IT Key Metrics Data 2023: Infrastructure Measures — Network Framework Definitions

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By Analyst(s): Eric Stegman, Jamie Guevara, Nick Michelogiannakis, Shaivya Kaushal

Initiatives: Technology Finance, Risk and Value Management; I&O Operations Management; I&O Organizational Strategy

> This research outlines the Gartner Infrastructure — Network consensus model and framework definitions for IT cost management.

Overview

Key Findings

This document elaborates on the framework used by Gartner to compile the IT Key Metrics Data Infrastructure Measures — Network and the data structure a user should align to in order to accurately benchmark using the published research or the self-service comparison tools.

Recommendations

■ Ensure you understand the metrics before referring to the published research or using any of the available self-service comparison tools.

■ Evaluate your organization by leveraging the available published content or receive a report tailored to your organization by completing the IT Key Metrics Data Comparison Tool: Data Center & Network

■ Follow the Practitioners Guide to best prepare your data for comparison.

■ Schedule an inquiry with a Gartner Expert to address alignment questions or to review your results and gain valuable insight based on your submission.
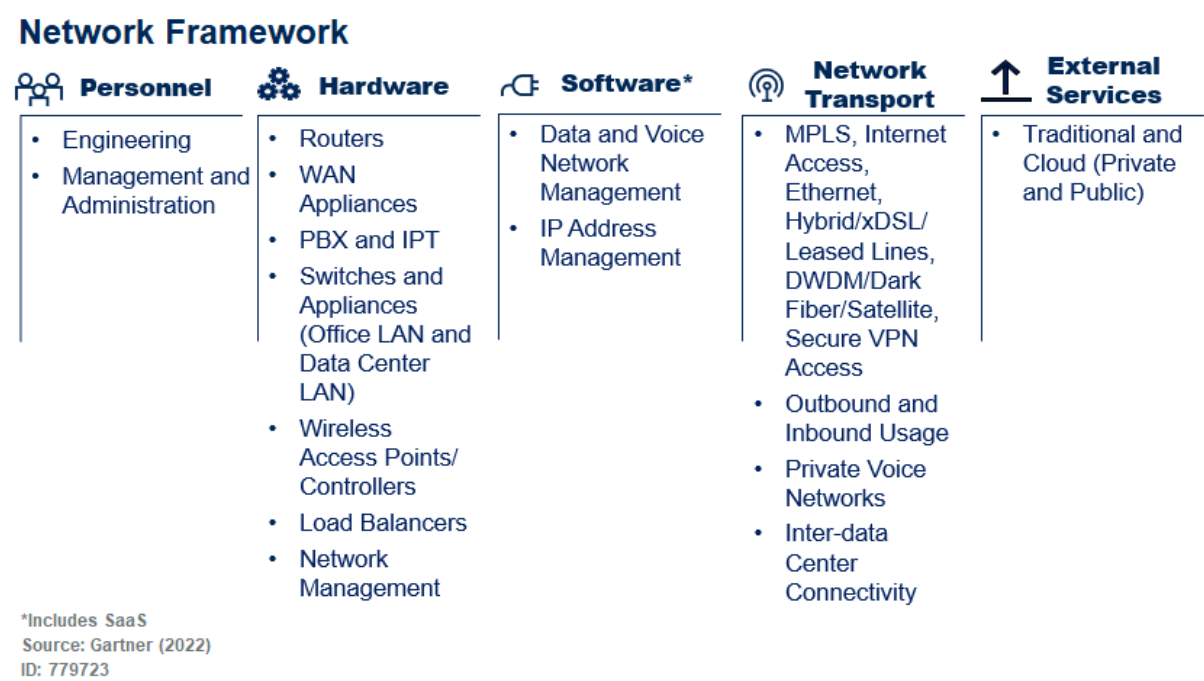
Analysis

Scope

Network services consist of Local-Area Voice and Data Network Service and Wide-Area Voice and Data Network Service. Network spending includes the annual capital and operational expense, maintenance, installation and taxes, as appropriate, for all of Personnel, Hardware, Software and External Services.This includes:

■ Local-Area Network Service: provides network access within the office premises.

■ Wide-Area Network Service: helps in the management and supply of inter-site connections and network infrastructure.

■ Remote Access Service: helps to connect the internal network from a remote location with broadband or phone line access using a security token.

■ Internet Connectivity Service: provides access to the internet.

■ Intranet Connectivity Service: helps in the provision of the global network provided by third parties. This also includes management of network optimization devices.

The below outlines the Gartner Benchmark Analytics consensus cost model for the Network environment which has been leveraged for the Network Analysis.

Figure 1: Network Framework

Network Framework

👥 **Personnel**	⚙️ **Hardware**	🔌 **Software***	📡 **Network Transport**	↑ **External Services**
• Engineering • Management and Administration	• Routers • WAN Appliances • PBX and IPT • Switches and Appliances (Office LAN and Data Center LAN) • Wireless Access Points/ Controllers • Load Balancers • Network Management	• Data and Voice Network Management • IP Address Management	• MPLS, Internet Access, Ethernet, Hybrid/xDSL/ Leased Lines, DWDM/Dark Fiber/Satellite, Secure VPN Access • Outbound and Inbound Usage • Private Voice Networks • Inter-data Center Connectivity	• Traditional and Cloud (Private and Public)

*Includes SaaS
Source: Gartner (2022)
ID: 779723

Gartner

General Information

Business Metrics

The enterprise Revenue and Operating Expenses associated with the business units supported by the IT organization This section should be answered based on the latest 12-month actuals available.

Company Employees

The count of employees (i.e., headcount excluding contractors or consultants) on a full-time equivalent basis, regardless of whether these employees are frequent users of the technology supported by the IT organization. This includes full-time and part-time employees, or as reported in the public record.

Definitions for Total IT Spending and Staff, Revenue, Operating Expenses, and Company Employees can be found in IT Key Metrics Data 2023: Industry Measures — Framework Definitions.

Network Staff

Staff should be reported as full-time equivalents (FTEs). FTEs should be measured in calendar time. For example, an individual who works full-time on an assignment for one full year would be reported as 1 FTE while an individual who was employed for six months of the study period would be reported as 0.5 FTE. Do not subtract such activities as vacation time, sick days and administration time. Do not count any one physical person as more than one FTE (for example, due to overtime). FTEs are assigned to services based on the functional definitions provided. If an individual or group performs more than one function, FTEs may be prorated between services and/or functions based on client estimates of time spent in each area.

Insourced IT FTEs are defined as FTEs who are employed by the IT organization (excluding contractors). Contractor IT FTEs are defined as FTEs who are supplemental to your staff and are "operationally" managed by the in-house staff.

Service Definitions

Personnel

Annual spending for Network internal staff and contractors includes salary, overtime pay, benefits and "other" employee costs such as job-related travel and IT training. The "benefit load" should include costs for bonuses, paid holidays, vacations, medical/dental coverage, life and accident insurance, retirement plans, stock plans, disability, Social Security, unemployment compensation, dependent care, tuition reimbursements and employee assistance programs (for example, physical exams, exercise programs and similar).

For contractors and consultants, include all compensation that was paid directly to the individual or agency.

Do not include the spending related to human resource department staff allocations, early retirement incentive bonuses and internal "cross-charges" for corporate overhead such as for the chairperson's salary.

Functions include:

- **Engineering**

Network Support (Break/Fix): This is defined as technical support for the recurring, day-to-day activities that are required to keep Network infrastructure components functional and operational (i.e., break/fix) including these items: Tier II Support: This refers to 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 private network facilities. This provisioning also includes making needed connections to client owned hardware (e.g., PBXs, routers).

Change Management (MAC work): This category is intended to capture the costs for those FTEs that are coordinating, tracking and implementing customer-initiated Network MACs (Moves/Adds/Changes).

- **Management and Administration**

Hardware

Annual capital and operational expense, maintenance, installation and taxes, as appropriate, for all storage hardware assets including: Wide-Area Data Network: Multiplexers, Satellite Equipment, and Backbone Routers and Bridges Wide-Area Voice Network: Switching and Routing — Tandem Switch Terminating — Microwave, Satellite, Compression, Multiplexer/Channel Bank, PBX Network Interface Cards, and CSU/DSU (d-mark) Internet Access Services: Accelerators Local-Area Data Network: Switches and Routers: 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 personal computing devices to the LAN serving the site.

Software

Annual license and maintenance costs, as well as capital costs associated with new purchases and upgrades for all Network management software. Note that Network monitoring software is not included here as it is in IT Operations Management.

External Services

The provision of non-cloud-based sourcing solutions through an external vendor is a representative example of External services also known as "Traditional outsourcing" and includes the provision of Network by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP). Refer to the Circuits definitions above for further details.

Network Transport

Connectivity Bandwidth represents all data and/or integrated data/voice circuits available or consumed which are provided by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP) that provides telecommunications services such as telephony and data communications access. These circuits are typically measured in multiples of bits per second, channel capacity, or the maximum throughput of a logical or physical communication path in a digital communication system.

Voice Circuits represents all dedicated voice circuits available or consumed which are provided by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP). These circuits are typically measured in multiples of bits per second, channel capacity, or the maximum throughput of a logical or physical communication path in a digital communication system.

DIDs represents all Direct Inward Dialing (DID) telecommunication services offered by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP) to subscribers who operate a PBX or VoIP telephone system. The feature provides service for multiple telephone numbers over circuits to the PBX, gateway or voice processing server, and transmits the telephone number so that the extension is directly accessible to and from a PSTN caller outside an organization's voice network.

Inbound 0800/0300 represents all dedicated inbound toll-free voice circuits available or consumed which are provided by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP). A toll-free telephone number is a telephone number that is billed for all arriving calls instead of incurring charges to the originating telephone subscriber. For the calling party, a call to a toll-free number from most telephones is free of charge.

Outbound represents all specialized outbound voice circuits available or consumed which are provided by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP). This type of Outbound calling is often initiated by contact centers using auto dialer or predictive-dialer applications.

Mobility Plans represent all company-paid mobile/cellular phone plans (including both voice and data services) available or consumed which are provided by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP). This includes all monthly mobile phone charges paid for or reimbursed by the company but does NOT include the cost or financing of the mobile phone itself (e.g., iPhone, Android, etc.)

Private Network Connectivity represents all data, voice and/or integrated data/voice circuits available or consumed which are not provided by a telephone company, telco, telephone service provider, telecommunications operator or communications service provider (CSP). This connectivity is provided on company-owned fiber/copper (aka "dark-fiber") facilities and uses associated company-owned and company-managed communications switches and equipment. These circuits are typically measured in multiples of bits per second, channel capacity, or the maximum throughput of a logical or physical communication path in a digital communication system.

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.

Network Workload

Number of users includes the average number of people with access to your network over the period of a year in the following categories:

- Employees — Indicate the count of employees accessing your systems

- Contractors — Indicate the count of contractors/consultants accessing your systems

- Federated Users — Indicate the count of business partners accessing your systems

- Guests — Indicate the count of guests accessing your systems (other headcount than those noted above)

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

"IT Key Metrics Data 2023: Working with IT Budget and Comparison Tools"

"IT Key Metrics Data 2023: Infrastructure Measures — Network Analysis"

"I&O Forward — Leading the Next Phase of Growth"

"Research Roundup for Modernizing Infrastructure and Operations in a Hybrid World"

"IT Score for Infrastructure and Operations"

Evidence

This research contains the standard consensus model and IT performance measurement framework as defined by Gartner Benchmark Analytics. To learn more about Gartner Benchmark Analytics contact your account executive or email us.

Document Revision History

IT Key Metrics Data 2022: Infrastructure Measures — Network Framework Definitions - 16 December 2021

IT Key Metrics Data 2021: Infrastructure Measures — Network Framework Definitions - 18 December 2020