Gartner

Research

Publication Date: 24 June 2005 **ID Number: G00128017**

How to Structure a World-Class Networking Organization

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A well-designed organizational structure is vital for efficient operations. IT leaders must separate key network roles, such as help desk, planning, operations and security, to make a real difference to their businesses.

WHAT YOU NEED TO KNOW

Proper structuring within the network department can make the difference between run-of-the-mill and a world-class communications function. It is critical to separate responsibilities for planning, operations, security and supplier management. A multilevel support organization should be designed to separate daily operations from any future direction, although these teams should report to a common head to ensure end-to-end service.

ANALYSIS

Network and communications infrastructure commands a large portion of the IT budget. The exact amount varies from industry to industry, but it is between 15 and 30 percent for nearly all companies. Networking is a critical function that is not merely necessary, but is often transformational — supporting business change in dramatic ways. Technology is only a part of the solution: it is the people who plan, implement, design and operate networks that truly make a difference to the business.

Getting the most from investments in personnel is critical. Staffing is a large part of the networking budget, often second only to telecommunications carrier expenses. Further, it is a fixed expense that is not declining at the same rate as other costs like transport, management, equipment, software or support. Personnel costs will, over time, become a larger percentage of the overall budget and must be a target for efficiency, especially through standardized processes and greater automation.

Proper organization of the networking group is important to the effective use of limited staff numbers. The right organizational structure lets individual contributors get their job done. It fosters teamwork, enhances customer support, and provides leaders with necessary feedback to manage and set direction. It establishes paths for better communication and collaboration between team members into other units of the IT organization and fosters tighter relationships with customers. The structure is also designed to maintain a clear separation of responsibilities when necessary, for example, between network engineering and security or help desk. A well-structured networking department is not an absolute guarantee of success, but, if it is not organized properly, IT services can be badly affected.

Signs That Organizational Structure Is Not Working

So while there is no "perfect" structure, there are some key indicators of a dysfunctional organization. These include:

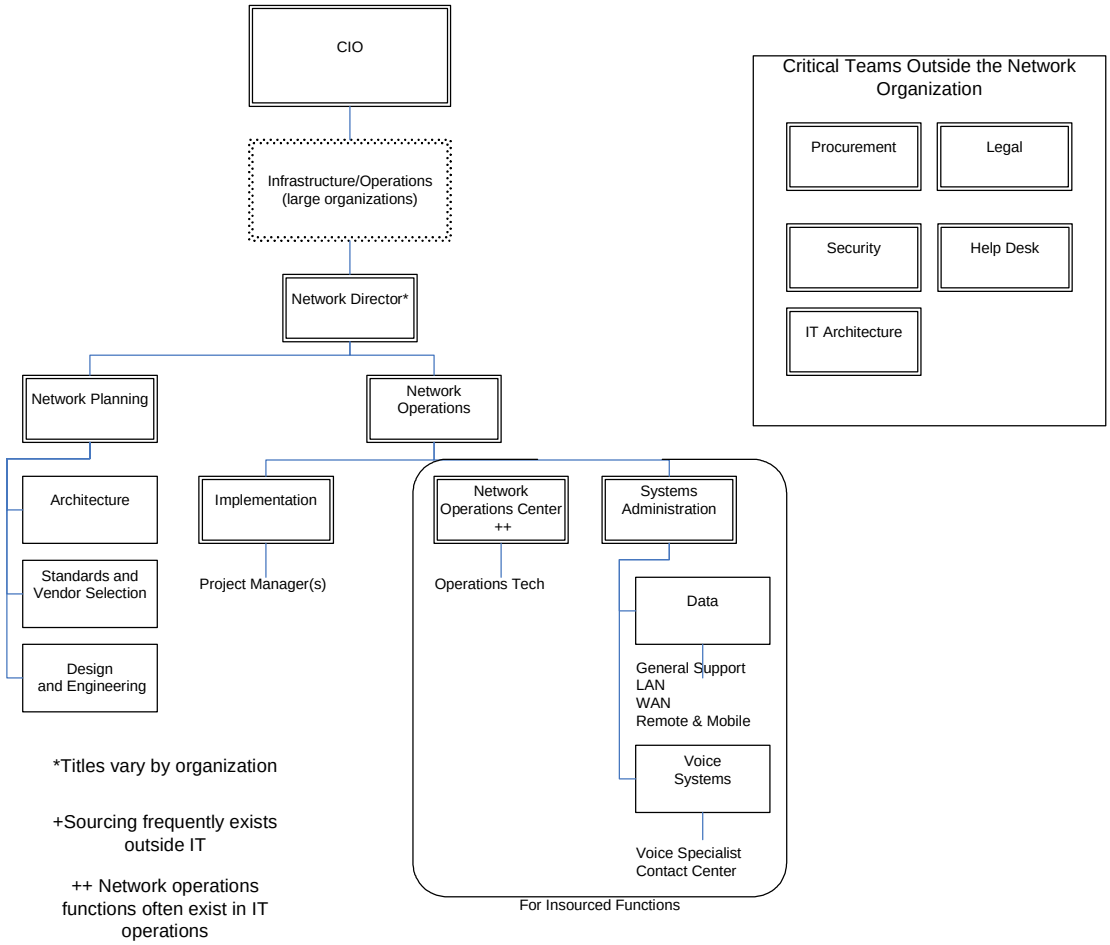
- **Imbalanced workloads.** Organizations that rely too heavily on individual contributors have problems scaling support. This approach also fails to develop other staff members properly. It is then difficult to fill in the gap when that individual leaves.
- **"Pager fatigue."** Technician overload and burnout is often the result of inadequately planned staffing.
- **Long delays in service.** Project targets are frequently missed if all staff members are involved in "fire fighting."
- **Low morale** due to an overstressed and underappreciated team.
- **In-fighting between organizational groups**, with an atmosphere of territorialism. Breaking down barriers to communications between groups is especially important for

network convergence — that is, to ensure a common infrastructure for data, voice, video, wireless, mobile and storage, for example.

- **Operating in a constantly "chaotic" or "reactionary" mode.** Organizations that do not devote energy to consistent and standardized processes fail to achieve performance results.
- **An inability to adapt to change.** Networks have to evolve to meet new demands. Organizations find it easier to "do things as they have always been done," and miss big opportunities in, for example, mobility, workplace flexibility, convergence and intelligent networks. Occasionally, the more capable, experienced network staff can refuse to change, and may themselves be barriers to adopting new technology.
- **Lack of documentation** of current standards or configurations.
- **Inability to satisfy management** that its infrastructure investments are returning results.

Figure 1 shows a generic organizational structure for an network typically supporting a mid- to large-size IT organization. While smaller companies usually rely on a more multifunctional staff or more extensive outsourcing, the noted functions must still be fulfilled.

Figure 1. Typical Network Organizational Structure



Note: Sample organizational chart only (other best-practice variants exist)

Source: Gartner (June 2005)

This example is one of many possible working models, but it demonstrates some key best practices. It should not be interpreted as the only definitively valid structure. The typical network lead — a manager, director or VP, depending on the organization's overall HR structure — reports directly to the CIO. More than half of companies also have an overall infrastructure lead reporting to the CIO. This lead has many direct reports beyond the network, as in the data center, desktop or help desk. This structure is particularly predominant among large companies.

It is essential that, as network outsourcing matures, companies place more emphasis on vendor management disciplines like negotiations, service-level agreements, contracting and procurement, and benchmarking. Most large organizations use a procurement group that exists outside the IT department, within the finance organization, for example. This organization manages the procurement process, while legal counsel is typically involved in contract negotiations. These groups are heavily involved up to the point where the contract is signed. It is imperative that ongoing vendor management and measurement must become core skills within the IT department, even as contracting is managed outside it.

Key Principles for an Effective Structure

In many respects, the organizational chart doesn't matter. Slight variations on the basic structure can still be valid. However, best-practice organizations follow certain key principles, including:

- **Separating network and security organizations.** It is essential that security planning, operations and audits are conducted by a separate organization. It is the responsibility of the network group to *follow* security policies defined by the security team, and security should be integrated at a process level into network operations. However, the network team should not be self-policing; rather, audits should be conducted outside the network organization. Likewise, over time, the security team should not have extensive operational roles (for example, in managing firewalls or virtual private networks) but should maintain control over planning, policy and auditing functions.
- **Separating network (Levels 2 and 3) and help desk functions,** leveraging other IT call centers.
- **Separating network planning and operational functions.** Long-range planning, architecture, standards and vendor selection are distinct disciplines from those required in operations. These organizations may be functionally separate, but having them report to a common networking lead (rather than, for example, putting network architecture under an architectural lead) ensures better integration and end-to-end service.
- **Interfacing with other teams** within the IT department — such as security, applications, data center and architecture — as well as with the broader organization (for example, business units). In particular, network technical architecture should fit well with the overall technical architecture developed by separate teams.
- **Planning, implementation and vendor management teams.** These are always required, even in situations where operations are outsourced. *Critical architectural roles should never be ceded to a third party.* Vendor management extends beyond procurement and contracting functions to address the full life cycle of services. Critical functions include requirements collection, vendor selection, service-level monitoring and ongoing supplier management. This team works closely with the corporate procurement or contracting department when applicable, but has duties that extend far beyond basic purchasing.

Planning Organization

The network planning organization is the major change agent in adopting new services and technology. It plays a critical role in establishing future direction, mapping business requirements to technical capabilities, and defining and documenting services. It must understand the direction of the business and the overall IT market. It is critical that the network architecture team works well with other technical groups, especially the security, IT operations, and desktop and applications teams.

This organization serves as Level 3 support, and may occasionally be involved in the early stages of critical and high-profile implementations. However, this team must never be kept in an ongoing operational role, and nearly all support functions should be handled at Levels 1 and 2.

Notable best practices include:

- **Eliminating planning silos, especially between technology disciplines.** With the convergence of technologies including voice and data, and wireline and wireless, it is critical that the planning organization spans all areas of networking and communications.

- **Interfacing with the external organizations.** Understanding the future needs of the business is critical. Large organizations may have a customer advocate role as an interface to a particular business unit or region.

- **Establishing expertise in financial planning and analysis.** This may be staffed separately, especially in larger organizations.

Network Operations

The operations organization that exists within the IT department (or can be at an outsourcer) is tasked with maintaining stable service, and is well versed in process disciplines like Control Objectives for Information and Related Technology (CobiT) or IT Infrastructure Library (ITIL). It may exist in the networking team, under an IT operations head, or be a blend of the two. It must ensure that all changes introduced do not disrupt ongoing operations and customer service. Critical functions include project management, configuration and capacity management, and change management.

Notable best practices include:

- **Supporting operations-maintained systems administration (Level 2).** Includes almost all the support that passes beyond the Level 1 help desk, and rarely requires intervention by the Level 3 (planning and architecture) team. Increasingly, Level 2 support will become multidisciplinary (see Note 1).

- **Establishing a separate implementation team with project management skills.** This group may report to the network director, but is often under the operations team lead.

- **Resourcing for vendor management.** This is a key discipline within the operations team because of the highly specialized and complex nature of network services. However, it does not absorb or replace the functions of a consolidated procurement or legal counsel office. Best-practice organizations view services over a broader life cycle, rather than merely as a periodic procurement exercise.

- **Consolidating data, voice and other disciplines within the system administration group.** The voice organization should report at peer level to the data organization, but rarely is it a completely combined team. Companies with a fully converged voice and data network still require specialized expertise in voice planning and requirements gathering, administration, voice applications and customer service. As converged networks evolve, voice specialists will be managing voice as an application with little responsibility for transport. Until 2007 or 2008, organizations will shift voice staff out of the networking group and into applications teams. The team lead must ensure that both organizations maintain a cooperative relationship.

- **Building up mobile and remote communications as a key discipline.** This may include separate staffing arrangements, particularly in large organizations. However, most companies are not staffing specifically for this function. Instead, they are building competency centers around remote and mobile services. These competency centers are made up of cross-functional teams representing infrastructure, networking, applications, procurement and the business units most affected.

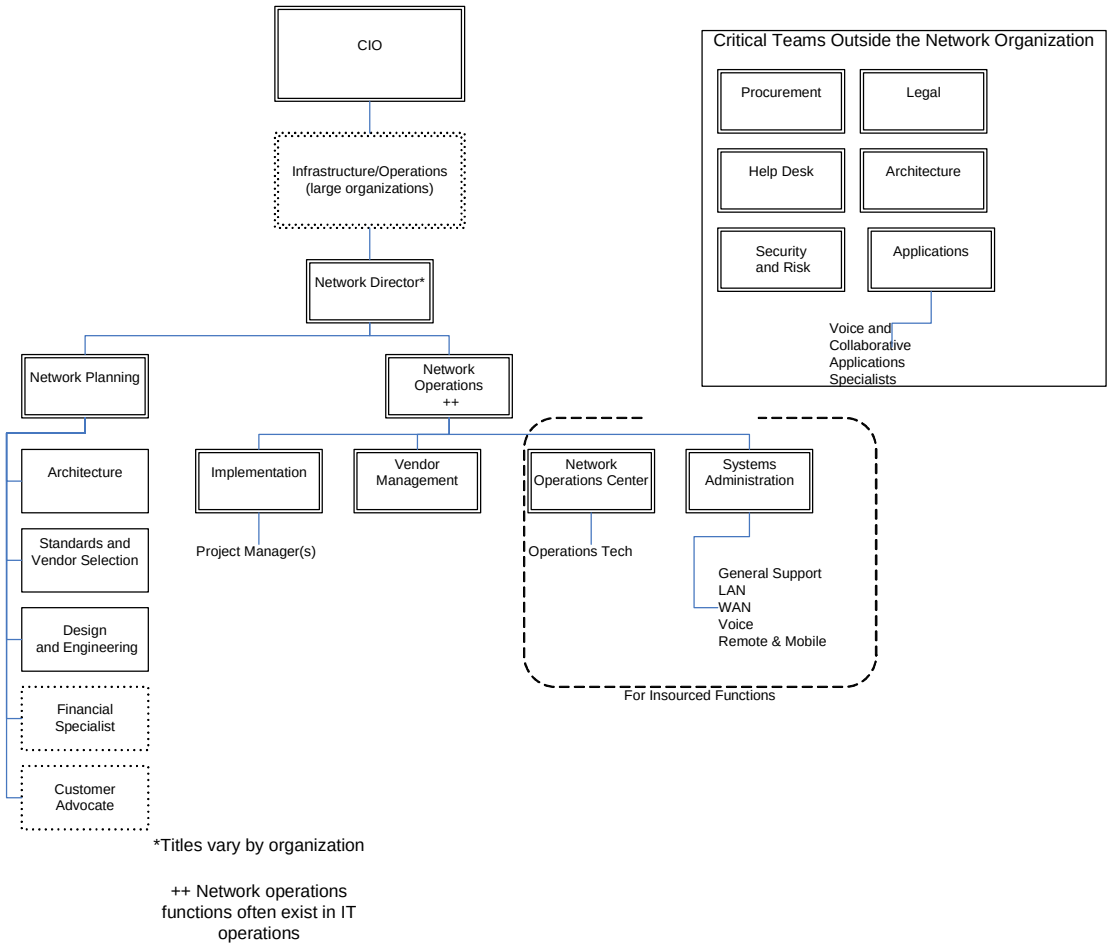
- **Setting up measurement and quality assurance disciplines.** To maintain metrics for the network department's performance, including technical quality, service delivery and customer satisfaction. This group may exist within the network organization or within a separate operations team.

The trend is toward centralizing network operations when practical. Multinationals frequently consolidate network planning functions, but may have separate, regionalized operations teams. Representatives from these geographically focused teams should also play a role in the planning process.

Future Structures

As the best practices illustrated above become more widely adopted, the network organization will undergo structural change. Figure 2 gives one such structure:

Figure 2. Networking Organizational Structure, 2008



Note: Sample organizational chart only (other best-practice variants exist)

Source: Gartner (June 2005)

Several changes are evident in the new structure, including the:

- Focus on vendor management within operations. Procurement and contracting will typically remain outside the organization, but ongoing vendor management will become more prominent.
- Migration of most voice personnel into applications groups, while basic voice transport is managed by the multidisciplinary system administration team.

- Roles of finance and customer relationship managers within the planning group.

Key Issues

What criteria should enterprise and IS leaders apply to determine optimal IS organizational models and structural design?

What roles, competencies and capabilities are required to optimize organizational models and structures?

Note 1

Key Strategy for Cost Reduction: Blended Level 2 Support

Increasingly, organizations are staffing Level 2 functions with multidisciplinary engineers, that is, those that have the basic capabilities to support LAN, WAN, server, desktop, voice, messaging and applications. This is proving to be a way of reducing costs, as well as improving service to the customer.

Recommended Reading and Related Research

"Management Update: The 'New' Telecom Manager Redefines the Mission"

"Maturity Model Enables Networking Team to Set Priorities"

"Gartner 2004 IT Spending and Staffing Survey Results"

"Organizational Chart Is Falling Into Irrelevance"

"A New Staffing Model for the Data Network"

"Outsourcing Enterprise Network Services in the U.S."

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