positions typically include secretary, receptionist and administrative assistant, who provide direct administrative and clerical support, and often work for executives at high level in the organization.

**IS Administration:** Support staff for IS managers which typically include secretary, receptionist and administrative assistant, who provide direct administrative and clerical support.

**Management:** Equivalent FTEs of time spent on strategic and administrative tasks as outline above by IS line managers or an apportionment of central IS management (if it is judged to represent more than 15% of his/her total hours). Be careful not to double count managers in your apportionments to this, and other tasks, total FTEs should not exceed total heads.

## Facilities Management

The management of physical data center premises, and other facilities and services associated with the premises such as furniture, power supply, heat management, access security, floor space, office space etc.

**Unallocated (Personnel):** Include costs/FTEs here only for those personnel categories in which a more-detailed accounting is unavailable at this time.

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time.

## Staffing

### Full-Time Equivalent Headcount (FTE)

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 3.0 Workload

**Total Number of Physical Servers (Boxes):** Includes all physical boxes in each server category, including those used for hot spares, testing, monitoring and system management, in clustered configurations and with mixed workloads through multiple virtual OS or logical partitioning.

**Total OS Instances:** This is a count of the total OS environments which were available across all physical server boxes in each server category during the year, in which to run applications and other services. The number of OS instances will exceed the number of physical server boxes insofar as logical partitions of resources (LPARs) and virtual OS environments have been created.

(NB OS “instances” can be time bound and may not be in place for a whole year, since OS images can be installed on a box for only as long as they are needed. This total count of OS instances will therefore need to reflect a concept of “OS instance per annum” where partial instances during the course of the year are rounded up or down so that the total entered here reflects the average in place for the entire year. There may also be an unusual circumstance that a server may host instances of different virtual OS on the same box e.g., both Unix and Wintel. In this case, the instances should be counted accurately here under each OS category, but the count of physical boxes should be apportioned prorated between the total number of each type of OS instance).

**Total kGEMs:** The kGEMs unit (Gartner Engine Measure) is designed to provide a reasonable computational basis for determining the processing capacity of particular hardware configurations. It does not attempt to factor in performance attributes such as application type, database type, storage configuration, etc., as the permutations of these aspects would create an extremely complex model requiring constant maintenance, if such a model could be created at all. It is designed to create a relative measure for computing the power basis of distributed systems for the purpose of cost and staffing allocation and homogeneous peer group selection.

The kGEMs unit is a patented Gartner proprietary unit of computing capacity that approximates the computing ability of server hardware through an empirical formula. Gartner developed a process for evaluating the combination of CPUs, MHz per CPU, and the architecture class (32-bit, 64-bit, etc.). This process was normalized against established benchmarks ultimately arriving at a computing capacity quantity that mathematically models these values.

**Total Weighted Average MIPS Installed:** Total installed MIPS rating of mainframe boxes in operation as rated by the industry standard, Watson & Walker. Where extra MIPS were added during the year, or were retired, weight the totals by how many months they were in operation to get an average of MIPS in operation across the year. For example, if a 50 MIPS processor was installed for four months and a 75 MIPS processor for eight months, the annual weighted average is  $50 \times 4/12 + 75 \times 8/12 = 67$ . This is the sum of general purpose and specialty MIPS across all mainframes.

**Weighted Average MIPS Standard Total:** Total installed MIPS rating of “general purpose” processor engines shown above as rated by the industry standard, Watson & Walker. Where extra MIPS were added during the year, or were retired, weight the totals by how many months they were in operation to get an average of MIPS in operation across the year. For example, if a 50 MIPS processor was installed for four months and a 75 MIPS processor for eight months, the annual weighted average is  $50 \times 4/12 + 75 \times 8/12 = 67$ . This is the sum of “standard” MIPS across all mainframe systems listed in the inventory below.

**Weighted Average MIPS Specialty Total:** Total installed MIPS rating of “specialty” processor engines shown above as rated by the industry standard, Watson & Walker. Where extra MIPS were added during the year, or were retired, weight the totals by how many months they were in operation to get an average of MIPS in operation across the year. For example, if a 50 MIPS processor was installed for four months and a 75 MIPS processor for eight months, the annual weighted average is  $50 \times 4/12 + 75 \times 8/12 = 67$ . This is the sum of “specialty engine” MIPS across all mainframe systems listed in the inventory below.

**Total Utilized MIPS—Average Daily:** Weighted average used mainframe MIPS (all processor engines) as rated by the industry standard, Watson & Walker. Ideally collect CPU usage for a 30-day period. Begin the collection period on a Monday to limit the number of weekends to four. Make sure that one month-end processing period is included. Do not use a 30-day period that includes public holidays or your year-end close. Relate the average utilization to the installed MIPS (i.e., if there were additions or subtractions during the year, the utilization needs to be measured under each scenario and weighted by the number of days or months it was in operation, in a similar way to the calculation of weighted overall installed MIPS). This is the sum of utilized MIPS for general purpose and specialty processor engines which may be shown in the mainframe system inventory below.

**Total LPARS on Mainframe:** Total number of Logical Partitions.

**Total Sites with Servers Located On Them:** Number of sites at which the servers indicated in the inventory are located (typically data center sites).

## Service Level

**Availability and Response:** Percentage of system availability and response during normal business operations measuring target service levels and actual achievement.

**Hours of Operation:** Hours of normal operations where there is sufficient staffing support available to perform critical duties and support main systems in operation. This does not include skeleton or voice mail service cover.

# IT Overview Benchmark Explain Text for Storage

---

Gartner, Inc.

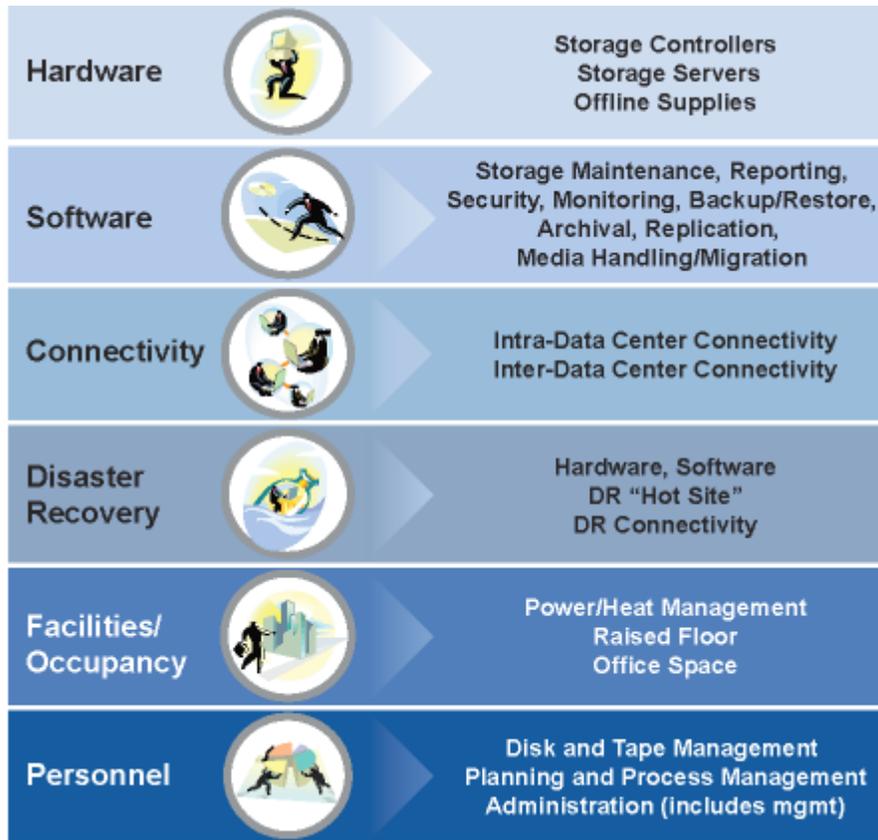
April 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 ITOB Spending and Staffing.....</b>	<b>4</b>
<b>3.0 Workload.....</b>	<b>14</b>

Figure 1. Storage



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your organization. Keep in mind that this name also appears in outputs.

**Region Supported:** Select the lowest level in the hierarchy that appropriately represents the regions using this platform for processing. (For example, the platform may reside in an operations center in New York City but may be used by locations around the globe; therefore, in this example, select “global.”)

**Region Located:** Select the lowest level in the hierarchy that appropriately represents the location of this platform.

## 2.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support head count are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your organization (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**View Name:** This user-entered field enables you to give the view a name that makes sense within your organization. Keep in mind that this is the name that will appear on outputs, as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsource contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is completely handed over to an external service provider.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the

network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.

- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement*.
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit's money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group's scope of support.

## Non-personnel

### Hardware

Annual expensed, depreciation or lease costs of all hardware devices comprising the enterprise storage management systems in the inventory.

**Storage Controllers, Storage Servers:** All dedicated storage hardware devices including controllers, servers, disk arrays, tape libraries, optical jukeboxes. It also includes the equipment used by the operations staff to support the storage environment (e.g., desktops, laptops, PDAs).

**Offline Supplies (Media):** Portable media used to store data offline such as tapes

### Software

Annual license costs of software dedicated to managing the storage systems. This includes creation and setup, storage maintenance, reporting, security, monitoring, backup/restore, archival, replication, media handling and data migration/tiering.

### Connectivity

Annual costs of dedicated storage network devices and cables/connections used solely for access to shared storage devices. If server traffic and/or storage traffic shares the general data network, do not separate here, but include in Networks module(s).

**Intra-Data Center Connectivity:** Annual cost of communication devices specifically designed for intra-data center communication related to storage. Excludes the communications devices dedicated to disaster recovery and servers. This cost is associated with network devices dedicated to storage and their associated switches.

**Inter-Data Center Connectivity:** Annual costs of dedicated inter-data center network connections, including fiber backbone links between data centers for backup/recovery/purposes, links for synchronous/asynchronous replication, and point to point remote backup. Excludes the communications devices dedicated to disaster recovery and servers.

## **Disaster Recovery**

Annual costs of devices, connectivity, facilities and contracts specifically dedicated to storage management (if this can be separated from the overall DR costs—otherwise enter all DR costs under Enterprise Computing DR). See also the definitions for the inputs to Enterprise Computing module.

**DR Contract:** If DR services cannot be separated into all the elements in this section, enter the total annual DR costs in this row. This includes hot site facilities, hardware, software and connectivity associated with the DR services.

**DR Hot Site (Shell Facility):** Annual rental, service, maintenance or other costs of maintaining an alternative “hot site” location for DR purposes so that critical systems can be migrated to run out of this site within agreed (and fairly tight) timescales if the normal data center suffers a disaster and is unable to function or recover quickly.

**DR Dedicated Hardware:** Annual rental or depreciation costs of hardware located and maintained at the DR “hot site.”

**DR Dedicated Software:** Annual software license and support costs of duplicate software maintained on devices located at the DR “hot site.”

**DR Dedicated Connectivity:** Annual cost of communications devices, software and network connections (rentals) specifically between the operational data center(s) and the DR site(s).

## **Facilities/Occupancy**

Share of Data Center annual costs for floor space, heating, lighting, ventilation etc. which can be apportioned to Storage devices and associated equipment. Do not double-count any costs included under inputs to Computing Management—see also the definitions under this section.

**Power/Heat Management:** Apportionment of total costs to Storage

**Other Facilities Costs:** Apportionment of total costs to Storage

**Raised Floor:** Apportionment of total costs to Storage

**Unallocated (Non-Personnel):** Include costs here only for those non-personnel categories for which a more-detailed accounting is unavailable at this time.

## **Personnel – Technical**

### **Operations/Maintenance**

Task management related to storage devices and media—a general process to manage specific IT tasks, operational processes and output associated with daily storage management operations, to ensure they are resourced appropriately and all relevant stakeholders are included in decisions, authority, implementation and communication as appropriate. These personnel specifically have responsibility for overall efficient operation of installed storage systems, such as system start/stops, monitoring systems, responding to console messages, diagnosing and correcting problems and failures etc.

**Disk Storage Management:** Tasks pertaining to disk arrays, controllers, and other online storage devices

**Tape Support:** Tasks pertaining to tape libraries, archived media, and other nearline or offline storage devices

## **Engineering/Technical Services**

Second tier support of the storage management systems relating to performance monitoring, root cause analysis of problems, capacity monitoring and management, change and release management, security management and so on.

## **Storage Support**

**Change and Release Management:** This is designed for the efficient and effective handling of Changes—installations, add, moves and changes to the servers—which is vital to the successful operation of any IT organization. Includes evaluation, installation, maintenance (e.g., fixes and upgrades) as well as removal of system software, security packages, systems utilities and database transaction packages. Changes must be carefully managed throughout their entire life cycle from initiation and recording, through filtering, assessment, categorization, authorization, scheduling, building, testing, implementation and eventually their review and closure. The Release process takes a holistic view of Changes to IT services, considering all aspects of a Release both technical and non-technical. It is responsible for all legal and contractual obligations for all hardware and software in use within the organization.

**Problem and Incident Management:** This covers the second- and third-line management of all mainframe and midrange server related Incidents from detection and recording through diagnosis to resolution and closure, but not the first-line IT Help Desk. The objective is to restore normal service as soon as possible, and with minimum disruption to the business, and to minimize the adverse impact of both Incidents and Problems on the business. It manages all major Incidents and Problems, while endeavoring to record all workarounds and “quick fixes” as Known Errors where appropriate, also raising Changes to implement permanent structural solutions wherever possible. Problem Management further analyses and trends Incidents to proactively prevent the occurrence of repeat or associated Incidents and Problems. Includes systems administrators.

**Performance Monitoring and Management:** Ensuring that the availability and response of each mainframe or midrange server service meets or exceeds its targets, and is proactively managed on an ongoing basis. Specifically, this process establishes technical standards, monitors key components of the infrastructure and applications services to collect metrics for review, takes key measures and reports, and reviews them against targets, to determine if actions are required to manage the service more compliantly. Involves tuning system performance in reaction to monitoring work. Measures include availability, reliability, maintainability, serviceability and security.

**Physical Database Administration:** Implementation of upgrades to hardware devices and disk arrays, capacity and performance management of the storage resources, root cause analysis of persistent problems or performance issues. Activities include: Install the DBMS software; Maintain the DBMS software; Maintain the links with other major system and subsystem components: network, security, performance monitoring, etc; Obtain, allocate and initialize the storage spec from the storage management team; Implement the backup, redundancy and disaster recovery requirements of the database storage; Implement fallback, failover provisions for event recovery; Test security, fallback, failover and new implementations; Perform DBMS Capacity Planning and DBMS Performance Management tasks; Respond to problem incidents

related to DBMS software, DBMS performance including full system incidents or full system performance issues; Monitor DBMS security and failover status; Monitor DBMS system performance and backup status; Participate in Disaster Recovery tests; Tune physical layer of the database or subsystem interfaces

**Capacity Planning:** This area establishes the performance and capacity thresholds for computer system changes. Technical services personnel monitor system utilization and forecast capacity needs. Responsibilities include the following items:

- Evaluate and recommend new hardware
- Plan upgrade schedules

**Typical position:** Capacity analyst

**Storage Security Management:** Planning and managing a defined level of security for information and IT services in relation to storage, including all aspects associated with procedures for and reaction to security incidents. It also includes the assessment and management of risks and vulnerabilities, and the implementation of cost justifiable countermeasures

## Personnel – Planning and Process Management

This category covers activities related to the planning for and management of, current and future technology needs with specific regard to storage. This includes design, build, evaluation and testing of new products, packages, systems and tools to run the storage systems, and planning contingency for disasters and outages.

**Systems Researching and Planning:** Covers activities related to the planning for and management of, current and future technology needs. This includes activities such as project portfolio management, the development of plans for major initiatives such as mass product or application migrations, and research of new technologies. Also design, build, evaluation and testing of new products, packages, systems, tools and images to run on the mainframe and servers.

**Process Development and Management:** Development and establishment of formal policies and documentation around the connected sets of activities that define IT processes for the data center mainframe and midrange servers, plus the ongoing oversight and control (but not the actual carrying out) of these processes. Processes include, but are not limited to, Configuration management, Incident/Problem management, Change Management, Release Management, Security Management.

**Project Management:** Specific labor overhead for project management and QA on change and release implementations on the mainframe and midrange servers. Includes activities related to organizing and managing IT resources in such a way that these resources deliver all the work required to complete a project within defined scope, time, and cost constraints. A project is a temporary and one-time endeavor undertaken to create a unique product or service. It is important to note that this category includes only the organizing and managing of IT projects, and not all the activities that are a part of an IT project. Project Management Office (PMO) personnel are generally included in this category. Activities other than organizing and managing should be included in the Technical Services/Engineering, Operations, or Management categories.

**Storage Disaster Recovery:** Apportioned specifically to storage (if possible).

## Personnel – Services Administration

Management of these functions varies greatly among enterprises. While these functions are centralized within IS in some organizations, in others they may be performed by corporate finance group, a purchasing group, or even within a business unit. In order to ensure consistent data collection the following guidance has been provided:

1. Corporate finance or procurement personnel supporting the IS department or supporting the IT related activities of individual business units should be included in these categories.
2. Personnel within individual business units performing these functions should also be included. HOWEVER, only include costs from outside IS if they are “significant.” If the enterprise is confident that costs for any individual category incurred outside IS are less than 10% of those incurred within IS, data collection does not need to be attempted.

**Budget, Chargeback and Service Level Reporting:** This provides the basis for running IT as a business and for developing a “cost conscious” and “cost-effective” organization. The principle activities consist of understanding and accounting for the costs of provision of each IT service or business unit and the forecasting of future IT expenditure. This also covers the implementation of a charging strategy, which attempts to recover the costs of IT from the business in a fair and equitable manner. Typical tasks include monitoring actual expenses vs. the budget, arranging financing for purchases and performing financial reporting to other enterprise areas. These personnel handle the operation of the chargeback system, and any service level reporting systems. Typical positions include financial consultant and chargeback administrator, IT Measurement specialist. An apportionment is needed for costs of service related to mainframe and midrange servers.

**Product Management:** Personnel responsible for an IT service end-to-end, in terms of its description, financials and performance against contracted service levels. It also typically involves managing the “outward-facing” activities and tasks associated with a product or offer such as selling strategy, collateral development, advertising, public relations and branding, and pricing. The existence of this function is usually limited to larger more mature enterprises. Negotiates documents, agrees and reviews business service requirements and targets, within service level requirements (SLRs) and service-level agreements (SLAs). These relate to the measurement, reporting and reviewing of service quality as delivered by IT to the business, with specific reference to the mainframe and servers. The process also negotiates and agrees the support targets contained in operational level agreements (OLAs) with support teams and in underpinning contracts with suppliers, to ensure that these align with business targets contained within SLAs.

**IS Training:** Resources (internal or external) used to provide training to IS staff in relation to operating and managing the mainframe and servers. This includes tasks related to the needs assessment, development, coordination, and delivery of IS associate training related to core job functions. This category DOES NOT INCLUDE any tasks related to training of end-user personnel. “Human Resources-centric” training (such as company benefits training) is not included in this category. IS training can be insourced or outsourced. Fees for classes taken by IS professionals should be included in IS Training—Outsourced.

## Asset Management

**Procurement:** Maintaining procurement and depreciation details of server assets above a certain value. This includes two main sets of activities, namely: 1) Purchasing agent who solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills,

coordinates with accounts payable for payment and handles contract administration. 2) Asset administration staff who manage depreciation records and lease contracts and performing asset inventories (physical or automated management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds changes, removals and final disposal of all assets (i.e., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan. While this may include information on description, values, current ownership and location of assets in a register or database, it will not record the relationship between assets, as the Config Mgmt database does. Asset management is generally partial information focused on financials.

**Asset and Configuration Tracking:** This area provides the administrative support for tracking systems and system components. This area accounts for labor and contract costs for managing depreciation records and lease contracts, performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. This also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to repeatedly visit the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan.

## Account Management

**Business Unit Relationship Management:** Developing and nurturing relationships with business customers, to promote an appreciation of the value of IT and its role within the business value chain. BRM managers need to continually publicize this, and reinforce the message of business and IT alignment. They need to represent business views and needs to the rest of IT, ensuring that the evolving support and technology needs of the business are identified proactively and addressed, while generating synergy and empathy with their business unit customers by improving information flows, communication and synergy with supplier services. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management. This row takes an apportionment of the total effort insofar as it relates to the data center, mainframe and servers.

**Contract and Service Provider Management:** Includes oversight of performance of large outsourcing deals, plus ongoing management of all supplier/vendor relationships. To ensure that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures. Relates to all contracts and external services and supplies related to the mainframe and midrange servers and data center printers etc.

## Management and Administration

Includes managers of operations, maintenance, technical services, engineering and technical design and evaluation teams within the data center, plus associated administrative support personnel. Could be specific line managers within the data center, or an apportionment of central IS management (if it is judged to represent more than 15% of his/her total hours). Tasks

include but are not limited to setting strategic direction, communications activities, hiring and firing of staff, personnel performance reviews, expense management, approving relevant documents, planning day to day personnel workload etc. Time spent by managerial personnel on non-supervisory or departmental administration tasks (for example a data center supervisor who spends half his time managing servers) should be represented in the relevant category. Admin positions typically include secretary, receptionist and administrative assistant, who provide direct administrative and clerical support, and often work for executives at high level in the organization.

**IS Administration:** Support staff for IS managers which typically include secretary, receptionist and administrative assistant, who provide direct administrative and clerical support.

**Management:** Equivalent FTEs of time spent on strategic and administrative tasks as outline above by IS line managers or an apportionment of central IS management (if it is judged to represent more than 15% of his/her total hours). Be careful not to double count managers in your apportionments to this, and other tasks, total FTEs should not exceed total heads.

**Facilities Management:** The management of physical data center premises, and other facilities and services associated with the premises such as furniture, power supply, heat management, access security, floor space, office space etc.

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time.

## Staffing

### Full-Time Equivalent Headcount (FTE)

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## Inventory

### Type of Data Storage

**Mainframe:** direct attached disk arrays or storage area network providing online storage resources dedicated to mainframe system(s).

**DAS (Direct Attached Storage):** disk arrays attached and dedicated to a midrange server.

**SDAS (Shared Direct Attached Storage):** disk arrays attached to a server, but not dedicated to that server and available to other applications/uses on shared basis.

**SAN (Storage Area Network):** Generally a high speed network (LAN or WAN) connection between a centralized pool of disk storage devices and multiple servers so that the storage is available to multiple users on a shared basis. As more storage devices are added to a SAN, they too will be accessible from any server in the larger network.

**NAS (Network Attached Storage):** A data-centric storage architecture that relocates disk storage onto its own independent platform which is attached directly onto the LAN with its own IP address rather than being attached via a host. It effectively functions as a server, has a

processor, an OS or micro-kernel, and processes file I/O protocols. The resulting consolidation of storage resources provides simplified management and scalability.

**VTL (Virtual Tape Library):** a data storage virtualization technology presenting a storage component (usually hard disk storage) as tapes available for use with tape drive and media changer emulations.

Emulating tapes allows integration of VTLs with existing archiving policies and backup software enabling data consolidation and faster data restore processes. By backing up data to disks instead of tapes, VTL often increases performance of both backup and recovery operations. In some cases, the data stored on the VTL's disk array is exported to other media, such as tapes, for disaster recovery purposes.

**Other Online:** e.g., Content Addressable Storage (CAS) systems. CAS, also referred to as associative storage, is a mechanism for storing information that can be retrieved based on its content, not its storage location. It is typically used for high-speed storage and retrieval of static content, such as documents stored for compliance with government regulations.

**Nearline (or Near-online) Storage:** a term used to describe an intermediate type of data storage. It is a compromise between online storage (constant, very rapid access to data) and offline storage (infrequent access for backup purposes or long-term storage). It is called so because the storage system knows on which volume (cartridge) the data is, and usually asks a robot to retrieve it from this physical location (usually a tape library) and put it into a tape drive to access it and thus bring the data it contains online. This process is not instantaneous, but it only does require a few seconds, hence the initial description.

**Deep Storage:** another description for offline storage, usually tape archives or other media used for archive backups, where the data media needs to be accessed and loaded onto a suitable device to locate the required files. Hence the data is not constantly online and available to users, but needs to be specifically requested with a time lag.

## Data Storage Capacity

In this section, provide the appropriate storage values. All capacity references should reflect weighted average volumes for the study period.

**Raw Configured (TB):** Amount of Raw Disk formatted for use.

**Useable Configured (TB):** Total amount of Raw Configured disk space available to be presented to servers for use after the RAID Protection has been taken into account.

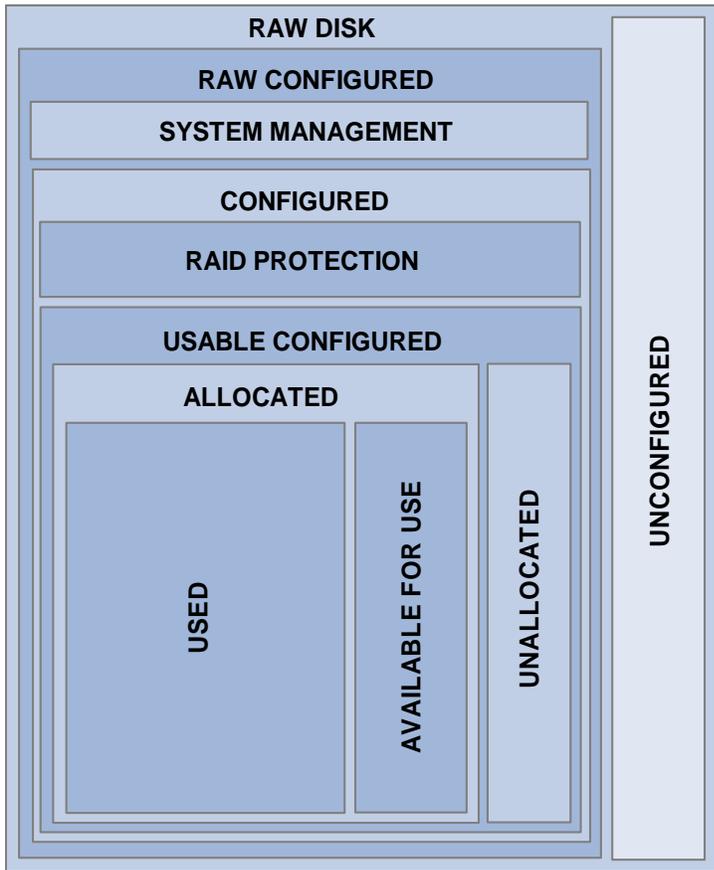
**Used (TB):** Amount of Allocated disk space actually used by server(s).

**RAID Level/Overhead Generally Applicable:** If more than one RAID level is applicable, select the one used on majority of storage of each type.

**Data Deduplication:** Data deduplication is the process of dividing a file into smaller "chunks" or segments of data and comparing each segment to a catalog of data that has previously been processed by either a backup application, archiving solution or a disk-based appliance. If a segment has been backed before, then a pointer is made to the previous copy of the data instead of storing it again. This can save significant file space, and more so than single-instance store (SIS) methods which assess previous data stored only at the file level.

**Thin Provisioning:** Thin provisioning allocates physical capacity from a virtualized pool of storage to logical volumes on a "just-in-time" basis (also known as "allocate on write"), rather than pre-allocating large chunks of capacity in anticipation of an application's needs. It

eliminates instances of "stranded" capacity, and improves storage utilization rates, often into the 75%-80% range.



## 3.0 Workload

**Total Databases:** Total number of separate database systems maintained within scope of study.

**Average size of Databases in TB:** Total TB of all maintained databases in scope of study/total number of separate database systems.

**Largest Database in TB:** Size in TB of largest single database system in scope of study.

**Number of DR Disk Storage (TB) contracted for:** How many TB are stated in the contracted DR service?

### Service Levels

**SAN/NAS Availability:** Percentage availability during service hours of SAN/NAS.

**Mean Time to Recover/Restore a File:** Average time (hours) to recover and restore the data for use by the relevant business system(s).

# IT Overview Benchmark Explain Text for Client & Peripheral Support

---

Gartner, Inc.

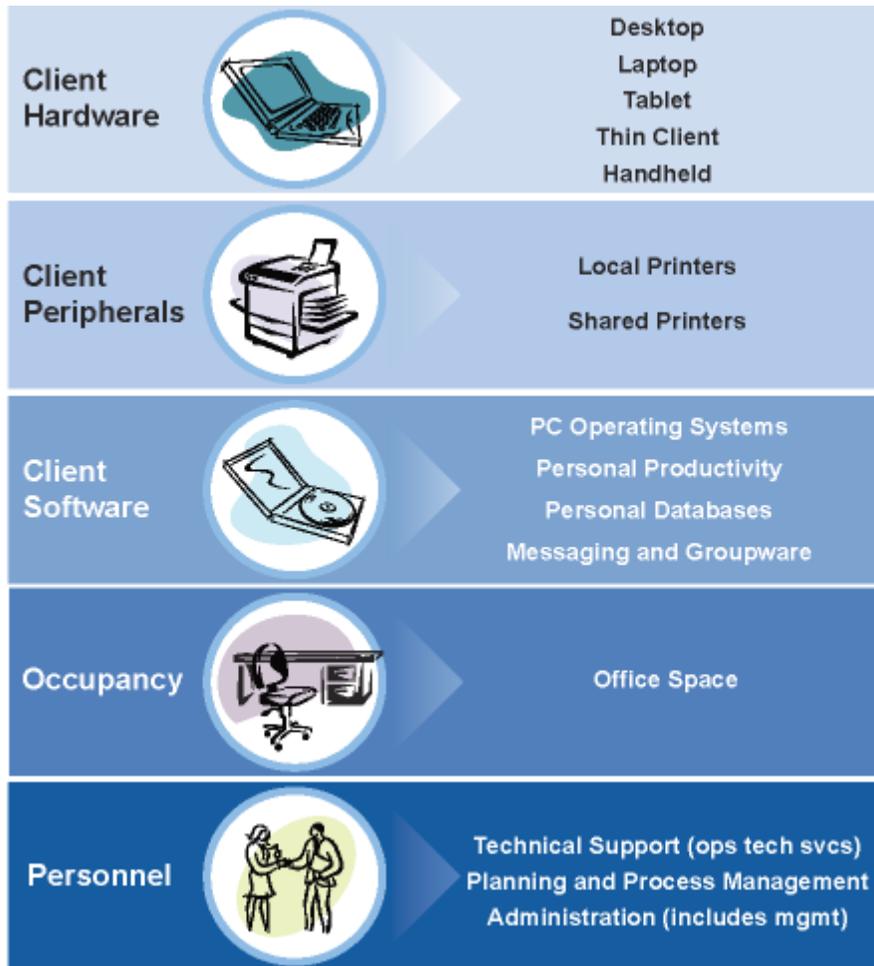
May 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 ITOB Spending and Staffing.....</b>	<b>4</b>
<b>3.0 Workload.....</b>	<b>11</b>

**Figure 1. Client & Peripheral Support**



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Region Supported:** Select the lowest level in the hierarchy that represents appropriately the regions utilizing the support services of the client support organization being analyzed. For example, a client support organization is centrally located in enterprise offices in the Northeast United States but supports users nationwide. In this instance, “United States” is the appropriate selection.

**Region Located:** Select the lowest level in the hierarchy that represents appropriately the location of the support organization being analyzed (e.g., Northeastern United States).

## 2.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support head count are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your organization (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**View Name:** This user-entered field enables you to give the view a name that makes sense within your organization. Keep in mind that this is the name that will appear on outputs, as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsource contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is completely handed over to an external service provider.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the

network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.

- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement*.
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit's money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group's scope of support.

## Non-personnel

### Hardware

Hardware costs include the following items:

#### User Client Hardware

**Desktop:** Include desktop computers used by employees in either the traditional office setting or in another fixed location such as satellite office suites and employee homes.

**Laptop:** Include fully functioning laptop and notebook computers.

**Thin Client:** Include reduced form server-based computing terminals such as Citrix.

**Tablet:** Tablets meet all criteria for a notebook device and are equipped with a pen and an on-screen digitizer. There are two form factors: slates, which don't have a keyboard; and convertibles, which have attached keyboards and swivel screens that lie flat on the keyboard when in the tablet mode.

**Handheld:** Include personal digital assistants (PDAs), smartphones and messaging devices.

#### Peripheral Hardware

**Personal Printers:** Include non-networked, non-shared printers. Include costs for toner cartridges but exclude other consumables such as drum costs, ribbons, paper, and printer maintenance kits.

**Shared Printers:** Add departmental or enterprise printers serving moderate to large numbers of users and handling moderate to large production print volumes. Include costs for toner cartridges but exclude other consumables such as drum costs, ribbons, paper, and printer maintenance kits.

**Multi-Functional Printers (MFPs or MFDs):** A machine that provides centralized document management/distribution/production via some combination of Printer, Scanner, Photocopy, Fax or E-mail functionality. Include costs for toner cartridges but exclude other consumables such as drum costs, paper, and printer maintenance kits.

## IT Management Hardware

This encompasses hardware that primarily supports an IS process and not a business or user process. Examples are test and training devices, servers hosting NSM or asset management software, and devices used by the IS staff supporting the client & peripheral environment.

**Client:** This refers to IT management client devices.

**Server:** This refers to IT management servers.

## Software

Software costs include the following items:

### User Client Software

**Personal Productivity and Database:** This includes new word processors, spreadsheets, presentation packages, personal databases and other personal productivity software executing on client systems. Also includes upgrades.

**Messaging and Groupware:** This includes new and upgraded e-mail, groupware and collaboration software. Specify the client component of the costs only.

### IT Management Software

This includes new and upgraded IS software that is used exclusively for IS functions including network, systems, storage and asset management, training and computer-based training (CBT) software. In most cases, software is expensed in the year it is purchased. Site licenses or select agreements typically are capitalized over the duration of the agreement. Software that is licensed under an annual subscription is recorded as an annual expense.

## Occupancy

Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the client & peripheral environment under analysis. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories in which a more-detailed accounting is unavailable at this time.

## Personnel – Technical

### Operations/Maintenance

**Incident Resolution/Prevention:** This category includes FTEs and costs directly involved in resolving or preventing incidents related to the desktop environment. An incident is any event which is not part of the standard operation of a service and which causes, or may cause, an interruption to, or a reduction in, the quality of that service. An incident is related to a failure in the IT services provided. Typical activities include repairing malfunctioning client hardware and software. Preventative activities such as applying patches are included in this category as well.

**Service Request Fulfillment:** Include staff/costs related to fulfilling service requests around client equipment. These include but are not limited to software deployment (electronic or manual), installation of new computers and moves/adds/changes/deinstalls/removals of existing computers.

### Engineering/Technical Services

**Desktop Engineering:** Includes staff/costs related to the technical design, and modification of the desktop environment. Typical activities include desktop software application packaging, scripting, testing, debugging, and implementation of change and production support. This category also includes image development and management, patch management, test lab activities, monitoring health and troubleshooting of non-working installations, and approving requests for change.

**Security Management:** The process of planning and managing a defined level of security for information and IT services in relation to the client & peripheral environment, including all aspects associated with procedures for and reaction to security incidents. It also includes the assessment and management of risks and vulnerabilities, and the implementation of cost justifiable countermeasures. Specifically includes System Access (controlled, for example, by user-id and password), Standards for file access software (security software, virus scan), and Auditing system security and correcting violations.

## Personnel – Planning and Process Management

These functions are most often found in larger more mature enterprises as centralized multi-disciplinary teams. Only include staff/costs here that come from a centralized IT function, include tower specific personnel dedicated to the function, or involve tower specific personnel who are working as part of a multi-disciplinary team dedicated to the effort. Costs/staff for these functions are often allocated to the IT tower being analyzed from other groups. Tasks performed on an ad hoc basis by tower specific personnel should be included in the Operations/Maintenance, Engineering/Technical Services or Management categories.

**Systems Research and Planning:** Consider activities related to the planning for and management of, current and future technology needs. This includes activities such as project portfolio management, the development of plans for major initiatives such as mass product or application migrations, and research of new technologies.

**Process Development and Management:** Development and establishment of formal policies and documentation around the connected sets of activities that define IT processes, plus the

ongoing oversight and control (but not the actual carrying out) of these processes. Processes include, but are not limited to, Configuration management, Incident/Problem management, Change Management, Release Management, Security Management.

### **Example—Change Management Process**

Typical FTEs INCLUDED in Process Management:

- Change Manager who manages submission of changes for complete information, and ensures the proper coordination is conducted to validate the impact to IT systems.
- Change Specialists who are responsible for and have expertise in change submissions and management.

Typical FTEs NOT INCLUDED in this category.

- Technical Specialist who implements a change on a server.
- Data Center Manager who may approve a change as part of a formal change management process.

**Project Management:** Includes activities related to organizing and managing IT resources in such a way that these resources deliver all the work required to complete a project within defined scope, time, and cost constraints. A project is a temporary and one-time endeavor undertaken to create a unique product or service. It is important to note that this category includes only the organizing and managing of IT projects, and not all the activities that are a part of an IT project. Project Management Office (PMO) personnel are generally included in this category. Activities other than organizing and managing should be included in the Technical Services/Engineering, Operations, or Management categories.

Project management of applications development and maintenance for specific applications, is an exception to this and is included under Operations. Project management relating to process, methods, applications infrastructure and other activities associated with Applications management (and not specific applications) is included here.

## **Personnel – Services Administration**

Management of these functions varies greatly among enterprises. While these functions are centralized within IS in some organizations, in others they may be performed by corporate finance group, a purchasing group, or even within a business unit. In order to ensure consistent data collection the following guidance has been provided:

1. Corporate finance or procurement personnel supporting the IS department or supporting the IT related activities of individual business units should be included in these categories.
2. Personnel within individual business units performing these functions should also be included. HOWEVER, only include costs from outside IS if they are “significant.” If the enterprise is confident that costs for any individual category incurred outside IS are less than 10% of those incurred within IS, data collection does not need to be attempted.

**Budget, Chargeback and Service Level Reporting:** This area establishes the IT budget related to the tower being analyzed, monitors actual expenses vs. the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel handle the operation of the chargeback system, and any service level reporting systems. Typical positions include financial consultant and chargeback administrator, IT Measurement specialist.

**Product Management:** The product management function is responsible for an IT service end-to-end, in terms of its description, financials and performance against contracted service levels. It also typically involves managing the “outward-facing” activities and tasks associated with a product or offer such as selling strategy, collateral development, advertising, public relations and branding, and pricing. This role may be responsible for one, several or many products or offers. Only include staff/costs here that come from a centralized IT product management function, operations personnel dedicated to this function, or operations personnel as part of a cross functional team. This existence of this function is usually limited to larger more mature enterprises. Product management tasks performed on an ad hoc basis by tower personnel should be included in the Technical Services/Engineering, Operations, or Management categories.

## Training

**IS and End-User Training:** This is the primary source for the delivery of training, both within the IS organization and for end users out in the business units. These personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## Asset Management

**Asset and Configuration Tracking:** This area provides the administrative support for tracking systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts and performing asset inventories (physical or automated management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds changes, removals and final disposal of all assets (i.e., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset’s useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors’ bills, coordinates with accounts payable for payment and handles contract administration. A typical position is purchasing agent.

## Account Management

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** Includes oversight of performance of large outsourcing deals, plus ongoing management of all supplier/vendor relationships. To ensure that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## Management and Administration

**IS Administration:** This area provides direct administrative and clerical support to all organizations related to the tower being studied. Typical positions include secretary, receptionist and administrative assistant. These individuals often work for executives at high level in the organization. When determining how high in the organization to represent an IS Administration associate, use the following guidelines to determine materiality.

When analyzing a single tower, it is not necessary to include IS Administration time for any associate if the total time contribution of the individual represents less than 15% of the individuals total hours. If multiple towers are being analyzed, it is not necessary to include any IS Administration time for any associate if the total time contribution of the individual represents less than 30% of the individuals total hours.

**Management:** This area includes time spent by management personnel on supervisory, departmental administration, or strategy related tasks. These tasks include but are not limited to setting strategic direction, communications activities, hiring and firing of staff, personnel performance reviews, expense management, approving relevant documents, planning day to day personnel workload etc. Time spent by managerial personnel on non-supervisory or departmental administration tasks (for example a data center supervisor who spends half his time managing servers) should be represented in the relevant category. When determining how high in the organization to represent management use the following guidelines to determine materiality.

When analyzing a single tower, it is not necessary to include management time for any associate if the total time contribution related to the scope of the analysis of the individual (included non management activities) represents less than 15% of the individual's total hours. If multiple towers are being analyzed, it is not necessary to include any management time for any associate if the total time contribution related to the scope of the analysis of the individual (including non-management activities) represents less than 30% of the individual's total hours.

**Unallocated (Total Cost):** Include any costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time.

## Staffing

### Full-Time Equivalent Headcount (FTE)

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 3.0 Workload

The Client & Peripheral Workload table captures information regarding the count of clients, peripherals, sites and end users.

### Client Devices

**Desktop:** Add non-mobile computers used by employees in either the traditional office setting or in another fixed location such as satellite office suites and employee homes.

**Laptop:** Include fully functioning laptop, notebook and tablet computers.

**Thin Client:** Include reduced form server-based computing terminals such as Citrix.

**Tablet:** Tablets meet all criteria for a notebook device, and are equipped with a pen and an on-screen digitizer. There are two form factors: slates, which don't have a keyboard; and convertibles, which have attached keyboards and swivel screens that lie flat on the keyboard when in the tablet mode.

**Handheld:** Include personal digital assistants (PDAs), smartphones and messaging devices.

**Unallocated (Client Devices):** Include counts here only for those client device categories in which a more-detailed accounting is unavailable at this time.

### Peripheral Devices

**Personal Printers:** Non-networked, non-shared printers.

**Shared Printers:** Departmental or enterprise printers serving moderate to large numbers of users and handling moderate to large production print volumes.

**Multi-Functional Printers (MFPs or MFDs):** A machine that provides centralized document management/distribution/production via some combination of Printer, Scanner, Photocopy, Fax or E-mail functionality.

**Unallocated (Peripherals):** Include counts here only for those peripheral device categories in which a more-detailed accounting is unavailable at this time.

### Enterprise Sites/Customers

**Sites:** Indicate the number of locations that are supported by resources included within the scope of this analysis view. This count includes headquarters and field/branch offices but excludes the offices of employees working remotely (out of their homes).

**Employees:** Indicate the count of employees (i.e., head count, excluding contractors or consultants) regardless of whether these employees are frequent users or not of the technology supported by the IS organization.

**End Users:** Indicate the count of people who may be using the technology supported, regardless of whether or not they are employees (contractors or consultants may be included in this count).

### Client Operating Systems Deployed

Indicate the operating systems in use.

## Service Levels

**Resolution Time Frames:** Target and Actual resolution timeframes (hours) are requested by severity:

- **Severity 1—Mission-Critical Impact—Multiple Users Down (Hours)**—Acceptable time to resolve problems for hardware, software and system components within the desktop environment that are mission-critical or effect a significant number of end users.
- **Severity 2—Major Impact—Single User Down, Other Users Affected (Hours)**—Acceptable time to resolve problems for hardware, software and system components within the desktop environment that are major impact or effect a number of end users.

**Install, Moves, Adds and Changes:** Target and Actual IMAC turn-around timeframes (days) are requested to understand the acceptable time required to install, move, add, or change software or hardware for a desktop/laptop system upon appropriate request from a service receiver. Normally more than 15 IMACS would be considered a project and would be based on an agreed upon time frame.

**Restoration Time Frames: What percentage of desktop/laptop devices require hardware/software break/fix restoration in the following increments?** Many enterprises have service-level objectives or service-level agreements for client restoration services. Often these targets are worded in a form such as “95% of devices will be restored within six hours.” In our interpretation, the device doesn’t actually need to be repaired, but the user devices must be returned to full functionality (including data and configuration). This may be achieved by keeping spare devices available. Please match the targets of the view to the options below.

**Hours of Operation:** Hours of normal operations where there is sufficient staffing support available to perform critical duties and support main systems in operation. This does not include skeleton or voice mail service cover.

# IT Overview Benchmark Explain Text for IT Help Desk

---

Gartner, Inc.

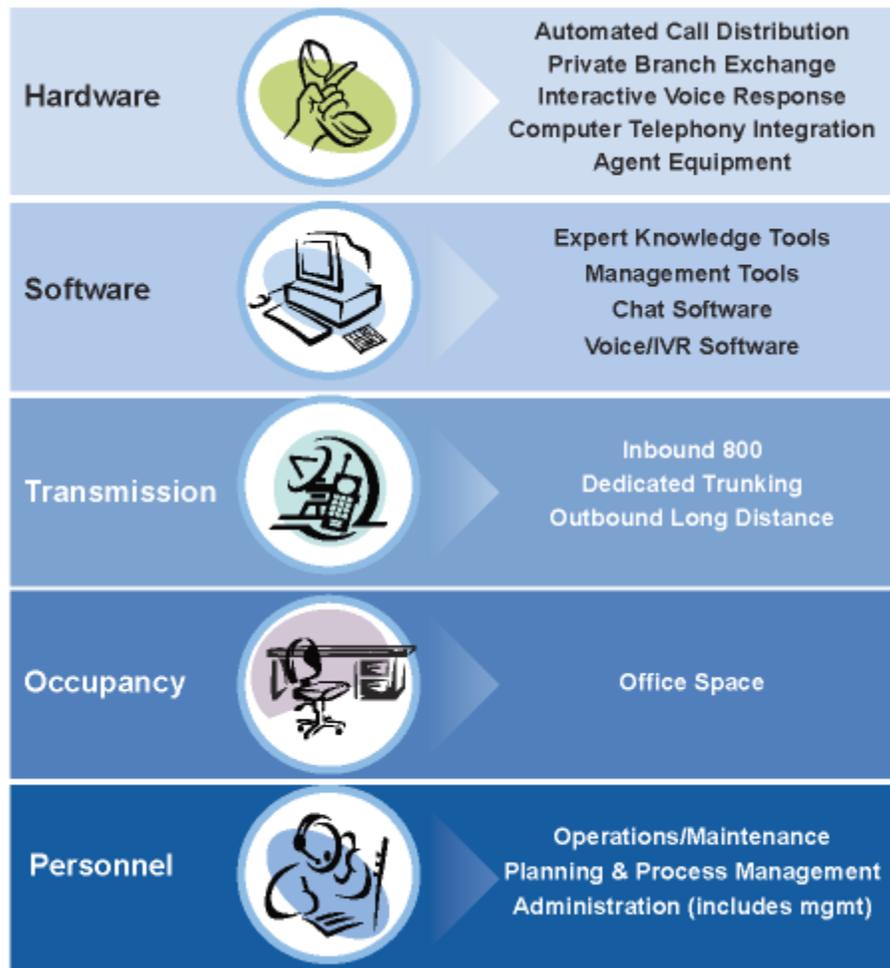
April 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 ITOB Spending and Staffing.....</b>	<b>4</b>
<b>3.0 Workload.....</b>	<b>13</b>

Figure 1. IT Help Desk



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Region Supported:** Select the lowest level in the hierarchy that represents appropriately the regions using this platform for processing. (For example, the platform may reside in an operations center in New York City, but may be used by locations around the globe; therefore, in this example, select “global” or “worldwide.”)

**Region Located:** Select the lowest level in the hierarchy that represents appropriately the location of this platform (e.g., Northeastern U.S.).

## 2.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support head count are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your organization (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**View Name:** This user-entered field enables you to give the view a name that makes sense within your organization. Keep in mind that this is the name that will appear on outputs, as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsource contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is completely handed over to an external service provider.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the

network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.

- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit's money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group's scope of support.

## Non-personnel

### Hardware

This includes all hardware necessary to support the service desk such as:

**PBX:** Telephony station equipment should be entered in the ACD, PBX or Centrex equipment section. Include costs for PBX switch, telephone handsets and headsets and voice mail as appropriate. If ACD functions are included with your PBX and you are unable to allocate costs across between assets, enter costs under the ACD rather than the PBX asset.

**Automated Call Distribution ACD:** Costs for ACD switch, telephone handsets and headsets, and voice mail.

**Interactive Voice Response (IVR):** Automated call-processing system capable of responding to customer inquiries and reducing agent labor.

**Computer Telephony Integration (CTI):** Technology that merges the contact center computer software with the telephone system. For example, a customer record can be accessed and displayed on screen following a customer-initiated telephony operation such as the entering of an ID code.

**Service Desk Client and Peripheral Devices:** Defined as hardware/software, residing on the agent's desk, used to provide support to customers. Software components such as operating system and office productivity tools may be bundled in with the hardware costs here. Service desk-specific software as outlined in software below should be provided separately. This includes primarily shared and personal printers, but can also consist of other peripheral equipment attached to service desk client computers.

**Service Desk Application Servers:** These are servers used explicitly by the service desk to provide support services. Typically this includes servers hosting service desk applications. Infrastructure software components such as network operating systems may be bundled with the hardware costs here.

Service desk hardware costs should be allocated to specific contact channels where possible including.

- Voice Specific Hardware
- IVR Specific Hardware
- E-mail Specific Hardware
- Web (Agent Handled) Specific Hardware
- Self-Service Specific Hardware
- Automated Password Reset Hardware
- Chat Specific Hardware
- Fax Specific Hardware
- Paper Specific Hardware

## Software

This includes all software that is necessary to operate the service desk such as:

**Expert Knowledge Tools:** This is a software system that can learn new procedures by analyzing the outcome of past events, or that contains a knowledge base of rules that can be applied to new data or circumstances not explicitly anticipated. This includes knowledge base technologies used by the service desk consultants to quickly search for documented resolutions to common technical problems. These tools typically include the ability to search a resolution database based on error messages and then provide decision trees or “how to” instructions for possible solutions.

**Problem Management Tools:** These are tools used by the service desk to coordinate a multi-tier, multi-owner service and support environment, enables pattern analysis, provides management reports, and facilitates requesting additional service and support resources by providing hard numbers on the service workload and its changing nature. Because PM tools can also track service-level agreements (SLAs), they are valuable for monitoring compliance.

**Quality Monitoring:** Tools used by the team leaders or supervisors to monitor the interaction between agents and customers to ensure that minimum quality assurance standards are being achieved.

**Self-Service:** This is similar to the expert knowledge tools used by service desk analysts, but in this case the service desk enables users to access a Web portal where they can attempt to diagnose and resolve their own problems. Just as with expert knowledge tools, the user can typically search a resolution database based on error messages and then follow decision trees or “how to” instructions for possible solutions.

**Workforce Management Software:** Software used to optimize the efficiency and effectiveness of service desk staffing.

**Workflow Management Software:** Software used to improve and manage the flow of work (process) within the service desk.

**Service Desk Management Portal Software:** A product that offers stand alone capabilities or a suite of integrated components to support a service desk. This software provides a set of contact center functions as a single platform within the control of a single administrative view. Components typically include the following items:

- Telephone switch functionality and computer-telephony integration (CTI)
- Intelligent routing based on business rules or agent skills
- Automatic call distribution (ACD), interactive voice response (IVR) and voice mail functions
- Outbound (e.g., predictive) dialing
- Application integration interfaces and tools
- “Cradle-to-grave” contact reporting and component administration
- Remote Management
- E-mail response management system (ERMS) functions
- Unified messaging
- Tools for integration with front- and back-office applications or with applications that support customer relationship management (CRM) strategies

Service desk software costs should be allocated to specific contact channels where possible including.

- Voice Specific Software
- IVR Specific Software
- E-mail Specific Software
- Web (Agent Handled) Specific Software
- Self-Service Specific Software
- Automated Password Reset Software
- Chat Specific Software
- Fax Specific Software
- Paper Specific Software

**Occupancy:** This includes all occupancy that is necessary to operate the service desk such as:

**Facilities/Occupancy:** Includes lease, depreciation, rent, capital costs, transaction costs, operating expenses, repairs and maintenance, utility charges, insurance, taxes, construction and reconstruction of work settings.

**Furniture:** Includes costs for furniture and office equipment (other than IT assets such as PCs, servers and telecommunications equipment).

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories in which a more-detailed accounting is unavailable at this time.

**Transmission:** Please note transmission expenses generally are considered “outsourced” or “IS Transfer” for the purposes of this analysis because the daily operational responsibility of monitoring of the circuits to the customer premise is the responsibility of the telecommunications

provider. The only exception to this guideline would be if your enterprise has laid their own transmission facilities between locations and is operationally managing these services internally.

Transmission Costs Typically Include:

**Inbound 800:** Charges associated with toll-free services used to terminate calls at the service desk.

**Dedicated Trunking:** This refers to dedicated transmission facilities (e.g., T1 services) used by the service desk. Typically this is some allocation from the enterprise network based on the traffic terminating at the service desk.

**Local Service:** This refers to local circuits (e.g., DID and DOD) used for service desk calls.

**Outbound Long Distance:** This includes outbound usage charges associated specifically with calls placed from the service desk.

**Internet Access:** This refers to access charges associated with the service desk portal if applicable or used to access vendor-provided service desk tools (e.g., third-party knowledge packs).

**Network Between Service Desks:** Include any charges associated with tying multiple service desks together so they perform as one “virtual” service desk.

## Personnel – Technical

### Operations/Maintenance

**Agents:** Agents are the primary resource for handling service requests, incidents, and inquiries at the service desk. Agents are often referred to as customer service representatives or IT service desk staff (first line). For “Team Leader Agents” with responsibility for leading/assisting peers, only include the time spent performing customer service activities here. Anytime related to other activities should be included in the appropriate categories such as Management, Technical Services/Engineering or Planning and Process Management.

**Second-Line Support:** This includes subject-matter experts who provide backup support to the first-line agents. These personnel may not necessarily be a part of the formal service desk organization. If they do come from outside the service desk organization they must have formal responsibilities for responding to service desk contacts e.g., applications support staff who are assigned to handle transferred calls from first line agents. Do not include any FTEs responsible for actually resolving the incident while not in direct contact with the end-user.

### Engineering/Technical Services

**Contact Data Management and Analysis:** This includes staff having responsibility for monitoring and tracking trends in contacts, and recommending solutions that can be implemented by the service desk. This also includes monitoring of key service desk statistics such as peak usage times to manage service desk efficiency.

**Infrastructure Applications Development:** This includes activities related to the development of scripts or other programming necessary to operate or customize the service desk toolset.

**Quality Assurance:** Monitoring and reviewing of agent contacts to ensure compliance with procedures and best practices, and to search for ways to improve services.

## Personnel – Planning and Process Management

NOTE: For the Systems Research and Planning, Process Development, Process Management categories:

These functions are most often found in larger more mature enterprises. Only include staff/costs here that come from a centralized IT function, include tower specific personnel dedicated to the function, or involve tower specific personnel who are working as part of a multi-disciplinary team dedicated to the effort. Costs/staff for these functions are often allocated to the IT tower being analyzed from other groups.

Tasks performed on an ad hoc basis by tower specific personnel should be included in the Technical Services/Engineering, Operations/Maintenance, or Management Categories.

### Systems Research and Planning

Consider activities related to the planning for and management of, current and future technology needs. This includes activities such as project portfolio management, the development of plans for major initiatives such as mass product or application migrations, and research of new technologies.

**Process Development and Management:** Development and establishment of formal policies and documentation around the connected sets of activities that define IT processes, plus the ongoing oversight and control (but not the actual carrying out) of these processes. Processes include, but are not limited to, Configuration management, Incident/Problem management, Change Management, Release Management, Security Management.

### Example—Change Management Process

Typical FTEs INCLUDED in Process Management:

- Change Manager who manages submission of changes for complete information, and ensures the proper coordination is conducted to validate the impact to IT systems.
- Change Specialists who are responsible for and have expertise in change submissions and management.

Typical FTEs NOT INCLUDED in this category.

- Technical Specialist who implements a change on a server.
- Data Center Manager who may approve a change as part of a formal change management process.

**Project Management:** Includes activities related to organizing and managing IT resources in such a way that these resources deliver all the work required to complete a project within defined scope, time, and cost constraints. A project is a temporary and one-time endeavor undertaken to create a unique product or service. It is important to note that this category includes only the organizing and managing of IT projects, and not all the activities that are a part of an IT project. Project Management Office (PMO) personnel are generally included in this category. Activities other than organizing and managing should be included in the Technical Services/Engineering, Operations, or Management categories.

Project management of applications development and maintenance for specific applications, is an exception to this and is included under Operations. Project management relating to process, methods, applications infrastructure and other activities associated with Applications management (and not specific applications) is included here.

## Personnel – Services Administration

**NOTE:** For Budget, Chargeback and Service Level Reporting, Asset Management, Outsource Contract Management, and Supplier/Vendor Management: Management of these functions varies greatly among enterprises.

While these functions are centralized within IS in some organizations, in others they may be performed by corporate finance group, a purchasing group, or even within a business unit. In order to ensure consistent data collection the following guidance has been provided.

- Corporate finance or procurement personnel supporting the IS department or supporting the IT related activities of individual business units should be included in these categories.
- Personnel within individual business units performing these functions should also be included.
- In many cases these costs exist, but are insignificant. If the enterprise is confident that costs for any individual category incurred outside IS are less than 10% of those incurred within IS, data collection does not need to be attempted.
- FTEs supporting these functions for assets not included in the scope of an analysis should not be included. For example business unit FTEs who are performing budgeting activities for servers that are not part of an analysis would not be included.

**Product Management:** The product management function is responsible for an IT service end-to-end, in terms of its description, financials and performance against contracted service levels. It also typically involves managing the “outward-facing” activities and tasks associated with a product or offer such as selling strategy, collateral development, advertising, public relations and branding, and pricing. This role may be responsible for one, several or many products or offers. Only include staff/costs here that come from a centralized IT product management function, operations personnel dedicated to this function, or operations personnel as part of a cross functional team. This existence of this function is usually limited to larger more mature enterprises. Product management tasks performed on an ad hoc basis by tower personnel should be included in the Technical Services/Engineering, Operations, or Management categories.

**Budget, Chargeback and Service Level Reporting:** This area establishes the IT budget related to the tower being analyzed, monitors actual expenses vs. the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel handle the operation of the chargeback system, and any service level reporting systems. Typical positions include financial consultant and chargeback administrator, IT Measurement specialist.

**IS Training:** This includes tasks related to the needs assessment, development, coordination, and delivery of IS associate training related to core job functions. This category does not include any tasks related to training of end-user personnel. “Human Resources-centric” training (such as company benefits training) is not included in this category. IS training can be insourced or outsourced. Fees for classes taken by IS professionals should be included in IS Training—Outsourced.

## Asset Management

**Asset and Configuration Tracking:** This area provides the administrative support for tracking systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts and performing asset inventories (physical or

automated management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds changes, removals and final disposal of all assets (i.e., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. A typical position is purchasing agent.

## Account Management

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** Includes oversight of performance of large outsourcing deals, plus ongoing management of all supplier/vendor relationships. To ensure that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## Management and Administration

**IS Administration:** This area provides direct administrative and clerical support to all organizations related to the tower being studied. Typical positions include secretary, receptionist and administrative assistant. These individuals often work for executives at high level in the organization. When determining how high in the organization to represent an IS Administration associate, use the following guidelines to determine materiality.

When analyzing a single tower, it is not necessary to include IS Administration time for any associate if the total time contribution of the individual represents less than 15% of the individuals total hours. If multiple towers are being analyzed, it is not necessary to include any IS Administration time for any associate if the total time contribution of the individual represents less than 30% of the individuals total hours.

**Management:** This area includes time spent by management personnel on supervisory, departmental administration, or strategy related tasks. These tasks include but are not limited to setting strategic direction, communications activities, hiring and firing of staff, personnel performance reviews, expense management, approving relevant documents, planning day to day personnel workload etc. Time spent by managerial personnel on non-supervisory or departmental administration tasks (for example a data center supervisor who spends half his time managing servers) should be represented in the relevant category. When determining how high in the organization to represent management use the following guidelines to determine materiality.

When analyzing a single tower, it is not necessary to include management time for any associate if the total time contribution related to the scope of the analysis of the individual

(included non management activities) represents less than 15% of the individual's total hours. If multiple towers are being analyzed, it is not necessary to include any management time for any associate if the total time contribution related to the scope of the analysis of the individual (including non-management activities) represents less than 30% of the individual's total hours.

**Unallocated (Total Cost):** Include any costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time.

## Staffing

### Full-Time Equivalent Headcount (FTE)

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 3.0 Workload

### Infrastructure Scale

**Agent Handled Contacts (Voice, E-Mail, Web (Agent Handled), Chat, Paper, Fax):** Annual quantity of contacts that were serviced by the help desk agents (i.e., abandoned contacts are excluded from these numbers). Always defined as the quantity of contacts rather than the duration of those contacts.

**Tickets Generated via Agent Handled Contacts:** This refers to the annual quantity of tickets entered into the trouble ticketing system as a result of inquiries handled.

**Automated Contacts (IVR, SelfService, Automated Password Resets):** Annual quantity of contacts that were serviced through automation (i.e., abandoned contacts are excluded from these numbers). Always defined as the quantity of contacts rather than the duration of those contacts.

**Tickets Generated via Automated Contacts:** This refers to the annual quantity of tickets entered into the trouble ticketing system as a result of inquiries handled.

**End Users:** Indicate the count of people that may be using the technology supported, regardless of whether or not they are employees (contractors or consultants may be included in this count).

### Service Level

**Planned Average Speed of Answer (Seconds):** This refers to the planned (or targeted) average time a user waits on hold prior to reaching a live agent.

**Planned First-Contact Completion Percentage (Voice/Chat Queue Only):** This refers to the planned (or targeted) percentage of total contacts resolved at this level. First-contact completion applies when the first person the customer reaches fulfills the request, provides the information, resolves the incident, or dispatches service where appropriate. Warm transfers and callbacks should be considered second or greater contact.

**Actual Average Speed of Answer (Seconds):** This refers to the actual average time a user waits on hold prior to reaching a live agent.

**Actual First-Contact Completion Percentage (Voice/Chat Queue Only):** This refers to the actual percentage of total contacts resolved at this level. First-contact completion applies when the first person the customer reaches fulfills the request, provides the information, resolves the incident, or dispatches service where appropriate. Warm transfers and callbacks should be considered second or greater contact.

**Support Availability:** Indicate the highest level of support availability required in hours per week for the service desk services included in this analysis. (0-168 hours).

**Languages Supported:** Indicate the number of languages your service desk supports.

**Average Time to Abandon (seconds):** This refers to the average number of seconds in a queue when calls are abandoned.

**Negative (or total) Abandoned Percent:** This refers to the percentage of total contacts, which were abandoned and above the user-defined threshold used for segmenting positive from negative abandons.

**Help Desk Location:** Indicate the location of the help desk resources. Terms for nondomestic service delivery include “nearshore” (from countries in close geographic proximity) or “offshore” (from remote geographic locations). The distinction between nearshore and offshore is often based on buyers' perceptions of geographic proximity or distance, and may be influenced by time zone, travel time or simple physical proximity.

# IT Overview Benchmark Explain Text for Wide-Area Data Network

---

Gartner, Inc.

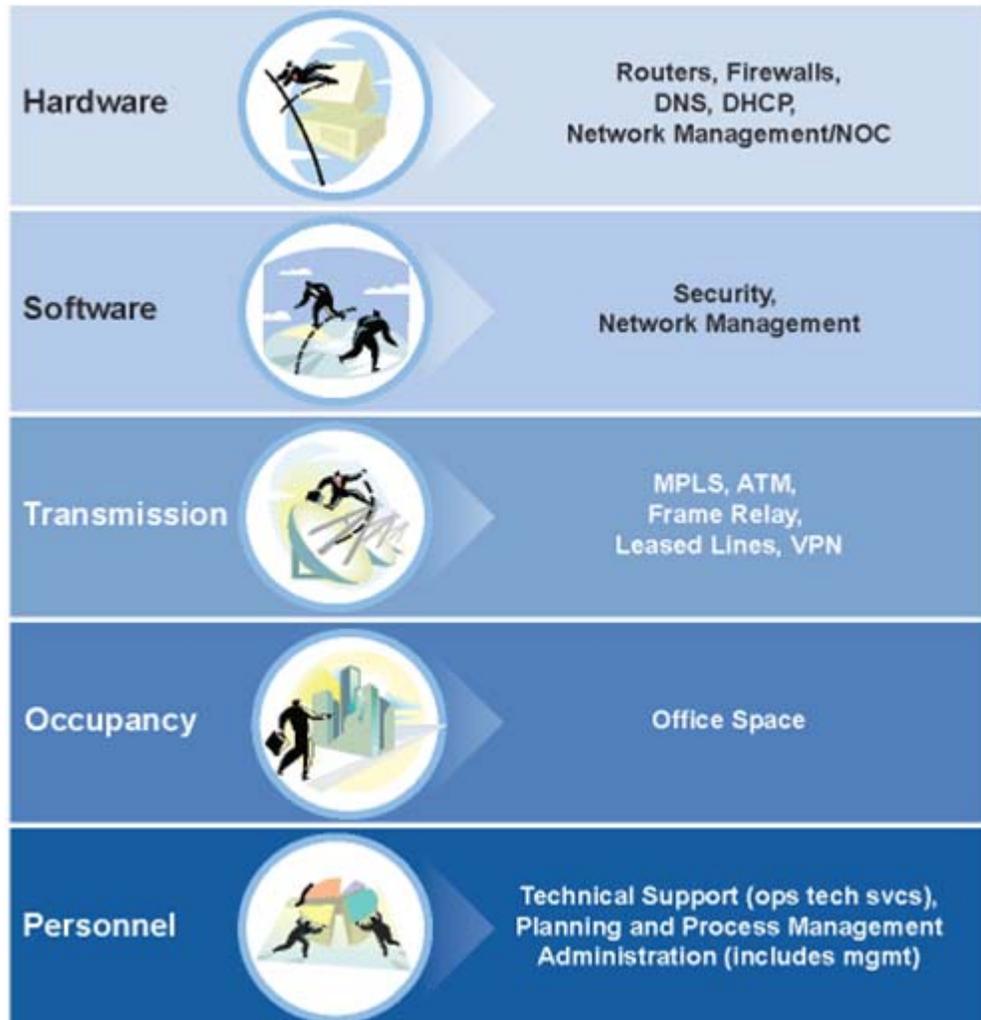
October 2010

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 WAN Environment.....</b>	<b>4</b>
<b>3.0 ITOB Spending and Staffing.....</b>	<b>5</b>
<b>4.0 Contract Information.....</b>	<b>11</b>
<b>5.0 Workload.....</b>	<b>14</b>

Figure 1. Wide-Area Data Network



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Region Supported:** Select the lowest level in the hierarchy that represents, appropriately, the regions covered by this network.

**Region Located:** Select the lowest level in the hierarchy that represents, appropriately, the location of the majority of the support staff.

## 2.0 WAN Environment

This section, at the start of the WAN interview, is intended to capture information relating to the geographic footprint of the WAN being assessed. It will also capture the technologies in use in the WAN and the types of traffic carried over the WAN.

**Regions:** The geographic footprint of the WAN is described by selecting each region in which WAN service is provided. The available regions include:

- North America (NAM)
- Central America & Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

Note that the regions selected in this section will drive the appearance of regional data entry cells during the rest of the interview. In other words, data will only be able to be entered for the regions specified here.

**Technologies in use as a % of total Bandwidth:** This section will capture the types of technologies present in the WAN as percentages of the total installed bandwidth in the WAN. Note that the requested percentages are not to be broken out by region but are rather for the entire enterprise WAN. The available technologies include:

- MPLS (Multi-Protocol Layer Switching)
- Frame Relay
- ATM (Asynchronous Transfer Mode)
- Satellite
- Private Line (leased or owned)

The total percentage is calculated by the data collection survey and does not get entered. This calculated value must equal 100%.

**Class of Service—Site Percentages:** Enter the percentages of the total number of sites that have the following services supported:

- **Data only:** Sites with no VoIP (Voice over IP) and/or IP Video (Video conferencing over the WAN) services
- **Data with Voice and/or Video:** Sites that have VoIP (Voice over IP) and/or IP Video (Video conferencing over the WAN) services. Note that the actual numbers of these sites will be reported, by region, in the Workload section of this interview.

## 3.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support headcounts are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your enterprise (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**Name:** This user-entered field enables you to give the view a name that makes sense within your enterprise. Keep in mind that this is the name that will appear on outputs as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel and training.
  - Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsourcing contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is handed completely over to an external service provider. Note that, by this definition, any transmission facilities that are purchased from the vendors are considered outsourced and must be captured in an “outsourced” cost group. The only exception to this would be the case in which an enterprise lays its own fiber and then operationally manages those links among enterprise locations, effectively acting as its own telecommunications enterprise.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).

- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.
- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit’s money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group’s scope of support.

## Non-personnel

### Hardware

The costs that entered in this row include the aggregate totals for depreciation and/or maintenance for such items as:

#### **Security**

**Dedicated WAN Firewall Hardware and WAN Encryption Hardware:** These categories include Security “appliances,” and WAN level firewall servers, as well as any WAN level encryption devices.

#### **Network Operations Center (NOC)**

This includes hardware that is located within a client’s Network Operations Center (NOC) used to support a client’s centrally managed WAN infrastructure.

**Test Equipment and Remote Monitoring Equipment:** These categories include sniffers, droids, etc. used in the management, performance monitoring and trouble shooting of the WAN infrastructure. The costs for these may need to be prorated between voice and data services, depending on a client’s NOC environment.

**Client Devices (PCs on NOC Desktops):** These include desktops and laptops used by the NOC staff to support the client’s WAN. The costs for these may need to be prorated between voice and data services, depending on a client’s NOC environment.

**Network Management Servers (NOC):** Servers, either located within the NOC, or elsewhere, but used primarily by the NOC to support a client's WAN infrastructure. The costs for these servers may need to be prorated between voice and various data services, depending on a client's NOC environment.

### ***Routing***

**Multiplexers:** These are devices that combine inputs from two or more terminals, computer ports, or other multiplexers and transmit the combined data stream over a single high-speed channel. At the receiving end, the high-speed channel is "demultiplexed," either by another multiplexer or by software.

**Satellite Equipment:** This is any hardware that interfaces with the vendor-provided satellite service (e.g., hub, antenna and amplifier).

**Boundary (Branch) Routers:** A router located at a WAN site providing connectivity from the site's LAN to the WAN being assessed.

**Backbone Routers and Bridges:** A router used in a client's tiered WAN backbone. These are usually used when a client has implemented their own WAN backbone, as opposed to using carrier provided digital services such as ATM, MPLS, etc.

### ***Other***

**DNS (Domain Name Servers) and DHCP (Dynamic Host Configuration Protocol Distribution) Servers:** These categories include the servers used to resolve domain names and dynamic IP addresses.

**UPS:** This category is intended to include all UPS (Uninterruptible Power Supply) costs associated with the WAN. These costs may need to be prorated between the WAN, the LAN, and, in some cases, the Voice infrastructures at the sites being assessed.

### **Software**

The costs that entered in this row include the aggregate totals for depreciation and/or maintenance/license fees for such items as:

#### ***Security Software***

**Dedicated WAN Firewall Software and WAN Encryption Software:** These categories include the purchase and license costs for the software used in Security "appliances," and WAN level firewall servers, as well the software used in any WAN level encryption devices. These costs may, in some cases, be included in the hardware costs for this hardware, and may not be able to be broken out.

#### ***Network Operations Center (NOC) Software***

All Network Systems Management (NSM) software costs related to the NOC's support of the client's WAN infrastructure. This cost may need to be prorated between WAN and LAN.

#### ***Other Software***

**DNS Software and DHCP Software:** These categories include the software used in the corresponding hardware to resolve domain names and dynamic IP addresses.

## Occupancy

These costs should include fully burdened costs for the facilities being used by the staff supporting the wide-area data network under analysis. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories in which a more-detailed accounting is unavailable at this time.

## Transmission

Aggregated Transmission costs are to be entered on regional basis for private wide-area data networks, and/or carrier digital services based wide-area data networks. The regional definitions used to capture Transmission costs are:

- North America (NAM)
- Central America & Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

When determining the Transmission costs for your wide-area data network(s), the following guidelines and definitions should be followed.

### ***Dial Backup Service***

The costs associated with the equipment or facilities involved in, establishing a temporary connection via the switched network for the purpose of providing a backup (redundancy) for dedicated services are to be included.

### ***Private Networks***

A Private Network refers to transmission facilities that a client implemented and maintains themselves rather than relying on carrier provided digital services such as MPLS. An example of this would be a utility company that lays their own fiber along their right of way, essentially acting as their own telecom company. Private networks typically have core sites on a corporate backbone and smaller locations that access that corporate backbone. Private Network depreciation facility (fiber and/or copper and/or microwave) costs should be entered in the Insourced Source Type, and any corresponding Maintenance costs should be entered in the Maintenance Source Type.

**Access:** The costs of Access circuits from wide-area data network sites to the carrier's POPs (Points of Presence) are to be included in the regional Transmission cost aggregations.

### ***Carrier Digital Services***

All costs for carrier digital services are to be included in the aggregated regional Transmission costs. Such costs can include:

**Frame Relay** Access, Ports and PVCs (Permanent Virtual Circuits).

**ATM** (Asynchronous Transfer Mode) Access, Ports and PVCs (Permanent Virtual Circuits).

**MPLS** (Multiprotocol Label Switching) Access, Ports, and CARs (Committed Access Rates). There may also be specific charges for Quality of Service (QOS) commitments, sometimes referred to as Traffic Shaping.

## Personnel – Technical

### Operations/Maintenance

**Network Operations Center (NOC):** This includes the costs for the FTEs associated with day-to-day activities of NOC (Network Operations Center) personnel related to monitoring and troubleshooting of the WAN infrastructure.

### Engineering/Technical Services

Second tier support of the compute management systems relating to performance monitoring, root cause analysis of problems, capacity monitoring and management, change and release management, security management and so on. Please remember to include any costs for the FTEs involved in supporting the dedicated inter- or intra- data centre connectivity related to the computer systems in the scope of this assessment.

**Network Support (Break/Fix):** WAN support is defined as technical support for the recurring, day-to-day activities that are required to keep WAN infrastructure components functional and operational (i.e., Break/Fix) including these items:

- **Tier II Support:** This refers to NSM monitoring/detection/correction of WAN faults, configuration changes and performance criteria.
- **Tier III Support:** This refers to maintenance and repair of WAN assets.

**Change Management (MAC work):** This category is intended to capture the costs of those FTEs that are coordinating, tracking and implementing customer initiated WAN MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *WAN Support* category.

**Capacity Management:** This area establishes the performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This includes day-to-day activities related to ensuring network privacy and protecting the WAN from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

## Personnel – Planning and Process Management

This refers to activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, project management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection as well as business continuity/recovery.

**Systems Researching and Planning:** This includes wide area data network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes wide area data network strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the wide-area network project management relative to the deployment or refresh of the network technology.

## **Personnel – Services Administration**

**Budget, Chargeback and Service Level Reporting:** This area establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This includes the product management associated with the delivery of a wide-area network as a product or service to the corporate customers.

**IS Training:** This is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

### ***Asset Management***

**Asset and Configuration Tracking:** This area provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

### ***Account Management***

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** This is similar to supplier/vendor management in that these resources have oversight of the outsource service provider's performance. However, this category is separated explicitly from supplier/vendor management because of the scale and complexity involved in large outsourcing deals. This area is responsible for the ongoing management of all supplier/vendor relationships, ensuring that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## **Management and Administration**

### ***IS Administration***

This area provides direct administrative and clerical support to all network support organizations. Typical positions include secretary, receptionist and administrative assistant.

### ***Management***

The management category includes the supervision of WAN related personnel (both employees and contractors), and vendors; as well as the general management of the business aspects of internal WAN services. This includes WAN related personnel in the following functional areas:

- Operations/Maintenance
- Engineering/Technical Services
- Planning and Process Management
- Services Administration
- Management and Administration

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time. This category can also be used to capture total outsourcing costs for the WAN which are not broken out by specific function.

## **Staffing**

### **Full-Time Equivalent Headcount (FTE)**

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 4.0 Contract Information

The *Contract Information* table captures information regarding any contracts relating to the WAN. These can include carrier/PSTN contracts, as well as contracts with outsourced Service Providers. This information provides insight into the current cost competitiveness of the costs of the outsourced WAN support services.

**Contract Start Date:** The date that the contract(s) became effective, in *mm/dd/yyyy* format. If there are multiple contracts, provide the Contract Start Date for the current carrier/PSTN contract.

**Length of Contract:** Enter the lengths of the current contract(s) in years. If there are multiple contracts, provide the length for the current carrier/PSTN contract, or any other major WAN outsourced contracts.

**Service Responsibility Percentages:** For each of the services indicated in this table enter the percentages of responsibility for the services that are performed by the Service Receiver (your organization), or the Service Provider (the outsourcer/carrier/PSTN), or Neither if the service is not performed at all. The Total percentages are self calculating and do not need to be entered. The services in the table include:

### Operations/Maintenance

**Network Operations Center (NOC):** related to monitoring and troubleshooting of the WAN infrastructure by the NOC.

### Engineering/Technical Services

**Network Support (Break/Fix):** This is defined as technical support for the recurring, day-to-day activities that are required to keep WAN infrastructure components functional and operational (i.e., Break/Fix).

**Change Management (MAC work):** coordinating, tracking and implementing customer initiated WAN MACs (Moves/Add/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* service.

**Capacity Management:** This service includes establishing the WAN performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This service includes day-to-day activities related to ensuring network privacy and protecting the WAN from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

### Planning and Process Management

**Systems Researching and Planning:** This includes wide area data network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes wide area data network strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the wide-area network project management relative to the deployment or refresh of the network technology.

## Services Administration

**Budget, Chargeback and Service Level Reporting:** This service establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This service includes the product management associated with the delivery of a wide-area network as a product or service to the corporate customers

**IS Training:** This service is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## Asset Management

**Asset and Configuration Tracking:** This service provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This service solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## Account Management

**Business Unit Relationship Management:** This service is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

## 5.0 Workload

The *Wide-Area Data Network Workload* table captures information regarding the count of sites connected to the network, devices generating traffic on the network and the actual traffic generated. This information is used for a number of different purposes including, but not limited to, the following scenarios:

- Assisting in understanding pertinent qualitative factors surrounding the cost, workload and/or process details prompted for in the *Business Requirements* and *Services Delivered* sections of the interview
- Normalizing spending and staffing information to a comparable cost per unit of work
- Determining the most-appropriate workload peer groups that are tailored to match most closely your specific IT workload challenges
- Understanding performance variances if alternative comparison groups are selected that may not be based solely on workload (e.g., industry or geography)

### Sites

A site is defined as a single enterprise facility located on a continuous piece of property that is not crossed by a public thoroughfare. This includes the number of sites (locations) including buildings, offices, campuses, as examples, with dedicated connections to the network.

**Total Sites:** Indicate the total number of sites in each of the applicable regions.

- **Domestic:** Enter the percentage of the total number of Sites across all regions that are considered to be “Domestic.”
- **International:** Enter the percentage of the total number of Sites across all regions that are considered to be “International.” These sites should not be reflected in the “Domestic” Site percentage previously entered.
- **Total:** This is a self calculating total percentage that requires no data entry.

**Total Data Center Sites:** Indicate the total number of data center sites in each of the applicable regions (this will be a subset of the Total Sites in each region).

**Sites Supporting Voice and/or Video:** Indicate the total number of sites in each applicable region supporting Voice and/or Video. As with the Total Data Center Sites, this will be a subset of the Total Sites in each region being reported.

### Total End Users

Indicate the count of people that are using the technology supported, regardless of whether or not they are employees (contractors or consultants may be included in this count).

### Total Devices

A WAN “Device” as defined for this assessment is equipment that generates and/or receives traffic. This includes all the types of devices listed below. Hardware such as routers, controllers, hubs, modems, switching devices, also known as data communications equipment (DCE), move traffic around the network rather than generate traffic and, therefore, should be not included in the “Device” count.

This Device category is intended to capture all the types of “devices” listed below:

**Terminal:** This is a device that communicates with a computer, inclusive of keyboard and display screen. Terminals are divided into different classes depending on whether they are able to process data on their own.

- **Dumb Terminals:** These include display monitors or simple input/output (I/O) devices that send and accept data from a network server or mainframe. They have no built-in processing capabilities. Workers enter data and commands that are sent to a computer located elsewhere.
- **Smart Terminals:** These are monitors that process limited amounts of information.
- **Intelligent Terminals:** These are devices that contain main memory and a central processing unit (CPU) to perform special display functions. Examples include an information kiosk and AT&T Display Phones.
- **3270 Terminals:** These are legacy IBM display stations used to communicate with mainframes made by IBM and other manufacturers. They were in widespread use and now are frequently emulated by PCs.

**Workstations:** A workstation is the term often applied to a high-performance computer designed for use with personal applications that require significant processing power (e.g., graphics or computer-automated design). Many software programs originally designed for use on a workstation are designed to run using a Unix operating system.

**VoIP (Voice over IP) Phones:** VoIP, or IPT (Internet Protocol Telephony) phones/extensions that generate voice traffic that gets routed over the WAN. Note that IP phones that do not have their traffic routed over the WAN should not be included in this count.

**Network Printers:** This is a printer that has the capacity to receive print jobs for processing across the wide-area data network.

**PC:** This is a microcomputer designed primarily for individual use and includes desktop and laptop devices.

**Remote Job Entries (RJE):** This refers to legacy hardware for the input and output of information to a mainframe in a batch mode (as opposed to interactive).

**Mainframes:** This refers to the count of legacy mainframes connected to the WAN.

**Servers:** This is a system or a physical computer that receives requests from one or more client systems or programs to perform activities that allow the client to accomplish certain tasks.

**Midsize Computer:** This refers to a computer with architecture similar to that of the minicomputer, which is used for multiple users.

**Gateway Sessions:** These include the number of end users or applications that can engage concurrently in dialog with a computer that sits among different networks or applications to communicate with other users or applications. The gateway converts information, data or other communications from one protocol or format to another. A router may perform some of the functions of a gateway. An Internet gateway can transfer communications between an enterprise network and the Internet. Because enterprises often use protocols on their local-area networks (LANs) that differ from those of the Internet, a gateway often acts as a protocol converter so that users can send and receive communications over the Internet.

**VAN Ports:** This is a port that provides a connection to a private network through which value-added carriers provide special data transmission services.

**Dial Ports:** This is the entrance or physical access point to a circuit that is established by a switched circuit connection. Dial-up ports generally refer to a common carrier telephone network in which signals may be supplied, extracted or observed.

**Remote Users:** These are the number of end users that can be connected simultaneously via a remote virtual network provider.

## Total Traffic (in GB)

The total volume of information traversing the network, measured in Gigabytes, and representing a typical calendar month time period \* 12.

## Procedure for Counting Network Traffic on a Multiprotocol (IP) Network

Longer sampling periods always are preferred when measuring network traffic. However, the minimum sampling should be at least one week (seven consecutive days). For a one-week measurement period, use the following methodology:

- During a one-week period, count all the wide-area data traffic across the network summing the inbound and outbound traffic from all “wide-area side” router ports.
- Divide the resulting traffic number by two so that traffic is not counted twice.
- Multiply the result by 4.33 \* 12 to obtain an annual estimate.

## Port, Circuit and Circuit Availability

**Port Bandwidth (in Mb):** In IP networks, a port is an endpoint used by Transport Layer <[http://en.wikipedia.org/wiki/Transport\\_Layer](http://en.wikipedia.org/wiki/Transport_Layer)> protocols of the Internet Protocol Suite <[http://en.wikipedia.org/wiki/Internet\\_Protocol\\_Suite](http://en.wikipedia.org/wiki/Internet_Protocol_Suite)> and is identified by a specific IP address. Ports are defined in terms of Bandwidth, or Port Speed, which determines how much data can be passed through the port, and also drives the monthly cost of the port. The intent of this workload driver is to capture the total bandwidth, by region, for all the ports in the WAN.

**Total Circuit/PVC Connections:** PVCs, or Permanent Virtual Circuits, are used in Frame Relay and ATM (Asynchronous Transmission Mode) networks to establish defined connectivity from port to port across the WAN “cloud.” This workload driver is intended to capture the total number of PVCs in a Frame Relay or ATM WAN. Note that PVCs do not exist for MPLS networks (although ports do exist). It is also meant to capture the number of dedicated circuits over either leased or owned facilities on a regional basis.

**Circuit Distribution by Region:** This is a workload driver that’s calculated by the data collection tool and reflects the percentage of the total number of WAN circuits on a regional basis.

**Target Weighted Availability:** This is intended to capture the target, or intended, availability, on a regional basis, for the WAN being assessed (e.g., 99.99%, or “4 nines”). Note that this is not intended to reflect the actual availability, which is captured in Achieved Weighted Availability described below.

**Achieved Weighted Availability:** This is intended to capture the achieved, or actual, availability, on a regional basis, for the WAN being assessed (e.g., 99.99%, or “4 nines”). Note that this is based on measured results, monthly, annual, monthly that’s been annualized, etc., and not on target goals or SLA objectives.

## Installs, Moves, Adds and Changes (IMACs)

**Hardware:** WAN related IMACs that include Hardware changes. By definition, these require on-site work.

**Software:** WAN related Software only IMACS. These are usually performed remotely and, in most cases, do not require on-site work.

**Total:** This is a self calculating total, by region, that requires no data entry.

## Routers by Size

This is intended to capture, by region, the number of installed WAN routers based on size. The size designations are:

- **Small:** Cisco series 1000 to 2000 or equivalent
- **Medium:** Cisco series 3000 to 4000 or equivalent
- **Large:** Cisco series 5000 to 7000 or equivalent
- **Total:** This is a self calculating total, by region, that requires no data entry.

## Service Levels

**Availability—Average across all sites:** Enter both the WAN Target Committed availability percentage and the Actual Delivery availability percentage.

**Mean Time to Restore (MTTR Hours):** Enter both the WAN Target Committed MTTR and the Actual Delivery MTTR for Severity 1, Severity 2 and Severity 3 outages.

**MAC Activity—Elapsed time (days from request to completion) to bring a new location onto the network:** Enter both the Target Committed and the Actual Delivery elapsed time (in days) to add a new location to the WAN.

**MAC Activity—Elapsed time (days from request to completion) to bring additional bandwidth to an existing location:** Enter both the Target Committed and the Actual Delivery elapsed time (in days) to bring/add additional bandwidth to an existing location to the WAN.

# IT Overview Benchmark Explain Text for Metropolitan-Area Data Network

---

Gartner, Inc.

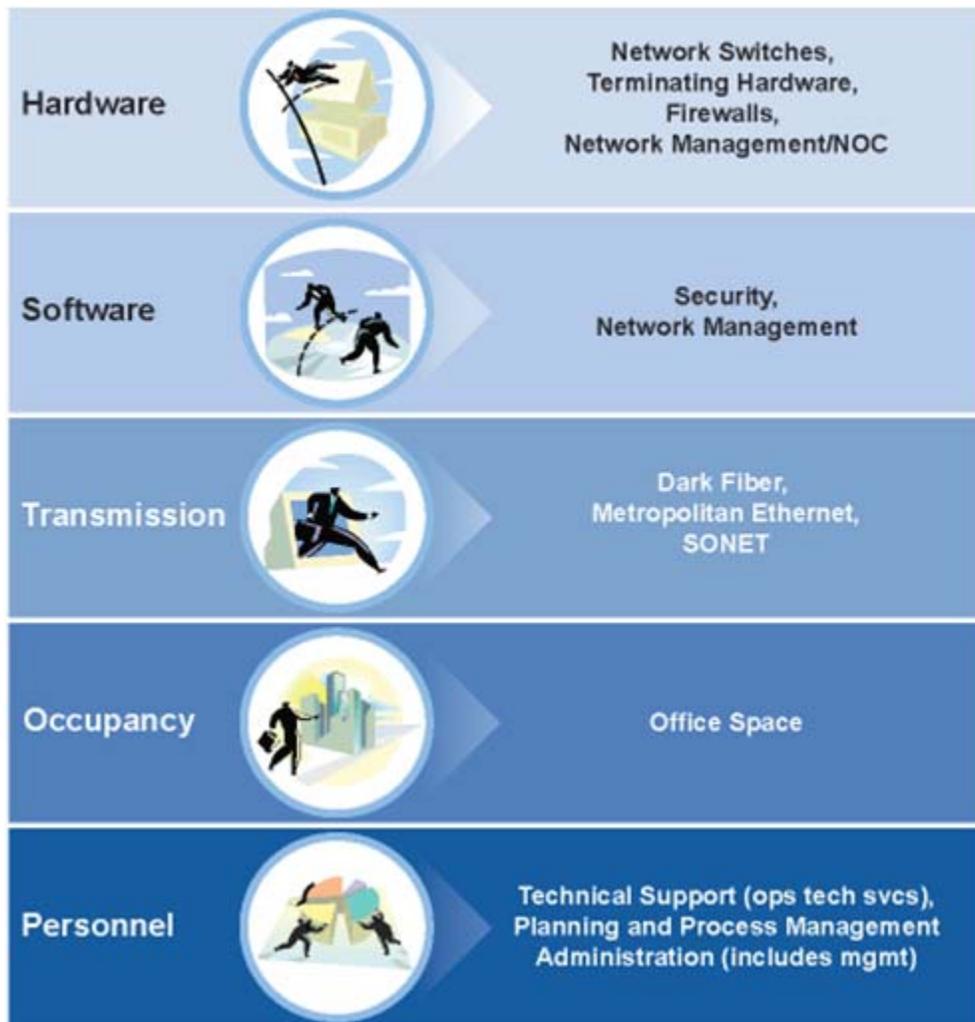
October 2010

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 MAN Environment .....</b>	<b>4</b>
<b>3.0 ITOB Spending and Staffing.....</b>	<b>5</b>
<b>4.0 Contract Information.....</b>	<b>12</b>
<b>5.0 Workload.....</b>	<b>14</b>

**Figure 1. Metropolitan-Area Network**



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Region Supported:** Select the lowest level in the hierarchy that represents, appropriately, the regions covered by this network.

**Region Located:** Select the lowest level in the hierarchy that represents, appropriately, the location of the majority of the support staff.

## 2.0 MAN Environment

This section, at the start of the MAN interview, is intended to capture information relating to the geographic footprint of the MAN being assessed. It will also capture the technologies in use in the MAN and the types of traffic carried over the MAN.

**Regions:** The geographic footprint of the MAN is described by selecting each region in which MAN service is provided. The available regions include:

- North America (NAM)
- Central America & Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

Note that the regions selected in this section will drive the appearance of regional data entry cells during the rest of the interview. In other words, data will only be able to be entered for the regions specified here.

**Technologies in use as a % of total Bandwidth:** This section will capture the types of technologies present in the MAN as percentages of the total installed bandwidth in the MAN. Note that the requested percentages are not to be broken out by region but are rather for the entire enterprise MAN. The available technologies include:

- T3/E3
- SONET
- Metropolitan Ethernet
- Dark Fiber
- Gigabit Ethernet

The total percentage is calculated by the data collection survey and does not get entered. This calculated value must equal 100%.

## 3.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support headcounts are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your enterprise (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**Name:** This user-entered field enables you to give the view a name that makes sense within your enterprise. Keep in mind that this is the name that will appear on outputs as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - ❑ Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - ❑ Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - ❑ Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsourcing contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is handed completely over to an external service provider. Note that, by this definition, any transmission facilities that are purchased from the vendors are considered outsourced and must be captured in an “outsourced” cost group. The only exception to this would be the case in which an enterprise lays its own fiber and then operationally manages those links among enterprise locations, effectively acting as its own telecommunications enterprise.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.
- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit’s money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group’s scope of support.

## Non-personnel

### Hardware

The MAN costs that entered in this row include the aggregate totals for depreciation and/or maintenance for such items as:

### Security

**Dedicated MAN Firewall Hardware and MAN Encryption Hardware:** These categories can include, if applicable, Security “appliances,” and MAN level firewall servers, as well as any MAN level encryption devices.

### Network Operations Center (NOC)

This includes hardware that is located within a client’s Network Operations Center (NOC) used to support a client’s centrally managed MAN infrastructure.

**Test Equipment and Remote Monitoring Equipment:** These categories include sniffers, droids, etc. used in the management, performance monitoring and trouble shooting of the MAN infrastructure. The costs for these may need to be prorated between voice and data services, depending on a client’s NOC environment.

**Client Devices (PCs on NOC Desktops):** These include desktops and laptops used by the NOC staff to support the client's MAN. The costs for these may need to be prorated between voice and data services, depending on a client's NOC environment.

**Network Management Servers (NOC):** Servers, either located within the NOC, or elsewhere, but used primarily by the NOC to support a client's MAN infrastructure. The costs for these servers may need to be prorated between voice and various data services, depending on a client's NOC environment.

### ***Routing***

**Multiplexers:** This category is intended to capture the cost of any Multiplexers that may part of the MAN infrastructure.

**Network Switches:** This category is intended to capture the cost of the high-speed switches that are part of the MAN infrastructure.

**Routers:** This category is intended to capture the cost of the routers that are part of the MAN infrastructure.

### ***Other***

**MAN Terminating Hardware:** This includes the hardware needed to "light up" and receive data sent over dark fiber transmission facilities.

**UPS:** This category is intended to include all UPS (Uninterruptible Power Supply) costs associated with the MAN. These costs may need to be prorated between the WAN, the MAN, the LAN, and, in some cases, the Voice infrastructures at the sites being assessed.

### **Software**

The costs that entered in this row include the aggregate totals for depreciation and/or maintenance/license fees for such items as:

#### ***Security Software***

**Dedicated MAN Firewall Software and MAN Encryption Software:** These categories can include, if applicable, the purchase and license costs for the software used in Security "appliances," and MAN level firewall servers, as well the software used in any MAN level encryption devices. These costs may, in some cases, be included in the hardware costs for this hardware, and may not be able to be broken out.

#### ***Network Operations Center (NOC) Software***

All software costs related to the NOC's support of the client's MAN infrastructure. This cost may need to be prorated between MAN, WAN and LAN.

### **Occupancy**

Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the MAN under analysis. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories in which a more-detailed accounting is unavailable at this time

## Transmission

The aggregated regional MAN Transmission costs that entered in this row include such items as:

**T-3 (43 Mbps):** Digital signal level 3 is a measurement of a digital circuit providing 44.7 Mbps bandwidth in the U.S. and Canada, and 32.06 Mbps in Japan. A DS-3 in Europe provides 34.368 Mbps bandwidth. This includes 672 channels in the U.S. and Canada and 480 circuits in Japan. In Europe, a DS-3 includes 480 channels.

**SONET:** Synchronous optical network is an International Telecommunication Union telecommunications standard for synchronous transmission up to multigigabit speeds. The standard includes multivendor interoperability, improved troubleshooting and network survivability. As a Layer 1 standard, it is a foundation for broadband integrated services digital network (B-ISDN) services.

**Metropolitan Ethernet:** A baseband local-area network (LAN) technology, originally developed by Xerox in the 1970s and adopted by Intel and Digital Equipment in 1980. Today, Ethernet is the dominant technology used for LANs. It uses a bus topology with carrier sense multiple access with collision detection (CSMA/CD) access control. Although the original Ethernet technology was not strictly identical to Institute of Electrical and Electronics Engineers (IEEE) 802.3 standard, Ethernet has become the common name used to denote IEEE 802.3 networks, which have a maximum transmission speed of 10 megabits per second (Mbps). Faster versions, operating at speeds up to 100 and 1,000 Mbps, are known as Fast Ethernet and Gigabit Ethernet, respectively.

**Dark Fiber:** This cost category is intended to capture the costs of Dark Fiber, which is provided by the local-exchange carriers (LECs) without the accompanying transmission service. The customer is expected to provide and manage the equipment that would “light” the fiber.

## Personnel – Technical

### Operations/Maintenance

**Network Operations Center (NOC):** This includes the FTE costs associated with day-to-day activities of NOC (Network Operations Center) personnel related to monitoring and troubleshooting of the MAN infrastructure.

### Engineering/Technical Services

This captures the FTE costs, associated with technical installation and maintenance of equipment, software or other technologies specifically required for MAN. Enter technical services (i.e., support personnel) FTEs that are within the scope of the analysis.

**Network Support (Break/Fix):** MAN Network Support is defined as technical support for the recurring, day-to-day activities that are required to keep MAN infrastructure components functional and operational (i.e., Break/Fix) including these items:

- **Tier II Support:** This refers to NSM monitoring/detection/correction of MAN faults, configuration changes and performance criteria.
- **Tier III Support:** This refers to maintenance and repair of MAN assets.

**Change Management (MAC work):** This category is intended to capture those FTEs, and their costs, that are coordinating, tracking and implementing customer initiated MAN MACs (Moves/Add/Changes). Note that any ongoing, day-to-day adds and changes that occur as a

reaction to system failure, or as part of routine maintenance, are included in the *MAN Support* category.

**Capacity Management:** This service includes establishing the MAN performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This includes day-to-day activities related to ensuring network privacy and protecting the MAN from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

## Personnel – Planning and Process Management

This refers to activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, project management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection as well as business continuity/recovery.

**Systems Researching and Planning:** This includes MAN tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes MAN strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the MAN project management relative to the deployment or refresh of the network technology.

## Personnel – Services Administration

**Budget, Chargeback and Service Level Reporting:** This area establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This includes the product management associated with the delivery of a MAN as a product or service to the corporate customers.

**IS Training:** This is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

### ***Asset Management***

**Asset and Configuration Tracking:** This area provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including

planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

### ***Account Management***

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** This is similar to supplier/vendor management in that these resources have oversight of the outsource service provider's performance. However, this category is separated explicitly from supplier/vendor management because of the scale and complexity involved in large outsourcing deals. This area is responsible for the ongoing management of all supplier/vendor relationships, ensuring that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## **Management and Administration**

### ***IS Administration***

This area provides direct administrative and clerical support to all network support organizations. Typical positions include secretary, receptionist and administrative assistant.

### ***Management***

The management category includes the supervision of WAN related personnel (both employees and contractors), and vendors; as well as the general management of the business aspects of internal WAN services. This includes WAN related personnel in the following functional areas:

- Operations/Maintenance
- Engineering/Technical Services
- Planning and Process Management
- Services Administration
- Management and Administration

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time. This category can

also be used to capture total outsourcing costs for the MAN which are not broken out by specific function

## **Staffing**

### **Full-Time Equivalent Headcount (FTE)**

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 4.0 Contract Information

The *Contract Information* table captures information regarding any contracts relating to the MAN. These can include carrier/PSTN contracts, as well as contracts with outsourced Service Providers. This information provides insight into the current competitiveness of the MAN carrier/PSTN spend, as well as the competitiveness of the costs of other outsourced services.

**Contract Start Date:** The date that the contract(s) became effective, in *mm/dd/yyyy* format. If there are multiple contracts, provide the Contract Start Date for the current carrier/PSTN contract.

**Length of Contract:** Enter the length of the current contract(s) in years. If there are multiple contracts, provide the length for the current carrier/PSTN contract.

**Service Responsibility Percentages:** For each of the services indicated in this table enter the percentages of responsibility for the services that are performed by the Service Receiver (your organization), or the Service Provider (the outsourcer/carrier/PSTN), or Neither if the service is not performed at all. The Total percentages are self calculating and do not need to be entered. The services in the table include:

### Operations/Maintenance

**Network Operations Center (NOC):** related to monitoring and troubleshooting of the MAN infrastructure by the NOC.

### Engineering/Technical Services

**Network Support (Break/Fix):** This is defined as technical support for the recurring, day-to-day activities that are required to keep MAN infrastructure components functional and operational (i.e., Break/Fix).

**Change Management (MAC work):** coordinating, tracking and implementing customer initiated MAN MACs (Moves/Add/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* service.

**Capacity Management:** This service includes establishing the MAN performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This service includes day-to-day activities related to ensuring network privacy and protecting the MAN from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

### Planning and Process Management

**Systems Researching and Planning:** This includes wide area data network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes wide area data network strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the wide-area network project management relative to the deployment or refresh of the network technology.

## **Services Administration**

**Budget, Chargeback and Service Level Reporting:** This service establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This service includes the product management associated with the delivery of a wide-area network as a product or service to the corporate customers.

**IS Training:** This service is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## **Asset Management**

**Asset and Configuration Tracking:** This service provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This service solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## **Account Management**

**Business Unit Relationship Management:** This service is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

## 5.0 Workload

The *Metropolitan-Area Data Workload* table captures information regarding the count of sites connected to the network, devices generating traffic on the network and the actual traffic generated. This information is used for a number of different purposes including, but not limited to, the following items:

- Assisting in understanding pertinent qualitative factors surrounding the cost, workload and/or process details prompted for in the *Business Requirements* and *Services Delivered* sections of the interview
- Normalizing spending and staffing information to a comparable cost per unit of work
- Determining the most-appropriate workload peer groups that are tailored to match most closely your specific IT workload challenges
- Understanding performance variances if alternative comparison groups are selected that may not be based solely on workload (e.g., industry or geography)

### Sites

A site is defined as a single enterprise facility located on a continuous piece of property that is not crossed by a public thoroughfare. This includes the number of sites (locations) including buildings, offices, campuses, as examples, with dedicated connections to the network.

**Total Sites:** Indicate the total number of MAN sites in each of the applicable regions.

**Total Data Center Sites:** Indicate the total number of directly connected MAN data center sites in each of the applicable regions (this will be a subset of the Total Sites in each region).

**Sites Supporting Voice and/or Video:** Indicate the total number of MAN connected sites in each applicable region supporting Voice and/or Video. As with the Total Data Center Sites, this will be a subset of the Total Sites in each region being reported.

### Total End Users

Indicate the count of people that may be using the technology supported, regardless of whether or not they are employees (contractors or consultants may be included in this count).

### Total Devices

A MAN “Device” as defined for this assessment is equipment that generates and/or receives traffic. This includes all the types of devices listed below. Hardware such as routers, controllers, hubs, modems, switching devices, also known as data communications equipment (DCE), move traffic around the network rather than generate traffic and, therefore, should be not included in the “Device” count.

This Device category is intended to capture all the types of “devices” listed below:

**Terminal:** This is a device that communicates with a computer, inclusive of keyboard and display screen. Terminals are divided into different classes depending on whether they are able to process data on their own.

- **Dumb Terminals:** These include display monitors or simple input/output (I/O) devices that send and accept data from a network server or mainframe. They have no built-in

processing capabilities. Workers enter data and commands that are sent to a computer located elsewhere.

- **Smart Terminals:** These are monitors that process limited amounts of information.
- **Intelligent Terminals:** These are devices that contain main memory and a central processing unit (CPU) to perform special display functions. Examples include an information kiosk and AT&T Display Phones.
- **3270 Terminals:** These are legacy IBM display stations used to communicate with mainframes made by IBM and other manufacturers. They were in widespread use and now are frequently emulated by PCs.

**Workstations:** A workstation is the term often applied to a high-performance computer designed for use with personal applications that require significant processing power (e.g., graphics or computer-automated design). Many software programs originally designed for use on a workstation are designed to run using a Unix operating system.

**VoIP (Voice over IP) Phones:** VoIP, or IPT (Internet Protocol Telephony) phones/extensions that generate voice traffic that gets routed over the Network. Note that IP phones that do not have their traffic routed over the MAN should not be included in this count.

**Network Printers:** This is a printer that has the capacity to receive print jobs for processing across the wide-area data network.

**PC:** This is a microcomputer designed primarily for individual use and includes desktop and laptop devices.

**Remote Job Entries (RJE):** This refers to legacy hardware for the input and output of information to a mainframe in a batch mode (as opposed to interactive).

**Servers:** This is a system or a physical computer that receives requests from one or more client systems or programs to perform activities that allow the client to accomplish certain tasks.

## Total Traffic (in GB)

The total volume of information traversing the MAN, measured in Gigabytes, and representing a typical calendar month time period \* 12.

## Procedure for Counting Network Traffic on a Multiprotocol or Metropolitan-Area Network

Longer sampling periods always are preferred when measuring network traffic. However, the minimum sampling should be at least one week (seven consecutive days). For a one-week measurement period, use the following methodology:

- During a one-week period, count all the traffic across the MAN summing the inbound and outbound traffic from all “MAN side” router ports.
- Divide the resulting traffic number by two so that traffic is not counted twice.
- Multiply the result by 4.33 \* 12 to obtain an annual estimate.

## Port, Circuit and Circuit Availability

**Port Bandwidth (in Mb):** In IP networks, a port is an endpoint used by Transport Layer <[http://en.wikipedia.org/wiki/Transport\\_Layer](http://en.wikipedia.org/wiki/Transport_Layer)> protocols of the Internet Protocol Suite <[http://en.wikipedia.org/wiki/Internet\\_Protocol\\_Suite](http://en.wikipedia.org/wiki/Internet_Protocol_Suite)> and is identified by a specific IP address.

Ports are defined in terms of Bandwidth, or Port Speed, which determines how much data can be passed through the port, and also drives the monthly cost of the port. The intent of this workload driver is to capture the total bandwidth, by region, for all the ports in the MAN.

**Total Circuit/PVC Connections:** This is intended to capture the regional total number of circuits and/or PVCs that exist within the MAN infrastructure.

**Circuit Distribution by Region:** This is a workload driver that's calculated by the data collection tool and reflects the percentage of the total number of MAN circuits on a regional basis.

**Target Weighted Availability:** This is intended to capture the target, or intended, availability, on a regional basis, for the MAN being assessed (e.g., 99.99%, or "4 nines"). Note that this is not intended to reflect the actual availability, which is captured in Achieved Weighted Availability described below.

**Achieved Weighted Availability:** This is intended to capture the achieved, or actual, availability, on a regional basis, for the MAN being assessed (e.g., 99.99%, or "4 nines"). Note that this is based on measured results, monthly, annual, monthly that's been annualized, etc., and not on target goals or SLA objectives.

## Installs, Moves, Adds and Changes (IMACs)

**Hardware:** WAN related IMACs that include Hardware changes. By definition, these require on-site work.

**Software:** WAN related Software only IMACS. These are usually performed remotely and, in most cases, do not require on-site work.

**Total:** This is a self calculating total, by region, that requires no data entry.

## Service Levels

**Availability—Average across all sites:** Enter both the MAN Target Committed availability percentage and the Actual Delivery availability percentage.

**Mean Time to Restore (MTTR Hours):** Enter both the MAN Target Committed MTTR and the Actual Delivery MTTR for Severity 1, Severity 2 and Severity 3 outages.

**MAC Activity—Elapsed time (days from request to completion) to bring a new location onto the network:** Enter both the Target Committed and the Actual Delivery elapsed time (in days) to add a new location to the MAN.

**MAC Activity—Elapsed time (days from request to completion) to bring additional bandwidth to an existing location:** Enter both the Target Committed and the Actual Delivery elapsed time (in days) to bring/add additional bandwidth to an existing location to the MAN.

# IT Overview Benchmark Explain Text for Local-Area Data Network

---

Gartner, Inc.

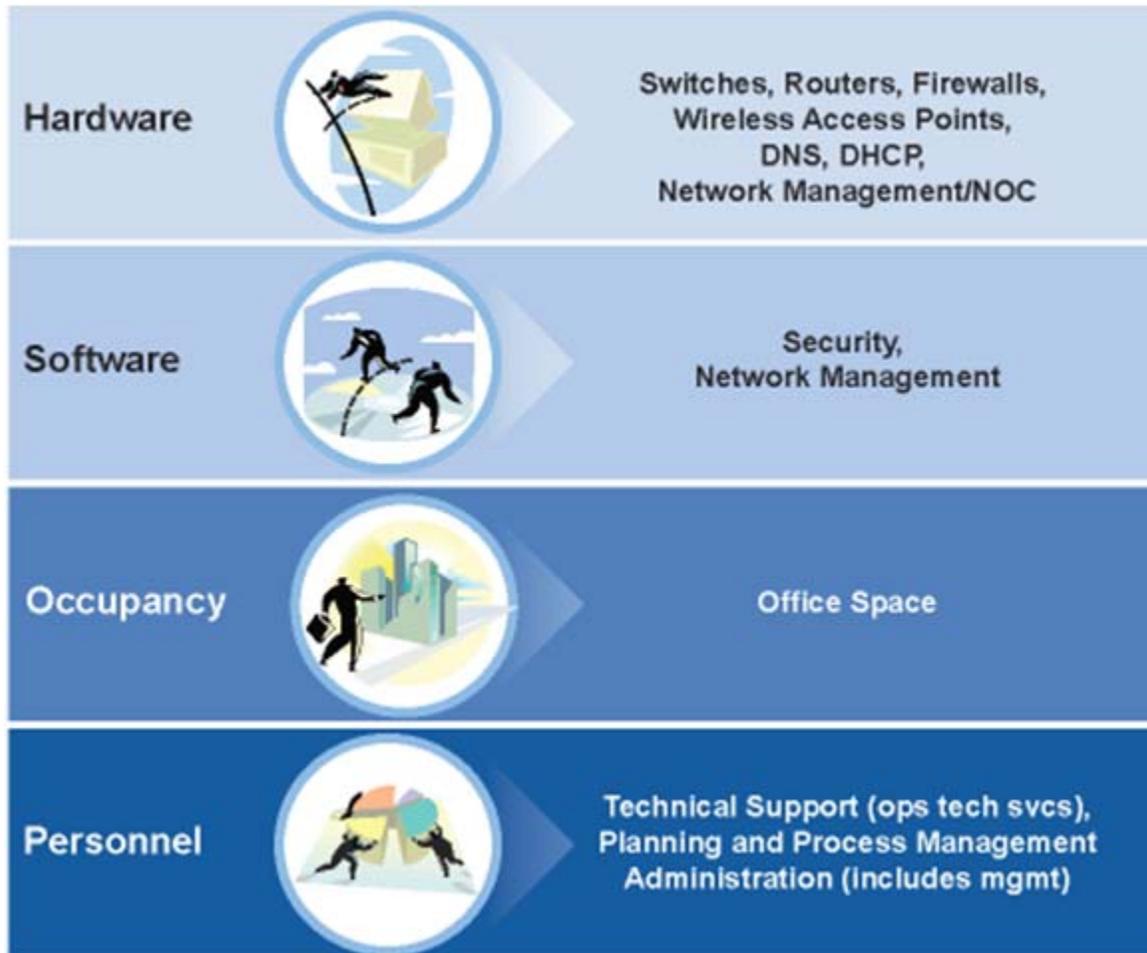
October 2010

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 LAN Environment .....</b>	<b>4</b>
<b>3.0 ITOB Spending and Staffing.....</b>	<b>5</b>
<b>4.0 Contract Information.....</b>	<b>11</b>
<b>5.0 Workload.....</b>	<b>13</b>

Figure 1. Local-Area Network



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Network Type:** Select the type of network being analyzed.

**Region Supported:** Select the lowest level in the hierarchy that represents, appropriately, the regions covered by this network.

**Region Located:** Select the lowest level in the hierarchy that represents, appropriately, the location of the majority of the support staff.

## 2.0 LAN Environment

This section of the LAN interview is intended to capture information relating to the geographic footprint of the LAN being assessed. It will also capture the technologies in use in the LAN and the types of traffic carried over the LAN.

**Regions:** The geographic footprint of the LAN is described by selecting each region in which LAN service is provided. The available regions include:

- North America (NAM)
- Central America & Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

Note that the regions selected in this section will drive the appearance of regional data entry cells during the rest of the interview. In other words, data will only be able to be entered for the regions specified here.

**Traffic by Source/Type (these are among several drivers of the LAN Technical Complexity Index):** This section will capture the types of traffic carried by the LAN. These are not percentages but rather just yes/no (by checking the box) questions. Note that the requested responses are not to be broken out by region but are rather for the entire enterprise LAN infrastructure only. The available types of traffic include:

- Office applications, including e-mail
- Transaction Processing
- Imaging
- Internet
- Wireless Coverage:
  - Entire LAN environment
  - Public areas (conference rooms)
- VoIP (Voice)
- Video

**Network Growth Rate Percentage:** Express the percentage growth (or decline) of the LAN infrastructure, based on the annual rate of change in the number of Active LAN Ports.

## 3.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support headcounts are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your enterprise (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**Name:** This user-entered field enables you to give the view a name that makes sense within your enterprise. Keep in mind that this is the name that will appear on outputs as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - ❑ Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - ❑ Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - ❑ Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsourcing contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is completely handed over to an external service provider.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the

network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.

- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit's money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group's scope of support.

## Non-personnel

### Hardware

These are the aggregated hardware costs, but it must be noted that the costs associated with permanent building cabling, both horizontal and vertical, are excluded from Gartner LAN assessments. Likewise, the costs for any inter-building cabling (copper, and/or fiber) that would be found on a campus are also excluded from LAN assessments. These costs can include:

#### ***Switching and Routing***

**Routers, Hubs, and Switches:** These are all the switching/routing/concentration hardware components that make up the core of the LAN infrastructure.

**Wireless:** This consists primarily of Wireless Access Points (WAPs), which are used to provide wireless connectivity within a building for desktops/laptops to the LAN serving the site.

### Security

**LAN Security/Firewall Servers and LAN Encryption Hardware:** These categories include Security “appliances,” and LAN level firewall servers, as well as any LAN level encryption devices.

### ***Network Operations Center (NOC)***

This includes hardware that is located within a client's Network Operations Center (NOC) used to support a client's centrally managed LAN infrastructure.

**Test Equipment and Remote Monitoring Equipment:** These categories include sniffers, droids, etc. used in the management, performance monitoring and trouble shooting of the LAN

infrastructure. The costs for these may need to be prorated between voice and data services, depending on a client's NOC environment.

**Client Devices (PCs on NOC Desktops):** These include desktops and laptops used by the NOC staff to support the client's voice network(s). The costs for these may need to be prorated between voice and data services, depending on a client's NOC environment.

**Network Management Servers (NOC):** Servers, either located within the NOC, or elsewhere, but used primarily by the NOC to support a client's LAN infrastructure. The costs for these servers may need to be prorated between voice and various data services, depending on a client's NOC environment.

### ***Other***

**DNS (Domain Name Servers) and DHCP (Dynamic Host Configuration Protocol Distribution) Servers:** These categories include the servers used to resolve domain names and dynamic IP addresses.

**UPS:** This category is intended to include all UPS (Uninterruptible Power Supply) costs associated with the LAN. These costs may need to be prorated between the LAN, the LAN, and, in some cases, the Voice infrastructures at the sites being assessed.

**MAC Hardware and MAC Cable (Closet to Desktop):** These categories are intended to capture the day-to-day costs for materials used in MAC (Move/Add/Change) activity (jacks, plugs, cabling used for MAC work, etc.). As stated previously, permanent building wiring is not included in this category.

### **Software**

These are the aggregated software costs that can include such items as:

#### ***Security***

**LAN Security/Firewall Server Software and LAN Encryption Software:** These categories include the purchase and license costs for the software used in Security "appliances" and LAN level firewall servers, as well the software used in any LAN level encryption devices. These costs may, in some cases, be included in the hardware costs for this hardware, and may not be able to be broken out.

#### ***Network Operations Center (NOC)***

All software costs related to the NOC's support of the client's LAN infrastructure. This cost may need to be prorated between LAN and WAN.

#### **Occupancy**

These costs should include fully burdened costs for the facilities being used by the staff supporting the local-area data network under analysis. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories in which a more-detailed accounting is unavailable at this time.

## Personnel – Technical

### Operations/Maintenance

**Network Operations Center (NOC):** This includes the costs/FTEs associated with day-to-day activities of NOC (Network Operations Center) personnel related to monitoring and troubleshooting of the LAN infrastructure.

### Engineering/Technical Services

This captures costs/FTEs associated with technical installation and maintenance of equipment, software or other technologies specifically required for LAN. Enter technical services (i.e., support personnel) costs/FTEs that are within the scope of the analysis.

**LAN Support (Break/Fix):** LAN support is defined as technical support for the recurring, day-to-day activities that are required to keep LAN infrastructure components functional and operational (i.e., Break/Fix) including these items:

- **Tier II Support:** This refers to NSM monitoring/detection/correction of LAN faults, configuration changes and performance criteria.
- **Tier III Support:** This refers to maintenance and repair of LAN assets.

**Change Management (MAC work):** This category is intended to capture costs/FTEs that coordinate, track and implement customer initiated LAN MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *LAN Support* category.

**Capacity Management:** This area establishes the performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This includes day-to-day activities related to ensuring network privacy and protecting the LAN from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

## Personnel – Planning and Process Management

This refers to activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, product management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection as well as business continuity/recovery.

**Systems Researching and Planning:** This includes local-area network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes local-area network strategic planning relative to the deployment or refreshment network technology.

**Project Management:** This includes the local-area network project management relative to the deployment or refresh of the network technology.

## Personnel – Services Administration

**Budget, Chargeback and Service Level Reporting:** This area establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This includes the product management associated with the delivery of a local-area network as a product or service to the corporate customers.

**IS Training:** This is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

### *Asset Management*

**Asset and Configuration Tracking:** This area provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

### *Account Management*

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** This is similar to supplier/vendor management in that these resources have oversight of the outsource service provider's performance. However, this category is separated explicitly from supplier/vendor management because of the scale and complexity involved in large outsourcing deals. This area is responsible for the ongoing management of all supplier/vendor relationships, ensuring that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## **Management and Administration**

### ***IS Administration***

This area provides direct administrative and clerical support to all network support organizations. Typical positions include secretary, receptionist and administrative assistant.

### ***Management***

The following categories of management includes supervision of local-area network related personnel (both employees and contractors), and vendors; as well as the general management of the business aspects of internal LAN services.

- Operations/Maintenance
- Engineering/Technical Services
- Planning and Process Management
- Services Administration
- Management and Administration

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time.

## **Staffing**

### **Full-Time Equivalent Headcount (FTE)**

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 4.0 Contract Information

The *Contract Information* table captures information regarding any contracts relating to the LAN. These include contracts with outsourced Service Providers. This information provides insight into the current competitiveness of the LAN costs for other outsourced services.

**Contract Start Date:** The date that the contract(s) became effective, in *mm/dd/yyyy* format. If there are multiple contracts, provide the Contract Start Date for the current contract.

**Length of Contract:** Enter the length of the current contract(s) in years. If there are multiple contracts, provide the length for the current contract.

**Service Responsibility Percentages:** For each of the services indicated in this table enter the percentages of responsibility for the services that are performed by the Service Receiver (your organization), or the Service Provider (the outsourcer), or Neither if the service is not performed at all. The Total percentages are self calculating and do not need to be entered. The services in the table include:

### Operations/Maintenance

**Network Operations Center (NOC):** related to monitoring and troubleshooting of the LAN infrastructure by the NOC.

### Engineering/Technical Services

**Network Support (Break/Fix):** This is defined as technical support for the recurring, day-to-day activities that are required to keep LAN infrastructure components functional and operational (i.e., Break/Fix).

**Change Management (MAC work):** coordinating, tracking and implementing customer initiated LAN MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* service.

**Capacity Management:** This service includes establishing the LAN performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This service includes day-to-day activities related to ensuring network privacy and protecting the LAN from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

### Planning and Process Management

**Systems Researching and Planning:** This includes wide area data network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes wide area data network strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the wide-area network project management relative to the deployment or refresh of the network technology.

## Services Administration

**Budget, Chargeback and Service Level Reporting:** This service establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This service includes the product management associated with the delivery of a wide-area network as a product or service to the corporate customers.

**IS Training:** This service is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## Asset Management

**Asset and Configuration Tracking:** This service provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This service solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## Account Management

**Business Unit Relationship management:** This service is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

## 5.0 Workload

The *Local-Area Network Workload* table captures information regarding the count of active ports, sites included in the analysis, employees and end users. All workload elements are asked for by geographic region.

This information is used for a number of different purposes including, but not limited to, the following scenarios:

- Normalizing spending and staffing information to a comparable cost per unit of work
- Determining the most-appropriate workload peer groups that are tailored to match most closely your specific IT workload challenges
- Understanding performance variances if alternative comparison groups are selected that may not be based solely on workload (e.g., industry or geography)

### Sites

A site is defined as a single enterprise facility located on a continuous piece of property that is not crossed by a public thoroughfare. This includes the number of sites (locations) including buildings, offices, campuses, as examples with dedicated connections to the network.

**Total Sites:** Indicate the total number of sites with LAN support in each of the applicable regions.

### Ports

**Active Ports:** This includes the entrance or physical access point to the network typically through a switch device. This is the count of ports actually in use and would include ports with devices attached (e.g., PCs plugged into ports at the users cubicle or office) as well as data ports that are “live” waiting to accept a device (e.g., live ports in a conference room or in a visitor’s cubicle).

**Active VoIP Ports:** This includes the entrance or physical access point to the network typically through a switch device used specifically for VoIP. This is the count of ports actually in use and would include ports with VoIP devices attached (e.g., VoIP phones plugged into ports at the users cubicle or office) as well as VoIP ports that are “live” waiting to accept a device (e.g., live ports in a conference room or in a visitor’s cubicle).

**Maximum Active Concurrent Users on a Wireless Hub:** This includes the maximum number of observed number wireless users accessing the LAN at once.

**Inactive Ports:** This is intended to capture the total number of unused (e.g., not connected, or spare) LAN ports for the site(s) being assessed. This data will be used to determine the spare capacity of a client’s LAN infrastructure.

**Active Port Distribution by Region:** This is a calculated field that defines the percentage of Active LAN Ports per region, based on the total global number of Active LAN Ports. No input is required for this field.

**Target Weighted Availability:** This is intended to capture the target, or intended, availability, on a regional basis, for the LAN service being assessed (e.g., 99.99%, or “4 nines”). Note that this is not intended to reflect the actual availability, which is captured in Achieved Weighted Availability described below.

**Achieved Weighted Availability:** This is intended to capture the achieved, or actual, availability, on a regional basis, for the LAN service being assessed (e.g., 99.99%, or “4 nines”). Note that this is based on measured results, monthly, annual, monthly that’s been annualized, etc., and not on target goals or SLA objectives.

## Total End Users

Indicate the count of people that may be using the technology supported, regardless of whether or not they are employees (contractors and/or consultants are also to be included in this count).

## Installs, Moves, Adds and Changes

**Hardware:** Regional LAN related IMACs that include Hardware changes. By definition, these require on-site work.

**Software:** Regional LAN related Software only IMACS. These are usually performed remotely and, in most cases, do not require on-site work.

**Total:** This is a self calculating total, by region, that requires no data entry.

## Switches by Size

This is intended to capture, by region, the number of installed LAN switches based on size. The size designations are:

- **Small:** Cisco Catalyst 1000 to 2000 or equivalent
- **Medium:** Cisco Catalyst 3000 to 4000 or equivalent
- **Large:** Cisco Catalyst 5000 to 6000 or equivalent
- **Total:** This is a self calculating total, by region, that requires no data entry.

## Service Levels

**Availability—Average across all sites:** Enter both the LAN Target Committed availability percentage and the Actual Delivery availability percentage.

**Mean Time to Restore (MTTR Hours):** Enter both the LAN Target Committed MTTR and the Actual Delivery MTTR for Severity 1, Severity 2 and Severity 3 outages.

**MAC Activity—Elapsed time (hours from request to completion) to bring a new user onto the LAN:** Enter the Actual Delivery elapsed time (in hours) to add a new user to the LAN.

# IT Overview Benchmark Explain Text for Internet Access Services

---

Gartner, Inc.

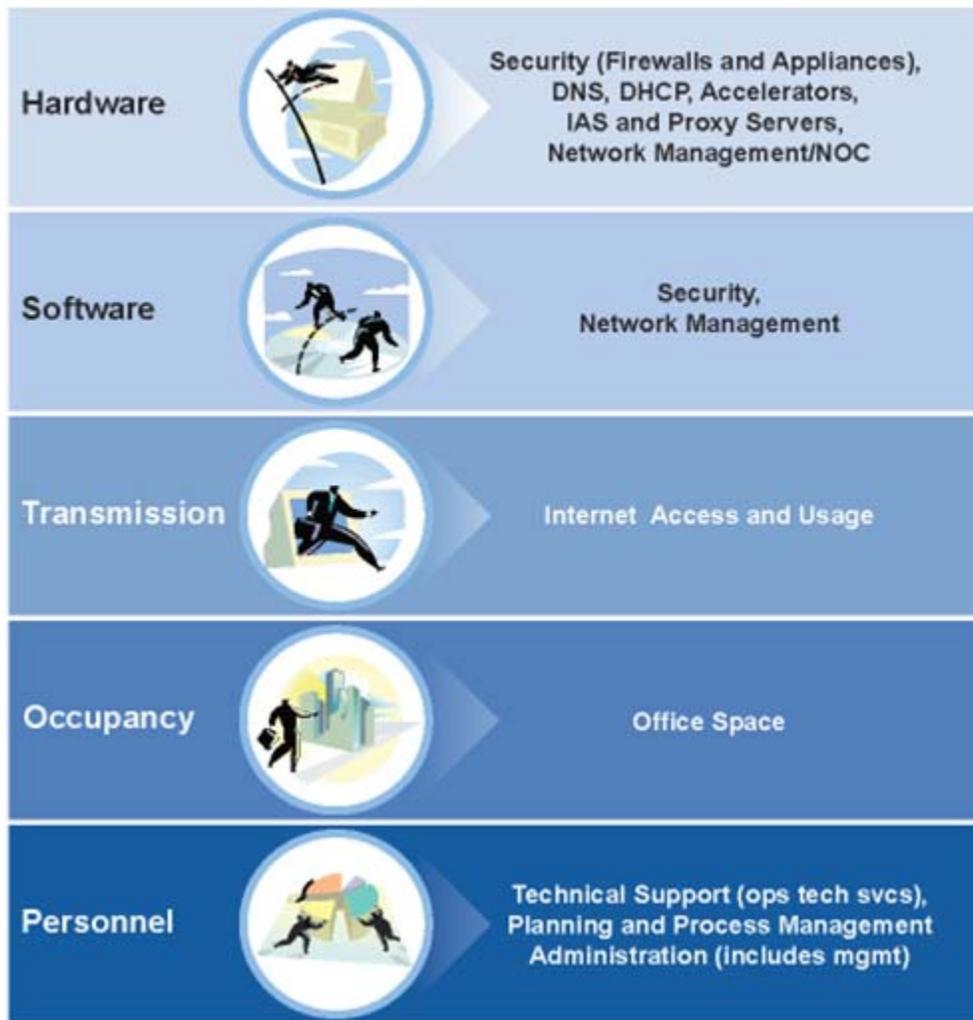
October 2010

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 Internet Access Services Environment.....</b>	<b>4</b>
<b>3.0 ITOB Spending and Staffing.....</b>	<b>5</b>
<b>4.0 Contract Information.....</b>	<b>10</b>
<b>5.0 Workload.....</b>	<b>13</b>

Figure 1. Internet Access Services



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Network Type:** Select the type of network being analyzed.

**Region Supported:** Select the lowest level in the hierarchy that represents, appropriately, the regions covered by this network.

**Region Located:** Select the lowest level in the hierarchy that represents, appropriately, the location of the majority of the support staff.

## 2.0 Internet Access Services Environment

This section, at the start of the Internet Access Services (IAS) interview, is intended to capture information relating to the geographic footprint of the Internet Access Services being assessed.

**Regions:** The geographic footprint for IAS is described by selecting each region in which the service is provided. The available regions include:

- North America (NAM)
- Central America and Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

Note that the regions selected in this section will drive the appearance of regional data entry cells during the rest of the interview. In other words, data will only be able to be entered for the regions specified here.

## 3.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support headcounts are captured in the IAS *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your enterprise (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**Name:** This user-entered field enables you to give the view a name that makes sense within your enterprise. Keep in mind that this is the name that will appear on outputs as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - Non-personnel costs should include the expense, lease, depreciation, installation and taxes, as appropriate. This will also include maintenance charges that are embedded within the purchase price of assets and, therefore, inseparable from depreciation.
  - Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job related travel. IS Training is collected as an administrative staff function that can either be insourced or outsourced rather than as a spending load per full-time equivalent head count.
  - Specifically excluded from this analysis are personnel related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor, which is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsourcing contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is handed completely over to an external service provider. Note that, by this definition, any transmission facilities that are purchased from the vendors are considered outsourced and must be captured in an “outsourced” cost group. The only exception to this would be the case in which an enterprise lays its own fiber and then operationally manages those links among enterprise locations, effectively acting as its own telecommunications enterprise.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and are, therefore, separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally, with the staff calling in maintenance support as appropriate.

**Budget Type:** This includes the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that is primarily responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.
- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if network operations is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** Resources or technology assets that are funded by a business unit, but appropriately scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit’s money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group’s scope of support.

## Non-personnel

### Hardware

This section is intended to collect all the aggregated IAS Hardware costs for the service being assessed. These costs can include, on a global rolled up basis, servers providing domain name services functions (DNS), Internet Access Servers, Proxy Servers, and accelerators, as examples, associated with the provisioning and management of the Internet access services. If the service is being managed internally, these charges may represent equipment fully dedicated to this service as well as allocations of equipment that exists for the provisioning of other network functions on the enterprise network. These allocations may be based on the primary function of that equipment, the percentage of the server assigned to a particular service and so forth with the goal being to capture significant costs associated with Internet service provisioning and management within a reasonable level of effort.

The IAS hardware costs to be aggregated can include:

### Security

This section includes all the security hardware associated with Internet Access Services. This includes IAS Security and Firewall servers, Intrusion/Detection servers, and Encryption hardware.

### ***Network Operations Center (NOC)***

This includes hardware that is located within a client's Network Operations Center (NOC) used to support a client's centrally managed IAS infrastructure.

**Test Equipment and Remote Monitoring Equipment:** These categories include sniffers, droids, etc. used in the management, performance monitoring and trouble shooting of the IAS infrastructure. The costs for these may need to be prorated between voice and data services, depending on a client's NOC environment.

**Client Devices (PCs on NOC Desktops):** These include desktops and laptops used by the NOC staff to support the client's IAS. The costs for these may need to be prorated between voice and data services, depending on a client's NOC environment.

**Network Management Servers (NOC):** Servers, either located within the NOC, or elsewhere, but used primarily by the NOC to support a client's IAS infrastructure. The costs for these servers may need to be prorated between voice and various data services, depending on a client's NOC environment.

### ***Other***

If applicable, any costs for Internet Load Balancing hardware should be included in the total hardware costs.

### **Software**

The costs that entered in this row include the aggregate totals for depreciation and/or maintenance/license fees for such items as:

### ***Security***

This section includes all the security software associated with Internet Access Services. This includes the software for IAS Security and Firewall servers, Intrusion/Detection servers, and Encryption software.

### ***Network Operations Center (NOC) Software***

All software costs related to the NOC's support of the client's IAS infrastructure. This cost may need to be prorated between MAN, WAN and LAN.

### ***Other***

If applicable, include any separate software costs required for Internet Load Balancing hardware.

### **Occupancy**

These costs should include fully burdened costs for the facilities being used by the staff supporting the internet access services under analysis. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories in which a more-detailed accounting is unavailable at this time.

## Transmission

Transmission includes the annual cost for circuits connected to the Internet Service Provider. These costs should be entered in the Carrier Outsourced column in the appropriate row depending on the access and port speed contracted with the ISP.

## Personnel – Technical

### Operations/Maintenance

**Network Operations Center (NOC):** This includes the FTE costs associated with day-to-day activities of NOC (Network Operations Center) personnel related to monitoring and troubleshooting of the Internet Access Services.

### Engineering/Technical Services

These personnel costs are associated with technical installation and maintenance of equipment, software or other technologies specifically required for performance. Enter technical services (support personnel) FTE costs that are within the scope of the analysis.

- **Network Support (Break/Fix):** Network management is defined as technical components functional and operational including:
- **Tier II Support:** This includes NSM monitoring/detection/correction of network faults, configuration changes and performance criteria.
- **Tier III Support:** This includes maintenance and repair of network assets.
- **Transmission Provisioning:** This includes coordinating the installation of facilities provided by the ISPs. These tasks also may include making needed connections to client-owned hardware (e.g., routers).

**Change Management (MAC work):** Change management is defined as the technical support of Internet access technology changes as they relate to the effect on related systems for the entire enterprise. These activities are planned and scheduled and are done on a proactive basis. Ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* category.

**Security Management:** This includes day-to-day activities related to ensuring network privacy and protecting network systems from corruption, espionage or sabotage. This includes firewall support and toll fraud detection, network password resets and so forth, as well as the implementation of tools, processes, and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

## Personnel – Planning and Process Management

This refers to activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, product management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection as well as business continuity/recovery.

**Systems Researching and Planning:** This includes Internet tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes Internet strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the Internet access service project management relative to the deployment or refresh of the network technology.

## **Personnel – Services Administration**

**Budget, Chargeback and Service Level Reporting:** This area establishes the network operations budget, monitors actual expenses vs. the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This includes the product management associated with the delivery of Internet access services as a product or service to the corporate customers.

**IS Training:** This is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## ***Asset Management***

**Asset and Configuration Tracking:** This area provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## ***Account Management***

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** This area is responsible for the ongoing management of all supplier/vendor relationships, ensuring that service providers are meeting all

contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## **Management and Administration**

### ***IS Administration***

This area provides direct administrative and clerical support to all network support organizations. Typical positions include secretary, receptionist and administrative assistant.

### ***Management***

The management category includes the supervision of IAS related personnel (both employees and contractors), and vendors; as well as the general management of the business aspects of internal IAS services. This includes IAS related personnel in the following functional areas:

- Operations/Maintenance
- Engineering/Technical Services
- Planning and Process Management
- Services Administration
- Management and Administration

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time. This category can also be used to capture total outsourcing costs for the IAS which are not broken out by specific function.

## **Staffing**

### **Full-Time Equivalent Headcount (FTE)**

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 4.0 Contract Information

The *Contract Information* table captures information regarding any contracts relating to the Internet Access Services. These can include ISP (Internet Service Provider) contracts, as well as contracts with outsourced Service Providers. This information provides insight into the current cost competitiveness of the costs of the outsourced IAS support services.

**Contract Start Date:** The date that the contract(s) became effective, in *mm/dd/yyyy* format. If there are multiple contracts, provide the Contract Start Date for the current ISP contract.

**Length of Contract:** Enter the lengths of the current contract(s) in years. If there are multiple contracts, provide the length for the current ISP contract, or any other major IAS outsourced contracts.

**Service Responsibility Percentages:** For each of the services indicated in this table enter the percentages of responsibility for the services that are performed by the Service Receiver (your organization), or the Service Provider (the outsourcer/ISP), or neither if the service is not performed at all. The Total percentages are self calculating and do not need to be entered. The services in the table include:

### Operations/Maintenance

**Network Operations Center (NOC):** related to monitoring and troubleshooting of the IAS infrastructure by the NOC.

### Engineering/Technical Services:

**Network Support (Break/Fix):** This is defined as technical support for the recurring, day-to-day activities that are required to keep IAS infrastructure components functional and operational (i.e., Break/Fix).

**Change Management (MAC work):** coordinating, tracking and implementing customer initiated IAS MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* service.

**Capacity Management:** This service includes establishing the IAS performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This service includes day-to-day activities related to ensuring network privacy and protecting the IAS from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

### Planning and Process Management

**Systems Researching and Planning:** This includes wide area data network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes wide area data network strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the wide-area network project management relative to the deployment or refresh of the network technology.

## Services Administration

**Budget, Chargeback and Service Level Reporting:** This service establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This service includes the product management associated with the delivery of a wide-area network as a product or service to the corporate customers.

**IS Training:** This service is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## Asset Management

**Asset and Configuration Tracking:** This service provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This service solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## Account Management

**Business Unit Relationship Management:** This service is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

## 5.0 Workload

The *Internet Access Services Workload* table captures information regarding the count of sites with dedicated Internet access, circuits, employees, end users and the actual traffic generated. This information is used for a number of different purposes including, but not limited to, the following scenarios:

- Normalizing spending and staffing information to a comparable cost per unit of work
- Determining the most appropriate workload peer groups that are tailored to match most closely your specific IT workload challenges
- Understanding performance variances if alternative comparison groups are selected that may not be based solely on workload (e.g., industry or geography)

### Sites

Indicate the number of sites, by region, with dedicated connections to the Internet provided by your ISPs (Internet Service Providers).

### Total Traffic (in GB)

This is the total Inbound and Outbound volume of information moving across all dedicated Internet connections, measured in gigabytes and representing a typical calendar month time period multiplied by 12.

### Port, Circuit and Circuit Availability

**Port Bandwidth (in Mb):** In IP networks, a port is an endpoint used by Transport Layer <[http://en.wikipedia.org/wiki/Transport\\_Layer](http://en.wikipedia.org/wiki/Transport_Layer)> protocols of the Internet Protocol Suite <[http://en.wikipedia.org/wiki/Internet\\_Protocol\\_Suite](http://en.wikipedia.org/wiki/Internet_Protocol_Suite)> and is identified by a specific IP address. Ports are defined in terms of Bandwidth, or Port Speed, which determines how much data can be passed through the port, and also drives the monthly cost of the port. The intent of this workload driver is to capture the total bandwidth, by region, for all the ports associated with Internet Access Services.

**Total Circuit/PVC Connections:** This is meant to capture the number of dedicated ISP Access circuits on a regional basis.

**Circuit Distribution by Region:** This is a workload driver that's calculated by the data collection tool and reflects the percentage of the total number of ISP access circuits on a regional basis.

**Target Weighted Availability:** This is intended to capture the target, or intended, availability, on a regional basis, for the Internet Access Services being assessed (e.g., 99.99%, or "4 nines"). Note that this is not intended to reflect the actual availability, which is captured in Achieved Weighted Availability described below.

**Achieved Weighted Availability:** This is intended to capture the achieved, or actual, availability, on a regional basis, for the IAS being assessed (e.g., 99.99%, or "4 nines"). Note that this is based on measured results, monthly, annual, monthly that's been annualized, etc., and not on target goals or SLA objectives.

## Installs, Moves, Adds and Changes (IMACs)

**Hardware:** IAS related IMACs that include Hardware changes. By definition, these require on-site work

**Software:** IAS related Software only IMACS. These are usually performed remotely and, in most cases, do not require on-site work

**Total:** This is a self calculating total, by region, that requires no data entry.

## Service Levels

**Availability—Average across all sites:** Enter both the IAS Target Committed availability percentage and the Actual Delivery availability percentage.

**Mean Time to Restore (MTTR Hours):** Enter both the IAS Target Committed MTTR and the Actual Delivery MTTR for Severity 1, Severity 2 and Severity 3 outages.

**MAC Activity—Elapsed time (days from request to completion) to bring a new location onto the network:** Enter both the Target Committed and the Actual Delivery elapsed time (in days) to add a new location, via dedicated access, to the ISP's PoP (Point of Presence).

**MAC Activity—Elapsed time (days from request to completion) to bring additional bandwidth to an existing location:** Enter both the Target Committed and the Actual Delivery elapsed time (in days) to bring/add additional bandwidth to an existing dedicated connection to an ISP PoP.

# IT Overview Benchmark Explain Text for **Wide-Area Voice Network**

---

Gartner, Inc.

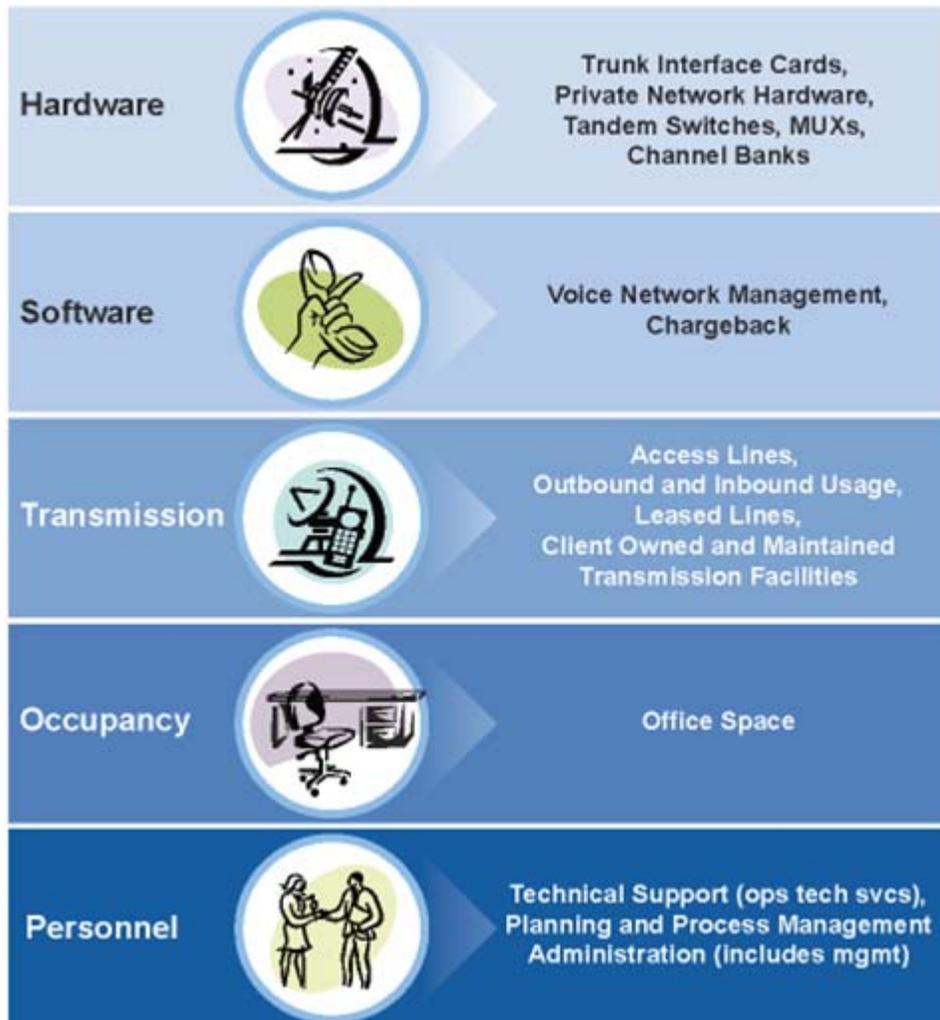
April 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 Voice Network Environment.....</b>	<b>4</b>
<b>3.0 ITOB Spending and Staffing.....</b>	<b>5</b>
<b>4.0 Contract Information.....</b>	<b>10</b>
<b>5.0 Workload.....</b>	<b>14</b>

Figure 1. Wide-Area Voice Network



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Network Type:** Select the type of network being analyzed. Voice Networks have two (2) distinct types of architectures, and because of this, each of these types of Voice network must be assessed separately. The two types of Voice networks are:

- **Carrier/PSTN Provided Virtual Voice Networks:** These are based on carrier provided services for outbound and inbound (toll-Free) calling. The primary costs in these types of networks are usage (cost per call minute) charges and access charges for dedicated access trunks to the carrier's PoP (Point of Presence). There are many different rate structures for usage in these types of networks and the cost per call minute can vary significantly depending on whether or not, in the US, a call was inter-state, intra-state, outbound, inbound, inter-LATA, intra-LATA, etc.
- **Private Voice Networks:** These are based on inter-PBX/PABX trunks that may be either owned, and/or leased from a carrier. These types of networks are frequently more difficult to assess since not all enterprises have call minute usage data for their private Voice networks, and gathering costs for privately owned Transmission facilities can sometime prove difficult.

**Region Supported:** Select the lowest level in the hierarchy that represents, appropriately, the regions covered by this network.

**Region Located:** Select the lowest level in the hierarchy that represents, appropriately, the location of the majority of the support staff.

## 2.0 Voice Network Environment

This section, at the start of the Voice Network interview, is intended to capture information relating to the geographic footprint of the Voice Network Services being assessed.

**Regions:** The geographic footprint for Voice Network services is described by selecting each region in which the service is provided. The available regions include:

- North America (NAM)
- Central America & Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

Note that the regions selected in this section will drive the appearance of regional data entry cells during the rest of the interview. In other words, data will only be able to be entered for the regions specified here.

## 3.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support headcounts are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your enterprise (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**Name:** This user-entered field enables you to give the view a name that makes sense within your enterprise. Keep in mind that this is the name that will appear on outputs as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost or head count.

- **Insource:** This includes in-house-related spending and head count.
  - ❑ Non-personnel costs should include the expense, lease, depreciation, installation and taxes as appropriate. This also includes maintenance charges that are embedded within the purchase price of assets and, therefore, are inseparable from depreciation.
  - ❑ Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job-related travel. IS training is collected as an administrative staff function that either can be insourced or outsourced, rather than as a spending load per full-time equivalent head count.
  - ❑ Specifically excluded from this analysis are personnel-related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor that is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsourcing contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is handed completely over to an external service provider. Note that, by this definition, any transmission facilities that are purchased from the vendors are considered outsourced and must be captured in an “outsourced” cost group. The only exception to this would be the case in which an enterprise lays its own fiber or copper and then operationally manages those links among enterprise locations, effectively acting as its own telecommunications enterprise.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and, therefore, are separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally with the staff calling in maintenance support, as appropriate.

**Budget Type:** This is the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that primarily is responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.
- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if the network operations group is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** This includes resources or technology assets that are funded by a business unit but, appropriately, are scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit’s money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group’s scope of support.

## Non-personnel

### Hardware

The aggregate Hardware costs that need to be provided include the following items:

#### ***Switching and Routing***

**Tandem Switch:** A voice tandem switch used in a client’s private tandem network, or Private Voice Network. These will not be present in carrier/PSTN provided virtual network assessments.

#### ***Terminating***

**Microwave:** Any microwave hardware associated with a Private Voice Network.

**Satellite:** Any ground-based satellite hardware associated with a Private Voice Network.

**Compression:** Any voice compression hardware associated with a Private Voice Network.

**Multiplexer/Channel Bank:** Any voice multiplexer (MUX)/channel bank hardware.

**PBX Network Interface Cards:** Any PBX/PABX trunk interface cards. These will exist in a carrier/PSTN provided Virtual Voice Network to connect dedicated access lines to a carrier’s

Point of Presence (PoP) from a client's PBX. They are also used in a Private Voice Network to terminate inter-office trunks to a client's PBX. These should not be confused with PBX station cards, which are not part of a WAV assessment.

**CSU/DSU (d-mark):** Any CSU/DSU hardware associated with a voice network. In some cases these may have to be prorated if the hardware is shared with a client's data network infrastructure.

### ***IT Management (NOC)***

This includes hardware that is located within a client's Network Operations Center (NOC) used to support a client's centrally managed voice network.

**Client Devices (PCs on NOC Desktops):** These include desktops and laptops used by the NOC staff to support the client's voice network(s). The costs for these client devices may need to be prorated between voice and data services, depending on a client's NOC environment.

**Servers (NOC):** Servers, either located within the NOC, or elsewhere, but used primarily by the NOC to support a client's voice network(s). The costs for these servers may need to be prorated between voice and data services, depending on a client's NOC environment.

### **Software**

The aggregate Software costs entered should include the following item:

**Software IT Management (NOC):** Software, used by the NOC primarily to support/manage a client's voice network(s). The costs for this software may need to be prorated between voice and data services, depending on a client's NOC environment.

### **Occupancy**

Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the wide-area voice network service under analysis. Some examples would include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy for hardware (closet space, etc.) is specifically excluded (i.e., Occupancy costs should apply only to the people supporting a client's voice network).

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories for which a more-detailed accounting is unavailable at this time.

### **Transmission**

Transmission costs are provided on the Transmission Cost Details tables as appropriate for Private Voice Networks (Insourced and/or Outsourced) and carrier/PSTN provided Virtual Voice Networks (Outsourced only). Once those tables are completed, their totals will appear here to provide a view of total spending by cost group.

### **Personnel – Technical**

#### **Operations/Maintenance**

**Network Operations Center (NOC):** This includes day-to-day activities of NOC (Network Operations Center) personnel related to monitoring and troubleshooting of your voice network.

## Engineering/Technical Services

This is the FTEs associated with technical installation and maintenance of equipment, software or other technologies specifically required for performance. Enter technical services (i.e., support personnel) FTE counts that are within the scope of the analysis.

**Network Support (Break/Fix):** Network management is defined as technical support for the recurring, day-to-day activities that are required to keep network components functional and operational including:

- **Tier II Support:** This refers to NSM monitoring/detection/correction of network faults, configuration changes and performance criteria.
- **Tier III Support:** This refers to maintenance and repair of network assets.

**Transmission Provisioning:** This refers to coordinating the installation of facilities provided by common carriers (e.g., LECs/PSTNs, Long Distance carriers, etc.) This provisioning also may include making needed connections to client owned hardware (e.g., PBXs).

**Change Management (MAC Work):** Change management is defined as the technical support of wide-area voice network technology changes as they relate to the effect on related systems for the entire enterprise. These activities are planned and scheduled and are done on a proactive basis. Ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* category.

**Capacity Management:** This area establishes the performance and capacity thresholds for voice network facilities and hardware, monitors and reports on usage against these thresholds, and forecasts capacity needs.

**Security Management:** This includes day-to-day activities related to ensuring network privacy and protecting your voice network from corruption, espionage or sabotage. This includes firewall support, toll fraud detection, and network password resets.

## Personnel – Planning and Process Management

This refers to activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, project management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection as well as business continuity/recovery.

**Systems Researching and Planning:** This includes wide-area voice network tactical planning relative to the deployment, re-grooming or refreshing of network technology.

**Process Development and Management:** This includes wide-area voice network strategic planning relative to the deployment or refreshing of voice network technology.

**Project Management:** This includes Voice Network project management relative to the deployment or refresh of the network technology.

## Personnel – Services Administration

**Budget, Chargeback and Service Level Reporting:** Personnel in this category establish the voice network operations budget, monitor actual expenses vs. the budget, arrange financing for purchases and perform financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This includes the product management associated with the delivery of the Voice Network as a product or service to the corporate customers.

**IS Training:** This is primary source for the delivery of voice network training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise. It is not anticipated that there will be any significant cost or FTE count associated with this function for voice networks.

### ***Asset Management***

**Asset and Configuration Tracking:** This area provides the administrative support for tracking voice network components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

### ***Account Management***

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering voice network requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** This area is responsible for the ongoing management of all supplier/vendor relationships, ensuring that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## **Management and Administration**

### ***IS Administration***

This area provides direct administrative and clerical support to all network operations support organizations. Typical positions include secretary, receptionist and administrative assistant.

## ***Management***

The management category includes the supervision of Voice Network related personnel (both employees and contractors), and vendors; as well as the general management of the business aspects of internal Voice Network services. This includes related personnel in the following functional areas:

- Operations/Maintenance
- Engineering/Technical Services
- Planning and Process Management
- Services Administration
- Management and Administration

**Unallocated (Total Cost):** Include costs which are part of the chart of accounts for those categories in which a more-detailed accounting is unavailable at this time. This category can also be used to capture total outsourcing costs for the WAV which are not broken out by specific function.

## **Transmission**

Transmission Detail costs are captured differently, depending on the type of Voice network being assessed. The regional cost data collection for Voice Networks is as follows:

### **Private Voice Networks**

**Outbound Domestic:** these regional cost buckets are intended to capture all the Transmission costs, including client owned facility depreciation and maintenance costs for the domestic inter-PBX/PABX trunks that comprise the domestic component of the private voice network.

**Outbound International:** these regional cost buckets are intended to capture all the Transmission costs, including client owned facility depreciation and maintenance costs for the international inter-PBX/PABX trunks that comprise international component of the private voice network.

### **Carrier Provided Virtual Voice Networks**

#### **Access**

**In, Out, Combination:** these regional cost buckets are intended to capture all aggregated access costs associated with the carrier/PSTN provided Virtual Voice Network.

#### **Usage**

##### ***Inbound***

This is where the regional costs are entered for aggregate Inbound (toll-free) cost per call minute usage charges.

##### ***Outbound***

**Outbound Domestic:** enter the regional domestic outbound calling usage charges.

**Outbound International:** enter the regional international outbound calling usage charges.

**Fixed to Mobile—Domestic:** enter the regional domestic outbound calling to mobile (i.e., cell phone call termination) usage charges.

**Fixed to Mobile—International:** enter the regional outbound calling to international mobile (i.e., cell phone call termination) usage charges.

**Unallocated (Outbound):** aggregate regional usage charges that could not be broken down into different outbound call types at this point.

**Unallocated Usage (Inbound + Outbound):** aggregate regional usage charges that could not be broken down into different inbound and outbound call types at this point.

**Unallocated (Transmission):** Aggregate total transmission charges that cannot be broken out at all, not even between access and usage, inbound/outbound, etc.

## Staffing

### Full-Time Equivalent Headcount (FTE)

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 4.0 Contract Information

The *Contract Information* table captures information regarding any contracts relating to the Voice Network services. These can include carrier/PSTN contracts, as well as contracts with outsourced Service Providers. This information provides insight into the current cost competitiveness of the costs of the outsourced Voice Network support services.

**Contract Start Date:** The date that the contract(s) became effective, in *mm/dd/yyyy* format. If there are multiple contracts, provide the Contract Start Date for the current carrier/PSTN contract.

**Length of Contract:** Enter the lengths of the current contract(s) in years. If there are multiple contracts, provide the length for the current carrier/PSTN contract, or any other major Voice Network outsourced contracts.

**Service Responsibility Percentages:** For each of the services indicated in this table enter the percentages of responsibility for the services that are performed by the Service Receiver (your organization), or the Service Provider (the outsourcer/PSTN), or neither if the service is not performed at all. The Total percentages are self calculating and do not need to be entered. The services in the table include:

### Operations/Maintenance

**Network Operations Center (NOC):** related to monitoring and troubleshooting of the Voice Network infrastructure by the NOC.

### Engineering/Technical Services

**Network Support (Break/Fix):** This is defined as technical support for the recurring, day-to-day activities that are required to keep Voice Network infrastructure components functional and operational (i.e., Break/Fix).

**Change Management (MAC work):** coordinating, tracking and implementing customer initiated Voice Network MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* service.

**Capacity Management:** This service includes establishing the Voice Network performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This service includes day-to-day activities related to ensuring network privacy and protecting the Voice Network from corruption, espionage or sabotage. This includes firewall support, network password resets and so forth, as well as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

### Planning and Process Management

**Systems Researching and Planning:** This includes Voice Network tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes Voice Network strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the Voice Network project management relative to the deployment or refresh of the network technology.

## Services Administration

**Budget, Chargeback and Service Level Reporting:** This service establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This service includes the product management associated with the delivery of a Voice Network as a product or service to the corporate customers.

**IS Training:** This service is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## Asset Management

**Asset and Configuration Tracking:** This service provides the administrative support for tracking network systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This service solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## Account Management

**Business Unit Relationship Management:** This service is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

## 5.0 Workload

Call minute workload data are captured differently, depending on the type of Voice network being assessed. The regional workload data collection for Voice Networks is as follows:

### Private Voice Networks

**Outbound Domestic:** these regional call minute buckets are intended to capture all of private voice network call minute usage data for domestic calling.

**Outbound International:** these regional call minute buckets are intended to capture all of private voice network call minute usage data for international calling.

### Carrier Provided Virtual Voice Networks

#### Usage

**Inbound:** this is where the regional call minutes are entered for Inbound (toll-free) usage. This should be the aggregate of both dedicated and switched Inbound call minutes.

#### Outbound:

- **Outbound Domestic:** enter the regional domestic outbound call minutes. In the U.S. this should be the aggregate interstate, intrastate, inter-LATA, intra-LATA, on-to-on, on-to-off, off-to-off, etc. call minutes.
- **Outbound International:** enter the aggregate regional international outbound call minutes (i.e., the aggregate of actual calling to all countries).
- **Fixed to Mobile: Domestic**—enter the regional domestic outbound call minutes for calling to mobile (i.e., cell phone) call terminations.
- **Fixed to Mobile: International**—enter the regional outbound call terminations.
- **Unallocated (Outbound):** aggregate regional call minutes that could not be broken down into different outbound call types at this point.

**Unallocated Usage (Inbound + Outbound):** aggregate regional call minutes that could not be broken down into different inbound and outbound call types at this point.

**Unallocated (Call Minutes):** Aggregate total call minute counts, by region, which cannot be broken out at all, not even between data and usage, inbound/outbound, etc.

### Workload Summary

**Total Sites:** Enter regional aggregates of the total number of sites with dedicated access to the carriers/PSTNs for Virtual Voice Network calling and the total number of sites connected by inter-PBX/PABX trunking for private voice network calling.

**Total Circuit Connections:** Enter the regional aggregate total number of circuits for carrier/PSTN dedicated access Virtual Voice Network calling and the total number of Private Voice Network inter-PBX/PABX circuits.

**Total End Users:** Enter the total number of end users of the Voice Network services that are in the sites captured in *Total Sites*.

## Service Levels

**Availability—Average across all sites:** Enter both the Voice Network Target Committed availability percentage and the Actual Delivery availability percentage.

**Mean Time to Restore (MTTR Hours):** Enter both the Voice Network Target Committed MTTR and the Actual Delivery MTTR for Severity 1, Severity 2 and Severity 3 outages.

# IT Overview Benchmark Explain Text for Voice Premise Technology

---

Gartner, Inc.

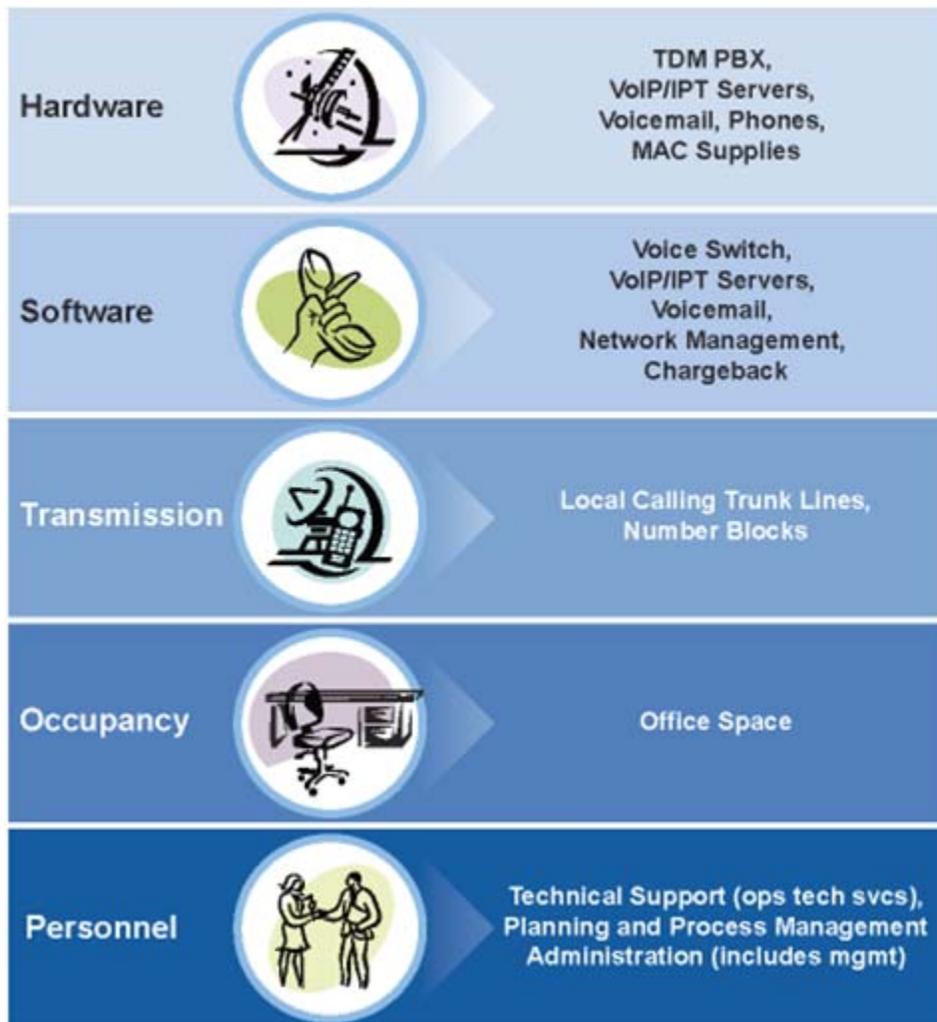
October 2010

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

## Table of Contents

<b>1.0 Analysis Views .....</b>	<b>3</b>
<b>2.0 Voice Premise Technology Environment.....</b>	<b>4</b>
<b>3.0 ITOB Spending and Staffing.....</b>	<b>5</b>
<b>4.0 Contract Information.....</b>	<b>12</b>
<b>5.0 Workload.....</b>	<b>14</b>

Figure 1. Voice Premise Technology



## 1.0 Analysis Views

Analysis views, or user-defined repeat groups, are set up for some tables in the interview. Any table in an interview that displays the functions below is a table that enables you to customize the interview for your enterprise and to set the scope of the analysis.

The following information must be provided after creating a view:

**View Name:** This field enables you to name the view with a label applicable and specific to your enterprise. Keep in mind that this name also appears in outputs.

**Network Type:** Select the type of network being analyzed.

**Region Supported:** Select the lowest level in the hierarchy that represents, appropriately, the regions covered by this network.

**Region Located:** Select the lowest level in the hierarchy that represents, appropriately, the location of the majority of the support staff.

## 2.0 Voice Premise Technology Environment

This section, at the start of the Voice Premise Technology (VPT) interview, is intended to capture information relating to the geographic footprint of the VPT Services being assessed.

**Regions:** The geographic footprint of the VPT infrastructure is described by selecting each region in which VPT service is provided. The available regions include:

- North America (NAM)
- Central America & Caribbean (CAM)
- South America (SAM)
- Western Europe (WEU)
- Eastern Europe (EEU)
- Middle East (ME)
- Africa (AFR)
- Asia/Pacific (APAC)

Note that the regions selected in this section will drive the appearance of regional data entry cells during the rest of the interview. In other words, data will only be able to be entered for the regions specified here.

## 3.0 ITOB Spending and Staffing

After analysis views are created, the annualized spending and support headcounts are captured in the *ITOB* table. This table provides the option to create multiple spending and staffing views, enabling you to capture the required information in logical groups that most closely resemble your enterprise (e.g., chargeback reports, vendor billings, internal and external service providers).

### Overview

The following information must be provided when creating a view of a spending or staffing group.

**Name:** This user-entered field enables you to give the view a name that makes sense within your enterprise. Keep in mind that this is the name that will appear on outputs as well.

**Sourcing Type:** This is the classification of who is delivering the service for which you are providing cost and/or headcount and/or workload information

- **Insource:** This includes in-house-related spending and head count.
  - ❑ Non-personnel costs should include the expense, lease, depreciation, installation and taxes as appropriate. This also includes maintenance charges that are embedded within the purchase price of assets and, therefore, are inseparable from depreciation.
  - ❑ Personnel costs per staff function should include salary, overtime pay, benefits and “other” employee costs such as job-related travel. IS training is collected as an administrative staff function that either can be insourced or outsourced, rather than as a spending load per full-time equivalent head count.
  - ❑ Specifically excluded from this analysis are personnel-related costs associated with reductions in workforce, redundancy, relocations or retirement.
- **Contractor:** This includes the spending and head count for contract labor that is supplemental to your staff and “operationally” managed by in-house staff.
- **Outsource:** This includes the fees for outsourcing contracts in which outsource is defined as any situation in which the full operational responsibility for IT services is handed completely over to an external service provider. Note that, by this definition, any transmission facilities that are purchased from the vendors are considered outsourced and must be captured in an “outsourced” cost group. The only exception to this would be the case in which an enterprise lays its own fiber or copper and then operationally manages those links among enterprise locations, effectively acting as its own telecommunications enterprise.
- **Maintenance:** This includes the fees for maintenance contracts (i.e., time and materials) that are not embedded in the purchase price of the asset and, therefore, are separable from depreciation. Maintenance is differentiated from outsource in that the asset is still operationally managed internally with the staff calling in maintenance support, as appropriate.

**Budget Type:** This is the classification of groups in terms of where the expenditure is controlled.

- **Direct:** This includes resources or technology assets that are under the direct management of the operations manager for which the analysis is being performed (e.g., networking equipment purchased by the network operations group).
- **IS Transfer:** This includes resources or technology assets that are procured from another IS group that primarily is responsible for the provisioning of a particular service (i.e., the group for which this charge would be considered “direct”). For example, if the network operations group is procuring protocol server services from the computer operations group that manages these servers, these costs would be considered direct for the operations center and an IS transfer to network operations. These charges are considered IS transfer regardless of whether a formal chargeback actually occurs.
- **IS Overlap:** This definition is identical to IS transfer (see IS Transfer) with one important distinction—these costs/FTEs are known to be duplicated elsewhere in the scope of the larger analysis and should, therefore, be removed from any engagement level roll-up calculations. For example, if the network operations group is procuring protocol services from computer operations, these costs would be considered direct for the operations center and an IS overlap for network operations *as long as both areas are being analyzed within the same engagement.*
- **Business Unit:** This includes resources or technology assets that are funded by a business unit but, appropriately, are scoped into the analysis because the IS group being evaluated is providing the ongoing support (e.g., IS spending the business unit’s money).

After the spending or staffing group has been created, you can begin to capture the assessment data. Your Gartner consultant will provide guidance on the summary level data that should be captured. At each level of the collection hierarchy, therefore, Gartner has provided “unallocated” categories in which this summarized data can be entered. If you cannot fully account for this cost, then you should move that cost to an “unallocated” field.

The following information may be provided when creating a spending or staffing group depending on that group’s scope of support.

## Non-personnel

### Hardware

This annual aggregate dollar amount represents a single view rolled up view, for a single region, of the following costs:

#### ***Telephone System Equipment***

This includes the annual costs of applicable system components for PBXs, Voice Servers, non-Call Center ACDs, voice mail or other similar voice processing technologies. Note that Key Systems and CENTREX infrastructure are excluded from any Gartner ITOB VPT assessment.

**Voice Switch/Server and Peripherals (Modules, UPS, etc.):** The annual aggregate Hardware cost category can include the costs for the following categories of hardware:

- **PBX/PABX:** This comprises a traditional, or legacy, telephone switch located on a customer’s premises that primarily establishes voice-grade circuits (over tie lines to a telephone enterprise’s central office) between individual users and the public-switched telephone network (PSTN). The PBX also provides switching within the customer

premises local area and usually offers numerous enhanced features, including least-cost routing and call detail recording.

- **Voice Server:** This is a server used in a VoIP/IPT environment that performs the same functions as a traditional PBX/PABX.
- **ACD:** An automatic call distributor (ACD) is a telephone facility that manages incoming calls, evenly distributing them to the agents based on the number dialed and a database containing handling instructions. The ACD also enables real-time monitoring of performance statistics such as call volume, queue time, duration, abandoned rate, time to abandoned, busy hour impact and so forth. Annual costs should include the costs for the ACD, station equipment (e.g., telephone handsets and headsets) and advanced functions included within the system when the costs are not separable (e.g., voice mail and interactive voice response). Note; only “small” ACDs, that are part of an “office” environment are to be included in a VPT assessment. Enterprise Call Center infrastructures are not to be included in a VPT assessment.
- **Interactive Voice Response Unit (IVRU, or IVR):** This refers to an automated call-processing system capable of responding to customer inquiries and reducing agent labor. It may be attached to or part of the ACD. Again, a VPT assessment is only intended to capture IVR costs associated with an “office” environment, and not those that are part of Call Center.
- **Auto Attendant:** This refers to a device typically attached to a PBX/PABX or voice mail system that answers incoming calls.
- **UPS (Uninterruptible Power Supplies):** Any voice processing UPS costs should also be included.

### **Premise System Phones**

**Wired Hand Sets:** Phones (digital, analog or VoIP/IPT) that are hard wired to the voice switches/servers (TDM or VoIP).

**Wireless Hand Sets:** Cordless phones connected to the voice switches/servers (TDM or VoIP). Note that this does not refer to mobile/cell phones.

**Speaker/Conference Phones:** Speaker phones (e.g., Polycom) that are hard wired to the voice switches/servers (TDM or VoIP).

### **Voice Mail**

Also include any voice mail hardware (processors, storage, etc.).

### **MAC Materials**

This Move/Add/Change category, whose costs should also be included in the aggregate Hardware totals includes such MAC Hardware, including jacks, tie-downs, etc., and MAC Cable, used to go from a telecom closet to the desktop.

- **MAC Hardware:** Jacks, jack panels, tie-downs, etc.
- **MAC Cable (desktop to closet):** Cable used to connect hard-wired phones from desktops, workstations, etc. to closet terminations. This does not include permanent vertical and horizontal cabling but is rather intended to capture the cable required for day.

## **IT Management (NOC)**

The aggregate Hardware costs should also include hardware that is located within a client's Network Operations Center (NOC) used to support a client's centrally managed VPT infrastructure.

**Client Devices (PCs on NOC Desktops):** These include desktops and laptops used by the NOC staff to support the client's voice processing infrastructure(s). The costs for these client devices may need to be prorated between voice and data services, depending on a client's NOC environment.

**Servers (NOC):** Servers, either located within the NOC, or elsewhere, but used primarily by the NOC to support a client's VPT infrastructure(s). The costs for these servers may need to be prorated between voice and data services, depending on a client's NOC environment.

## **Software**

**Switch/Voice Server and Peripherals (ACD, VRU, etc.) Software Costs:** This cost category is intended to capture all voice processing software costs, except for those relating to voice mail and IT Management, or Network Management, software. This would include any software costs relating to the voice switch, ACDs, VRUs, etc.

**Voice Mail Software Costs:** This category is intended to capture only voice mail related software costs.

**IT Management (NOC):** All software costs related to the NOC's support of the client's VPT infrastructure.

## **Occupancy**

Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the VPT services under analysis. Some examples would include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy for hardware (closet space, switch space, etc.) is specifically excluded (i.e., Occupancy costs should apply only to the people supporting a client's VPT platforms).

**Unallocated (Non-personnel):** Include costs here only for those non-personnel categories for which a more-detailed accounting is unavailable at this time.

## **Transmission**

The aggregated Transmission costs include the annual cost for local central office lines depicted below. It should be noted that these categories, while applicable in the U.S., may not be applicable in other regions, particularly in Europe, where local calling has become included in many clients' Virtual Network calling universe (i.e., local calling is not treated any differently than domestic Long Distance, and is handled by the same carrier as Long Distance calling). For those clients where the local calling designation is still applicable, transmission costs for local calling are to be entered regionally, and include:

**Combination/DID/DOD Trunks (for local calling only):** These included costs are the aggregated regional costs for the following:

- **Combination Trunks (only for local calling):** This is a circuit for communications used exclusively by your enterprise to connect to the local-exchange carrier (LEC) that is used for both the origination of outbound calls and the receipt of inbound calls. Annual cost should include fixed, as well as variable usage charges.

- **Direct Inward Dial Trunks (DID) (only for local calling):** This is a circuit for communications used exclusively by your enterprise to connect to the local-exchange carrier (LEC) that is used for the receipt of outbound calls. The annual cost should include fixed, as well as variable usage charges.
- **Direct Outward Dial Trunks (DOD) (only for local calling):** This is a circuit for communications used exclusively by your enterprise to connect to the local-exchange carrier (LEC) that is used for the origination of outbound calls. The annual cost should include fixed, as well as variable usage charges.

**Number Blocks (primarily Europe):** These aggregate costs are for the reservation of blocks of phone numbers from the PSTN, or LEC that are for the exclusive use of the client.

## Personnel – Technical

### Operations/Maintenance

**Network Operations Center (NOC):** This includes the FTEs, and their costs, associated with day-to-day activities of NOC (Network Operations Center) personnel related to monitoring and troubleshooting of the VPT infrastructure.

### Engineering/Technical Services

This captures the FTEs, and their costs, associated with technical installation and maintenance of equipment, software or other technologies specifically required for VPT. Enter technical services (i.e., support personnel) FTEs and costs that are within the scope of the analysis.

**Premise System Support (Break/Fix):** Premise system support is defined as technical support for the recurring, day-to-day activities that are required to keep VPT systems components functional and operational (i.e., Break/Fix) including these items:

- **Tier II Support:** This refers to NSM monitoring/detection/correction of VPT faults, configuration changes and performance criteria.
- **Tier III Support:** This refers to maintenance and repair of VPT assets.
- **Transmission Provisioning:** This refers to coordinating the installation of facilities provided by common carriers (e.g., LECs/PTOs) and also may include making needed connections to client-owned hardware (e.g., PBXs and Voice Servers).

**Change Management (MAC work):** This category is intended to capture those FTEs, and their costs, that are coordinating, tracking and implementing customer initiated MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Premise System Support* category.

**Voice Mail Support (Break/Fix and Admin):** This category is intended to capture the FTE counts and costs associated with maintaining and administering the voice mail infrastructures that are within the scope of the assessment.

**Capacity Management:** This area establishes the performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This includes day-to-day activities related to ensuring network privacy and protecting voice premise technology systems from corruption, espionage or sabotage. This includes firewall support and toll fraud detection, network password resets and so forth as well

as the implementation of tools, processes and procedures that prevent virus attacks and/or ensure recovery after virus attacks.

## **Personnel – Planning and Process Management**

This refers to activities related to the planning for, and management of, current and future technology needs and the establishment of policies and processes relating to technology. This includes, but is not limited to, systems research, product management, technology evaluation and purchase decision-making, establishment of processes surrounding security and virus protection as well as business continuity/recovery.

**Systems Researching and Planning:** This includes voice premise technology tactical planning relative to the deployment, re-grooming or refreshment of network technology.

**Process Development and Management:** This includes voice premise technology strategic planning relative to the deployment or refreshment of voice technology.

**Project Management:** This includes the voice premise technologies project management relative to the deployment or refresh of the network technology.

## **Personnel – Services Administration**

**Budget, Chargeback and Service Level Reporting:** This area establishes the network budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This includes the product management associated with the delivery of a voice premise technologies as a product or service to the corporate customers.

**IS Training:** This is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## ***Asset Management***

**Asset and Configuration Tracking:** This area provides the administrative support for tracking voice premise technology systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## ***Account Management***

This includes activities related to managing customer and vendor relationships essential to mutual success.

**Business Unit Relationship Management:** This area is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

**Contract and Service Provider Management:** This area is responsible for the ongoing management of all supplier/vendor relationships, ensuring that service providers are meeting all contractual obligations. It includes vendor selection, negotiation and definition of terms and conditions, service levels, points of contact, rules of engagement, problem resolution, escalation procedures and discount structures.

## **Management and Administration**

### ***IS Administration***

This area provides direct administrative and clerical support to all network support organizations. Typical positions include secretary, receptionist and administrative assistant.

### ***Management***

The management category includes the supervision of VPT related personnel (both employees and contractors), and vendors; as well as the general management of the business aspects of internal Voice Network services. This includes related personnel in the following functional areas:

- Operations/Maintenance
- Engineering/Technical Services
- Planning and Process Management
- Services Administration
- Management and Administration

**Unallocated (Total Cost):** Include costs here for both personnel and non-personnel categories for which a more-detailed accounting is unavailable at this time. This category can also be used to capture total outsourcing costs for the VPT which are not broken out by specific function.

## **Staffing**

### **Full-Time Equivalent Headcount (FTE)**

The aggregated FTE (Full-Time Equivalent) counts for employees (entered in the Insourced column/category), outsourcer employees (if known entered in the Outsourced column/category) and contractors (if applicable, entered in the Contractor column/category). Note that the FTE totals entered must correspond to the Personnel costs entered in the previous section of this interview.

## 4.0 Contract Information

The *Contract Information* table captures information regarding any contracts relating to the Voice Premise Technology (VPT) services. These can include Local Exchange Companies (LECs), and/PSTN contracts, as well as contracts with outsourced Service Providers. This information provides insight into the current cost competitiveness of the costs of the outsourced VPT support services.

**Contract Start Date:** The date that the contract(s) became effective, in *mm/dd/yyyy* format. If there are multiple contracts, provide the Contract Start Date for the current LEC/PSTN contract.

**Length of Contract:** Enter the lengths of the current contract(s) in years. If there are multiple contracts, provide the length for the current LEC/PSTN contract, or any other major VPT outsourced contracts.

**Service Responsibility Percentages:** For each of the services indicated in this table enter the percentages of responsibility for the services that are performed by the Service Receiver (your organization), or the Service Provider (the outsourcer/PSTN), or neither if the service is not performed at all. The Total percentages are self calculating and do not need to be entered. The services in the table include:

### Operations/Maintenance

**Network Operations Center (NOC):** related to monitoring and troubleshooting of the VPT infrastructure by the NOC.

### Engineering/Technical Services

**Network Support (Break/Fix):** This is defined as technical support for the recurring, day-to-day activities that are required to keep VPT infrastructure components functional and operational (i.e., Break/Fix).

**Change Management (MAC work):** coordinating, tracking and implementing customer initiated VPT MACs (Moves/Adds/Changes). Note that any ongoing, day-to-day adds and changes that occur as a reaction to system failure, or as part of routine maintenance, are included in the *Network Support* service.

**Capacity Management:** This service includes establishing the VPT performance and capacity thresholds for network assets, monitors and reports on consumption against these thresholds and forecasts capacity needs.

**Security Management:** This service includes day-to-day activities related to ensuring network privacy and protecting the VPT infrastructure from corruption, espionage or sabotage. This includes password resets and so forth, as well as the implementation of tools, processes and procedures that prevent VPT attacks and/or ensure recovery from VPT attacks.

### Planning and Process Management

**Systems Researching and Planning:** This includes VPT tactical planning relative to the deployment, re-grooming or refreshment of VPT technology.

**Process Development and Management:** This includes VPT strategic planning relative to the deployment or refreshment of network technology.

**Project Management:** This includes the VPT project management relative to the deployment or refresh of VPT technology.

## **Services Administration**

**Budget, Chargeback and Service Level Reporting:** This service establishes the VPT budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. These personnel also handle the operation of the chargeback system. Typical positions include financial consultant and chargeback administrator.

**Product Management:** This service includes the product management associated with the delivery of a VPT infrastructure as a product or service to the corporate customers.

**IS Training:** This service is the primary source for the delivery of training within the IS organization. Such personnel also may prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the enterprise.

## **Asset Management**

**Asset and Configuration Tracking:** This service provides the administrative support for tracking VPT related systems and system components. This accounts for labor and contract costs for managing depreciation records and lease contracts as well as performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installs, moves, adds, changes, removals and final disposal of all assets (e.g., hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting, and assigning assets, or performing other technical and business functions, without the need to visit repeatedly the asset location or reassemble data records. This also includes the determination of an asset's useful life, including planning for the installation, upgrade and removal/disposal of the asset and executing on the plan.

**Procurement:** This service solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payment and handles contract administration. This includes the procurement of both network equipment and transmission facilities. A typical position is purchasing agent.

## **Account Management**

**Business Unit Relationship Management:** This service is responsible for the ongoing assessment of the relationship between the IS organization and the lines of business including monitoring of service levels and ensuring that the evolving support and technology needs of the business are identified proactively and addressed. Typical tasks include business unit alignment, gathering application and infrastructure requirements, business case development and ongoing project management.

## 5.0 Workload

The *Voice Premise Technology Workload* table captures information regarding the count of customers, extensions, moves/adds/changes, handsets and circuits managed. This information is used for a number of different purposes, including, but not limited to, the following scenarios:

- Assisting in understanding pertinent qualitative factors surrounding the cost, workload and/or process details
- Normalizing spending and staffing information to a comparable cost per unit of work
- Determining the most-appropriate workload peer groups that are tailored to match most closely your specific IT workload challenges
- Understanding performance variances if alternative comparison groups are selected that may not be based solely on workload (e.g., industry or geography)

Note that all VPT workload data is to be collected, and entered, on a regional basis (i.e., for each of the regions in which VPT services are being supported).

### Total Sites

Indicate the number of sites (locations), by region, including buildings, offices and campuses that are being supported by the PBX and/or VoIP, services analyzed in this view.

### Total End Users

Indicate the regional counts of people working at the site(s) served by the voice processing technology being analyzed in this view, regardless of whether or not they are employees (contractors or consultants may be included in this count).

### PBX Switch Information

**Total Number of PBX Switches:** Enter the number of legacy TDM PBX switches, or VoIP/IPT voice servers (switches) in the environment being assessed.

**Active Extensions/Station Ports:** This workload category refers to the number of telephone station ports that are actually in use on the TDM PBX. For a VoIP assessment, the number of active VoIP phones in use would be counted. Trunk ports or excess capacity (i.e., station ports that could be activated through software and the connection of a telephone set or circuit without adding additional common equipment such as circuit packs) should not be included in this count (see the following new categories).

**Inactive Extensions/Unused Station Ports:** This refers to the number of inactive ports that are on a PBX/PABX).

**Active Trunk Ports:** This refers to the number of active ports that are on the switch (PBX or VoIP) for connectivity to a client's LEC for local calling, and/or to a client's Long Distance carrier for toll calling.

**Inactive/Unused Trunk Ports:** This refers to the number of inactive ports that are on the switch.

## Premise System Availability

**Active Extension/Station Port Distribution by Region:** These are self calculating fields and require no effort on the part of the data collector.

### Target Weighted Availability:

Enter the VPT Target Committed availability percentage, by region.

### Achieved Weighted Availability:

Enter the VPT Actual Delivery availability percentages, by region.

## Installs, Moves, Adds and Changes

**Total Hardware MACs:** This refers to user-MAC that requires physical changes. For example, providing a new handset to an existing office location would not require running cable from the telecom closet to the office/cubicle. This would include placement of the new handset, as well as any required software changes at the switch. If the MAC requires a corresponding software change, it should not be counted as an additional Software Only MAC.

**Total Hardware and Cabling MACs:** This refers to user-MAC that requires physical changes. For example, providing a handset to a new office location may require running cable from the telecom closet to the office/cubicle, connection and placement of the new handset, as well as software changes at the switch. If the MAC requires a corresponding software change, it should not be counted as an additional Software Only MAC.

**Total Software MACs:** This refers to user-MAC requests that require *only* a software change on the switch, such as providing the user with a new feature or changing their extension number. Software changes required as part of a hardware change should not be counted here (See *Hardware and Circuit*).

## Handsets

**Traditional (Analog, Fax) handsets/devices:** This regional workload category refers to the number of hard-wired analog handsets/phones and switch connected analog FAX machines in legacy PBX/PABX infrastructures being assessed.

**Traditional (Digital) handset:** This workload category refers to the number of hard-wired digital handsets/phones in legacy PBX/PABX infrastructures being assessed, by region.

**Traditional DECT/Wireless handsets:** This regional workload category refers to the number of wireless handsets/phones in the PBX/PABX infrastructure being assessed.

**Operator/Speakerphone/Conference device:** This regional workload category refers to the number of true speaker phones (e.g., Polycom) in the PBX/PABX infrastructure being assessed. This does not include desk phones which may have a rudimentary speaker phone capability.

## IPT (IP Telephony)

**Business IP Phones:** This refers to the count of basic VoIP/IPT desk phones, by region

**Enhanced IP Business Phones:** This refers to the count of full featured VoIP/IPT desk phones, by region

**IP DECT/Wireless handsets:** This workload category refers to the number of wireless handsets/phones in the VoIP/IPT infrastructure being assessed, by region.

## Voice Mail

**Active Voice Mailboxes:** The count of active Voice Mailboxes in the VPT environment being assessed.

**Local Trunks (DS-0 Equivalents):** The number of DS0 equivalents for local calling trunks (i.e., LEC trunks) only, in aggregate on a regional basis.

## Service Levels

**Availability—Average availability of premise voice systems:** Enter both the aggregate global VPT Target Committed availability percentage and the Actual Delivery availability percentage.

**Mean Time to Restore (MTTR Hours):** Enter both the VPT Target Committed MTTR and the Actual Delivery MTTR for Severity 1, Severity 2 and Severity 3 outages. This should be on an aggregated global (i.e., for all regions) basis.

**MAC Activity:** Enter the aggregated global (i.e., including all applicable regions) elapsed time (hours from request to completion) for IMACS for new or existing VPT customers.

# IT Overview Benchmark Explain Text for Infrastructure Process Maturity

---

Gartner, Inc.

February 2011

Controlled and Authorized by:  
David Kish  
Gartner, Inc.

# Table of Contents

**1.0 IT Process Maturity Assessment ..... 2**

## 1.0 IT Process Maturity Assessment

The Gartner process maturity questions provide a rapid assessment of your IT process maturity against ITIL standards, and typical levels seen by Gartner elsewhere. The processes described below use the direct ITIL v3 terminology wherever appropriate, and the Gartner process maturity models otherwise. It is important that you honestly assess which statement describes your environment most closely to get the most out of the comparative assessment.

### Instructions

This assessment is designed to provide an indication of maturity rather than an absolute measurement. Therefore, your estimates will be sufficient. Please provide an honest and objective answer to each question.

Please use the drop down to select an answer for each discipline. If a discipline is out of scope, please indicate by selecting Not Applicable. If a discipline is in scope but you are unsure of an answer, please select Don't Know.

### IT Asset Management

This process maintains procurement and depreciation details of assets above a certain value. It may include information on description, values, current ownership and location of assets in a register or database, but will not record the relationship between assets, as the configuration management database does. Asset management is generally partial information focused on financials.

### Business Relationship Management

This is the process of developing and nurturing relationships with business customers, to promote an appreciation of the value of IT and its role within the business value chain. Business relationship managers need to continually publicize this, and reinforce the message of business and IT alignment. They need to represent business views and needs to the rest of IT, while generating synergy and empathy with their business unit customers by improving information flows, communication and synergy with supplier services.

### Capacity Management

This process ensures that adequate capacity is available at all times to meet the requirements of the business by balancing “business demand with IT supply.” In order to achieve this, a capacity plan is closely linked to the business strategy and plans are produced and reviewed on a regular basis, covering business, service and resource capacity management. Common activities within these areas include performance management, workload management, demand management and application sizing and modeling.

### Change Management

This is a single, centralized process designed for the efficient and effective handling of changes which is vital to the successful operation of any IT organization. Changes must be carefully managed throughout their entire life cycle from initiation and recording, through filtering, assessment, categorization, authorization, scheduling, building, testing, implementation and eventually their review and closure. In ITIL, one of the key deliverables of the process is the

forward schedule of changes which is a central program of change agreed by all relevant areas, including the business, based on business impact and urgency.

## **Configuration Management**

This provides the foundation for successful IT service management and underpins every other ITIL process. The fundamental deliverable is the configuration management database which details all the components of the IT infrastructure and associated assets, including people and documents (known collectively as configuration items). Each configuration item is linked or related to others, and this interconnectivity or interdependence is defined within the configuration management database — which sets it apart from an ordinary asset register or database. Example configuration items also include incidents, problems, known errors and changes within ITIL definitions.

## **Demand Management/IT Governance**

This process covers the activities that understand and influence business customer demand for IT services and the provision of capacity to meet these demands. At a strategic level demand management can involve analysis of patterns of business activity and user profiles. At a tactical level it can involve use of differential charging to encourage customers to use IT services at less busy times. It is usually underpinned by a formal review process undertaken with the business to agree strategic business imperatives and priorities, to allocate resources to competing projects and services, and to monitor progress against, re-prioritize and review ongoing changes to decisions made in the past.

## **IT Financial Management/Chargeback**

This process provides the basis for running IT as a business and for developing a “cost conscious” and “cost-effective” organization. The principle activities consist of understanding and accounting for the costs of provision of each IT service or business unit and the forecasting of future IT expenditure. This also covers the implementation of a charging strategy, which attempts to recover the costs of IT from the business in a fair and equitable manner.

## **Incident Management**

This process is responsible for the management of all incidents from detection and recording through to resolution and closure. The objective is to restore normal service as soon as possible, and with minimum disruption to the business.

## **Information Security Management**

This process that ensures the confidentiality, integrity and availability of the organization’s assets, information, data and IT services. Information security management usually forms part of an organizational approach to overall security management which has a wider scope than the IT service provider, and includes handling of paper, building access, phone calls etc., for the entire organization. It details the process of planning and managing a defined level of security for IT information and services, including all aspects associated with reaction to security incidents, judgment of risks and vulnerabilities, and the implementation of cost justifiable countermeasures.

## **Problem Management**

The goal of this process is to minimize the adverse impact of both incidents and problems on the business. It manages all major incidents and problems, while endeavoring to record all workarounds and “quick fixes” as known errors where appropriate, also raising changes to implement permanent structural solutions wherever possible. Problem management further analyses and trends incidents to proactively prevent the occurrence of repeat or associated incidents and problems.

## **Release Management**

This process takes a holistic view of changes to IT services, considering all aspects of a release both technical and non-technical. It is responsible for all legal and contractual obligations for all hardware and software in use within the organization. In ITIL, and to protect the IT assets of the organization, it establishes secure environments for both hardware in the definitive hardware store and software in the definitive software library.

## **IT Service Continuity Management**

This process is responsible for managing risks that could seriously impact IT services. It describes the way you produce recovery plans designed to ensure that, following any major incident causing or potentially causing disruption of the service, IT services are provided to an agreed level within an agreed schedule. However, it should be recognized also that IT service continuity or disaster recovery is only one component of a broader business continuity plan. IT service continuity management ensures that the IT service provider can always provide minimum agreed service levels, by reducing the risk to an acceptable level and planning for the recovery of IT services. IT service continuity management should be designed to support business continuity management.

## **Service Level Management**

This process negotiates, documents, agrees and reviews business service requirements and targets, within service level requirements and service-level agreements. These relate to the measurement, reporting and reviewing of service quality as delivered by IT to the business. The process also negotiates and agrees the support targets contained in operational level agreements with support teams and in underpinning contracts with suppliers, to ensure that these align with business targets contained within service-level agreements.

From time to time we get asked for the typical duties of a Physical DBA and how that might contrast and compare to the tasks associated with a Logical DBA. This table is an attempt to list the typical tasks and/or duties and indicate which domain is responsible for that particular activity. The list of task is not intended to be all inclusive but is intended to be illustrative.

<b>Task and/or Activity</b>	<b>Physical DBA</b>	<b>Logical DBA</b>
Install the DBMS software	X	
Maintain the DBMS software	X	
Maintain the links with other major system and subsystem components: network, security, performance monitoring, etc	X	
Obtain, allocate and initialize the storage spec from the storage management team	X	
Implement the backup, redundancy and disaster recovery requirements of the database storage	X	
Implement fallback, failover provisions for event recovery	X	
Test security, fallback, failover and new implementations	X	
Perform DBMS Capacity Planning and DBMS Performance Management tasks	X	
Respond to problem incidents related to DBMS software, DBMS performance including full system incidents or full system performance issues	X	
Monitor DBMS security and failover status	X	
Monitor DBMS system performance and backup status	X	
Participate in Disaster Recovery tests	X	X
Tune physical layer of the database or subsystem interfaces	X	
Data modeling: Creating physical data model		X
Interface directly with the developers/analysts on the development of the logical data model		X
Create process to initialize, load and scrub data		X
Creating scripts to initialize and load the data tables		X
Write and/or tune stored queries		X
Maintaining data standards		X
Writing database documentation, including data standards, procedures and definitions for the data dictionary ('metadata')		X
Controlling access permissions and privileges		X
Tune logical/applications layer of the database or application interfaces		X
Monitor DBMS applications performance and logical backup status		X

Notes to the table:

1. Some of the tasks in this table are staffing functions in Gartner's Enterprise computing staffing model, e.g. Performance Management, Capacity Planning, Security, etc. Gartner understands that typically a DBA may perform DBA tasks related to these functions and that they generally comprise less than one tenth of a DBA's time and therefore do not need to be categorized under a different staffing function. If a DBA performs more than 10% of their time in any of those job functions then that person should be split across multiple job categories.
2. The logical DBA job category works from the logical business view of the data and converts that into the physical data model; tables, rows, columns, etc., that can be used by the application developers. This can sometimes cause confusion since a logical DBA creates the physical data model.