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THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Managed Network Services



IP VPNs



IP Telephony and
contact centres



Security



Mobility



Data centre
applications
and hosting



internet access
and WAN data
services

Can your company benefit from these managed services advantages?

- More integrated and extended IT resources
- Improved IT economics
- Increased productivity and responsiveness
- Improved risk management and business continuity

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



The move to managed services accelerates

Table of contents:

Intro: The move to managed services accelerates

The managed approach delivers stable, high performance network and IT resources – while enabling better cost models.

Part I. Managed network services in action

What managed network services are and how they work.

Part II. The business case for managed network services

An overview of 5 pressing business challenges that are uniquely addressed by managed network services.

Part III. Closer look: Seven key managed service areas

- Managed IP VPNs
- Managed security
- Managed IP telephony
- Managed hosting and data centre services
- Managed wireless and mobile computing
- Managed Web contact/call centres
- Managed WAN data services

Part IV. Choosing a managed network service provider

There is a provider for virtually every type of networking and IT requirement, for large and small companies alike.



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THE CISCO GUIDE TO MANAGED NETWORK SERVICES



The move to managed services accelerates

Today companies must cost-effectively focus technology and human resources on activities that lead to competitive advantage and long term profitability. Consequently business managers are moving non-core activities to external service providers through outsourcing of major network functions (IP telephony, WAN, VPN, extranet, etc.) or “out-tasking” of specific internal tasks (firewalls, hosting, wireless, remote access, storage, etc). This approach allows liberated internal resources to be reallocated to more strategic, revenue generating initiatives.

Many experts and leading end user organisations now agree: self-managed networks are in decline – managed services will be a major growth area for years to come. One sign of this trend is the diversity of managed network and IT services that are now being offered to large and small companies across EMEA. Increasingly, the question is: build it yourself? ...or, buy it from a provider?

Gartner, Inc. Strategic Planning Assumption:
By 2005, more than 50 percent of enterprises will source the operation and management of premises network infrastructure to external service providers.



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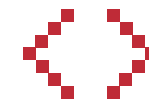
Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



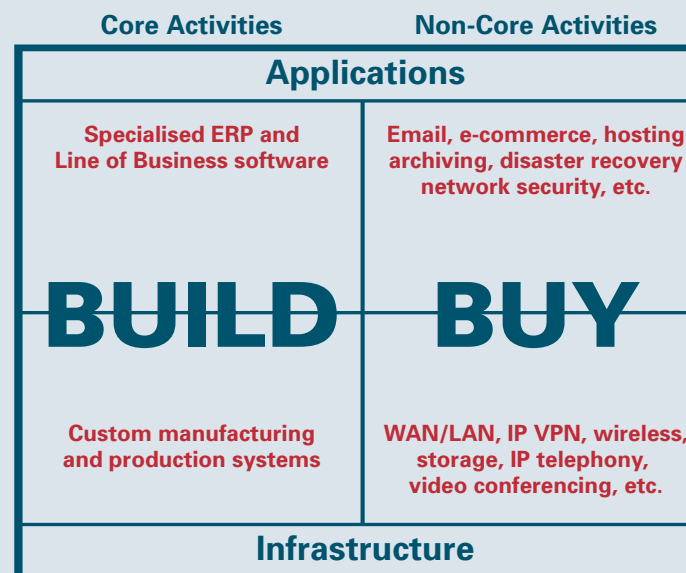
The move to managed services accelerates

What managed services are:

The list of managed services that is widely available today from EMEA service providers includes: managed virtual private networks (IP VPNs); managed business telephony over IP; managed data security services; managed hosting and servers; managed storage and backup; managed wide and local area network services; managed wireless and mobile applications; managed content caching/distribution; and a range of network-based business productivity applications that are hosted in provider data centres (Microsoft Exchange Server, sales force automation tools, unified messaging, etc).

Managed network services are proving to be an optimum solution for EMEA companies that cannot maintain the internal human resources, capital investments or management focus that is necessary to stay on top of fast moving network technologies and network-dependent applications. Service providers generally have larger and more experienced staff and more robust, reliable infrastructures. Managed service customers are freed from routine, low-level operational tasks so they can develop new ways of applying technology to yield a positive return on investment.

Diagram 1.0
Which services to build and which to buy



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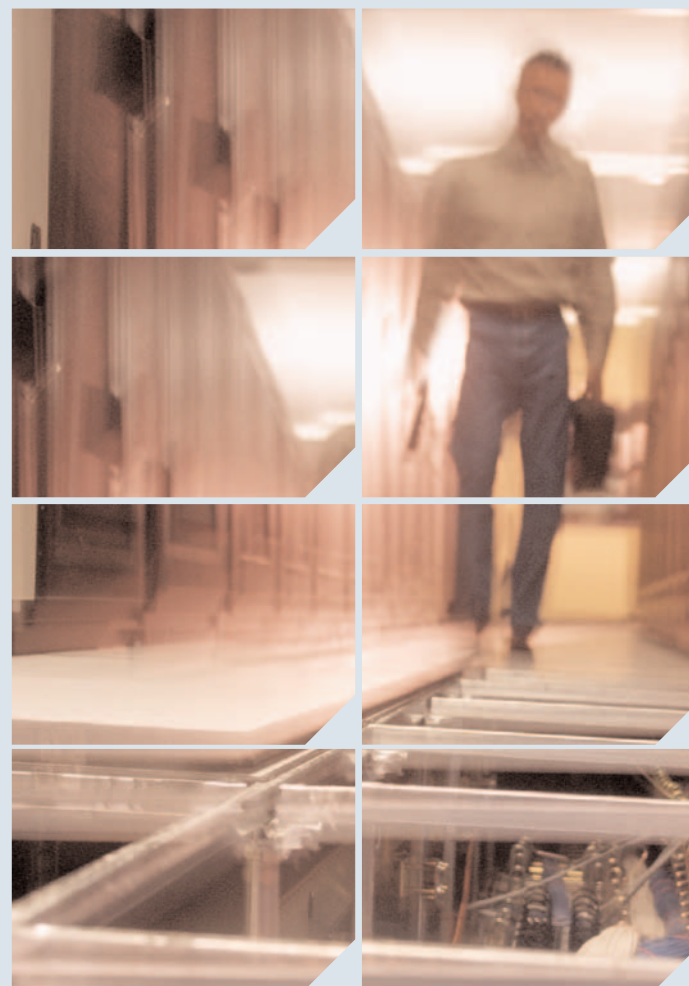


Managed services in action

Managed services can be used as a short term tactical tool for reducing costs and increasing functionality (e.g., outtasking) – which keeps existing business processes intact. Or, managed services can be used strategically as part of a major plan to integrate, reengineer or extend core business processes. This is the case when companies use the managed approach as part of a large IT infrastructure project such as a strategic e-business application, Enterprise Application Integration (EAI), Real Time Enterprise (RTE) extended supply chains or company-wide collaborative multimedia workflows. Managed services are also emerging as an important strategy for companies that must simplify and streamline the overly complex and non-standardised IT architectures that result when internal departments and business units have greatly different IT goals, budgets and technology biases. Managed services have come a long way in the past five years.

They are now an effective, proven approach for companies that want to move to an all-IP enterprise network with converged data, voice and video communications.

Rob Lloyd, President of Cisco operations in EMEA, explains the importance of this trend: “It’s not always easy for businesses to take advantage of powerful new technologies. So, many companies in EMEA are turning to managed services from telecom providers to help close the technology gap.” Mr. Lloyd goes on to say that managed services have special significance for European companies, “In Europe, managed services are somewhat ahead of other regions, with a number of service providers and large telcos offering a wide variety of packages. This range of choice gives European organisations a tremendous degree of flexibility in how they capture and harness new technologies designed to drive productivity.”



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

**Managed
Services in
action**

**Business
case**

**Closer
look**

**Choosing
a service
provider**



Managed services in action

How to start

For companies that are new to managed services, a good first step is to start by isolating a specific "pain point" ...for instance, poor email service or overloaded data storage or inadequate remote network access. With a specific problem in mind, an RFI (request for information) is used to obtain information about costs and services from one or more service providers. Providers will in some cases offer a free analysis of a customer's existing network resources, applications, business goals and cost structures. Providers can use TCO (total cost of ownership) comparisons to show the economic differences between the self-managed vs provider-managed approaches.

The consultative approach

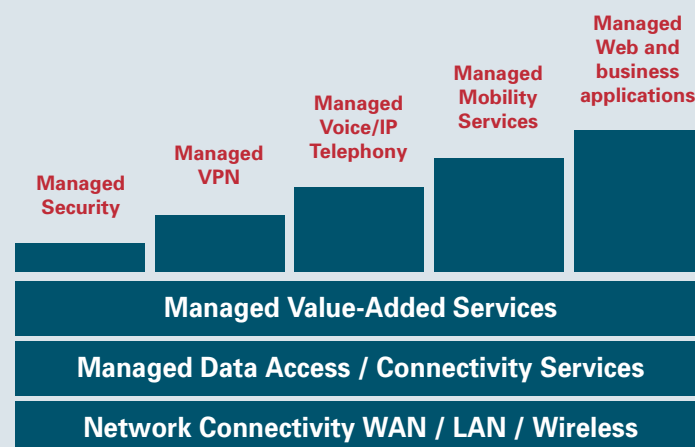
Today's managed network service providers are similar to high-end integrators that possess a large amount of hands-on IT knowledge. Today's providers

have valuable insights into network technologies, data centre operations, e-business methods and vertical applications, which large and small companies can benefit from all the way up to the director level.

With the combined knowledge and aptitudes of the provider and customer, it's possible for the managed services agreement to stipulate a number of key best practices and architectural improvements that will greatly benefit end users and applications.

Once a managed services contract is in place, the provider takes full operational responsibility for delivering a network or IT service, while the customer maintains control of its business processes and strategic direction. Typically the customer will dedicate one of more employees to liaise with the service provider.

Diagram 2.0
A managed service for every IT challenge



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



The move to managed services accelerates

Business relationship scenarios

In some cases, the provider will take ownership of the customer network/IT equipment through a formal transfer of assets. In other cases, the customer retains ownership of capital equipment that the provider manages (see Diagram 2.2). In larger projects, it's not unusual for a provider to hire a portion of the customer's in-house technical employees as part of the managed services relationship. Those staff members may work in the provider's network facilities or on the customer site.

Managed service providers are contractually responsible for such tasks as network design, installation, monitoring, fault isolation, repair, upgrades, maintenance, helpdesk, and related duties.

Performance and reliability levels are guaranteed by stringent service level agreements (SLA) that include penalties and possibly monetary or "credit" compensation for non-compliance. To achieve a service level comparable to what the provider can offer, most companies would have to greatly increase their in-house staffing levels and IT budget allocations. Managed service financial models are flexible and varied but generally, the customer pays a monthly payment or fixed fee that makes budgeting and planning much more efficient and predictable than is generally the case with build-it-yourself networks and applications.

Diagram 2.1
Reasons for out-tasking networking products

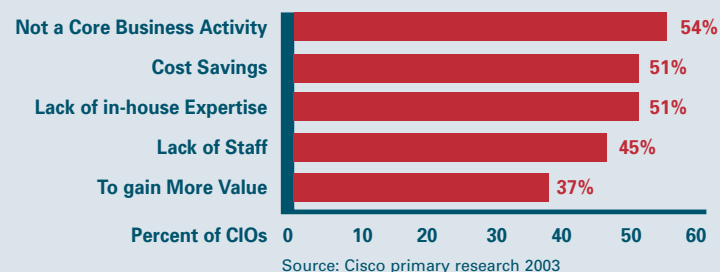
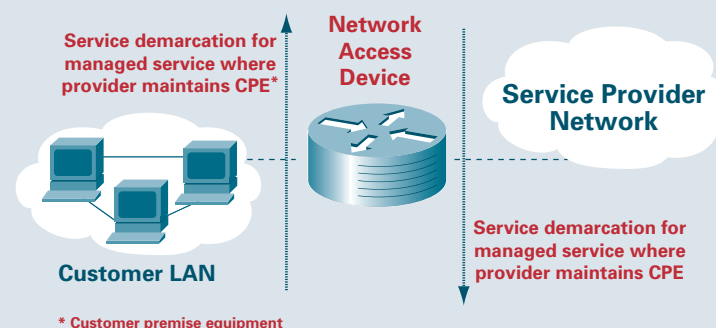


Diagram 2.2
Sphere of service provider action



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



The business case for managed network services

In the current economic climate companies must somehow decrease costs and risk exposure while at the same time achieving better IT services. A stable, secure, high performance network is essential for company profitability and competitive success – but budget allocations for large capital IT investments are often not possible. With managed services, companies can shift much of the financial burden and risk of network and IT expansion to the provider while achieving:

- **More integrated and extended IT resources**
- **Improved IT economics**
- **Increased productivity and responsiveness**
- **Improved risk management and business continuity**
- **More effective decision making**

The next section looks at how managed services generally address these 5 business and financial concerns.

More integrated and extended IT resources

The goal of integration is the coveted “fusing” of backoffice, front office and supply/demand chain applications into a business-process oriented architecture that cuts across traditional departmental and automation boundaries. In this model, when a customer wants to place an order via an e-commerce Website, the back-office inventory and fulfilment systems respond with product availability and shipping information in real time. Integration is a complex technology challenge but it can deliver massive benefits in terms of lower total cost of ownership, more streamlined network operations, faster application integration and higher network performance.

If companies are to successfully integrate internal workgroups, departments and business units, while at the same time moving towards voice, data and video convergence, the correct solution is a unified IP-based network. A company-wide IP infrastructure can integrate diverse front- and backoffice applications that have been traditionally supported by multiple parallel frame relay, ATM and private line circuits. The move to an all-IP infrastructure should take place rapidly but without disruption of users or line-of-business applications.

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The business case for managed network services

More integrated and extended IT resources (continued)

Given enough time and money, build-it-yourself enterprise integration is indeed possible, but more and more companies are finding that managed services allow them to take immediate advantage of the mature, scalable IP connectivity that already exists in service provider backbone networks. If a company wishes to integrate existing circuit networks and isolated automation “islands,” in-house technical teams must master advanced MPLS (multiprotocol label switching), QoS (quality of service) routing, BGP (border gateway protocol), dense wave optical switching and other daunting technologies.

Providers have been building converged IP networks with great intensity for several years now. By prioritising traffic flows into different classes of service, provider networks can handle voice and video over IP on the network

as data traffic. This means that companies can converge all independent data networks along with voice data and video on to a high performance provider backbone. Many providers compliment converged network infrastructure with a converged portfolio of managed data centre applications that achieve large economies of scale by sharing a common set of well managed network, IT and human resources.

Reaching out with managed services

The use of the service provider’s advanced network, data centre and knowledge resources can help companies create a “borderless” enterprise that shares business processes and workflows with trading partners and customers across the network.

When company sites are connected to the provider’s robust infrastructure, they can access a rich array of IP-based

value-added services that are offered by ISPs, e-commerce vendors, new media houses and service organisations throughout EMEA and internationally. Managed network connectivity and managed data centre resources can be used to facilitate good business practices, including business process outsourcing (BPO), e-marketplaces, extended supply chains, and “data-centre to data-centre” interactions with key trading partners and collaborators.

Gartner, Inc. Strategic Planning Assumption:

By 2005, more than a quarter of IT capital budgets in at least 70 percent of large and midsize enterprises will be directed to transforming the enterprise using external focus and agility. IT leaders should champion opportunities for IT-enabled business partnership strategies and align competencies and architecture capabilities with them.

[InSide Gartner This Week Vol. 20, No. 17 January 2004]

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



The business case for managed network services

Improved IT economics

For decades, IT and network implementations have required major investments and large amounts of fixed costs that are sunk into equipment that rapidly becomes obsolete. When companies build network and IT infrastructure with in-house resources they must deal with complex issues relating to capitalisation, depreciation, IT portfolio asset management and the financing of implementation (labour) expenses that can greatly exceed the costs of hardware and software products. In many cases financial planning is hampered by a large number of unknowns and inexact estimates regarding the scale and duration of IT improvements.

The picture is very different with managed services, which allow major savings and the opportunity to move from unwieldy capital expenditure burdens to controlled, concisely defined operating expenses. Managed services are essentially pay as you go, with set fees that are stable for the life of the contract. In some cases, providers offer on-demand or utility models, so customers pay only for services and bandwidth they actually consume. Some managed services can be paid for by the seat or by the transaction, or some other “unit” of use: megabits of throughput or gigabytes of storage, for instance. In general, managed services let companies move from rigid costs and debt service burdens to flexible “virtual asset” models, greatly reducing financial complexity and uncertainty in the IT planning process.



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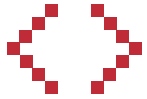
Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



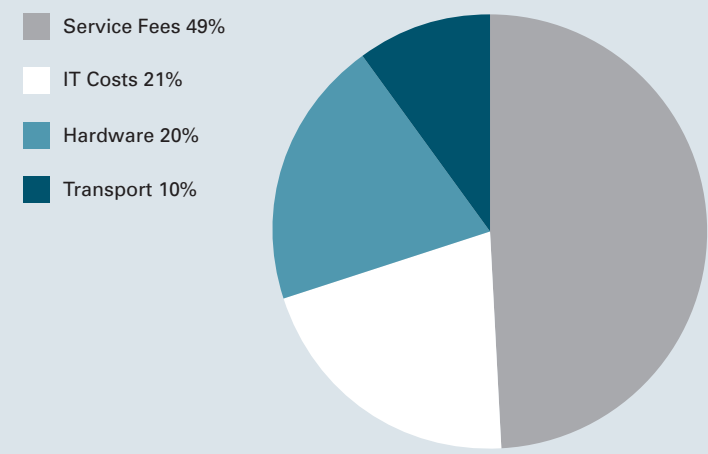
The business case for managed network services

Improved IT economics (continued)

When Gartner conducted in-depth interviews with 10 midsize and large enterprises, they found cost savings in the range of thousands to millions of Euros. Gartner found that managed network service customers:

- **Accrued an average of €225,000 worth of benefits per year from improved availability**
- **An average 85 percent reduction in critical faults, and 65 per cent reductions in total faults**
- **Increased customer satisfaction**
- **Improved change management effectiveness and efficiency**
- **Predictable performance and support costs**

Diagram 3.0
Typical recurring cost reductions with managed services



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The business case for managed network services

A closer look at cost reductions from managed services

Based on numerous case studies by Cisco Systems, it's been determined that companies typically realise cost advantages from managed services in four primary areas: service fees, IT costs, hardware costs and transport costs (see Diagram 3.0). For instance, when a conventional PBX is replaced with a managed IP telephony system, the customer is no longer "locked into" large periodic management fees that are normally paid to the PBX vendor. There is also typically a substantial reduction of costs for PBX moves, adds and changes because these routine tasks are accomplished at a fraction of the cost in the IP environment. Managed services can also reduce service fees in other areas, for instance in the area of specialised data centre equipment maintenance and management fees.

Reduction in IT and hardware costs are possible because of a shift of major IT staffing and equipment outlays to the provider, who can make more efficient use of resources by load balancing them across numerous managed services customers. Reduction in network transport costs occur because internal staffs are no longer responsible for time consuming routine monitoring, maintenance, and upkeep of network connectivity throughout the enterprise. Also, consolidated and provider-managed network access links can reduce the large monthly telecommunications charges that are associated with multiple parallel frame, ATM or leased line circuits.

Managed services can create significant savings because they leverage the powerful economies of scale that many network service providers enjoy. Providers buy the most robust and up to date technologies, they have shorter replacement cycles, and they can distribute the cost of core infrastructure equipment, software and other resources across multiple customers. By hiring the most qualified and experienced network and IT engineers, providers create an internal knowledge pool that the typical end user company cannot cost justify.

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



The business case for managed network services

In general, managed services enable a much more economical, streamlined and predictable IT financial model by:

- **Reducing large capital investments**
- **Reducing maintenance and operations costs**
- **Reducing internal IT staff and service head count**
- **Reducing lost revenues due to downtime**
- **Leveraging provider's economies of scale**
- **Providing predictable costs for technology**

Although they are well documented, the cost advantages of managed services will vary from company to company. Companies with distributed operations involving a number of remote sites and users will benefit considerably from managed network services. Companies without a great deal of internal IT or network expertise can

also realise strong economic benefits from managed services – managed services are less expensive than building a sophisticated in-house IT and networking capability. In contrast, companies that have already built in-house expertise, best practices, state of the art data centres and VPNs will not see the same benefits.

Increased productivity and responsiveness

Companies are today under tremendous pressure to speed up their business processes so they can become more responsive to dynamic customer requirements and market changes. The goal is a “real time” enterprise (RTE) that removes internal operational and decision making delays so the company can respond immediately to external events. But when a company's network, servers, email systems, business applications and security software performs poorly, overall responsiveness decreases and business processes degrade.



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



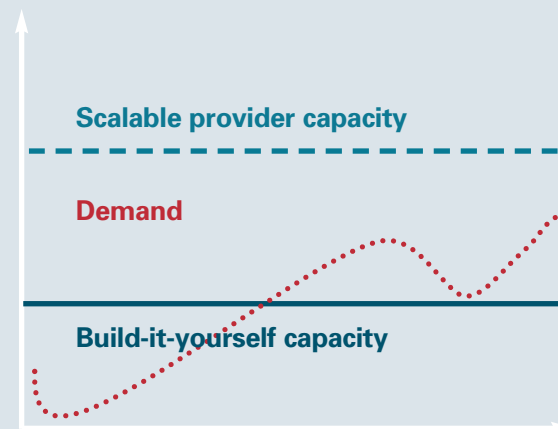
The business case for managed network services

Increased productivity and responsiveness (continued)

Unlike many existing company-built IT architectures, the service provider's robust wide area network and secure data centres are maintained with consistently high standards of performance and reliability. Service provider project teams use the latest in project-, asset- and change-management software tools. Consequently, managed services customers often experience a boost to the responsiveness of their business applications. This benefit is not surprising considering that a managed service agreement will often replace over a dozen separate IT contractor companies who are all attempting to work on their own small piece of the puzzle – a finger pointing nightmare! With managed services, project management and IT workforce efficiency are greatly improved, which can lead to a generally more productive company.

With build-it-yourself networks, the more limited capacity of network resources can be exceeded during peak traffic spikes (see Diagram 3.1). In contrast, the large capacity and highly redundant topology of the provider's backbone network can absorb unpredictable customer demands and peak seasonal traffic levels without causing business disruption. With managed services, if the access link between the customer site and the provider backbone limits performance, it can be easily upgraded in most cases without major cost or disruption. With the power of the provider's backbone and data centres supporting them, business planners can respond immediately to market and competitive demands, without engaging in lengthy self funded deployments and risky technology selection decisions.

Diagram 3.1
Comparison
of network
performance
consistency



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



The business case for managed network services

Improved risk management and business continuity

Managed services are very relevant for companies that want to move towards a consolidated risk management function that includes, company-wide risk assessment, business continuity planning and disaster recovery. Service providers offer complete backup and recovery solutions that can help companies achieve a planned response to floods, fire, industrial accidents, terrorism and catastrophic failure of IT components that can damage customer relations and reduce revenues.

In many cases, serious business continuity failures are not caused by major natural disasters or accidents. The cause is more typically a combination of unusual application loads combined with relatively minor lapses in IT, network upkeep or configuration. To avoid failures in complex multi-vendor systems,

service providers constantly monitor and manage their core transport resources and customer access networks.

By building a business plan around advanced network and IT infrastructure, providers can often achieve better network design, installation and support than a company's in-house team. Managed networks and managed applications generally deliver more stable and continuous service with less downtime, which substantially lowers the risk associated with failure or degradation of business software.

Service providers now have expertise at all levels of the IT architecture, from low level data pipes to high level applications. This means providers can address risk and disaster management

Gartner, Inc. Strategic Planning Assumption:
Through 2005, the greatest benefit offered by Managed Service Providers will be the reduction of risk, not cost.



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



The business case for managed network services

from an end-to-end and top-to-bottom perspective that looks at possible failures in terms of business processes, software, hardware and human factors. In complex, heterogeneous multi-vendor distributed systems, this holistic approach is the only way that high levels of business continuity can be achieved.

More effective decision making summary

Today's business managers are regularly challenged by unpredictable market dynamics and an ongoing series of mergers, acquisitions, divestitures, partnering, and ever changing supply/demand chain relationships. The business and financial aspects of all this change are monumental in themselves –and there are also the related IT and network issues to be considered as part of every new business manoeuvre. Acquired

networks and data centres must be deconstructed or merged into existing networks, and duplicate resources must be gracefully combined. To adapt efficiently to continual change, companies must consolidate and streamline their IT planning processes so that IT governance can be folded completely into strategic business planning and financial management.

Managed services are proving to be a major advantage for companies that are attempting to align IT management with business decision making. Managed services must be well monitored and measured if service level agreements and contracts are to be effective. Because they are well documented, managed services make network and IT departments more accountable and governable.

“Service provider business models have grown up and become better understood since the telecom boom period, and this has improved provider business viability. No longer are providers able to build/buy network, construct vague business models and hope it will pay off. Now business models need sharper focus, which makes it harder to enter the market but the result is better plans that are now in place.”

JAMES EIBISCH, IDC, RESEARCH DIRECTOR

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



The business case for managed network services

Service providers maintain sophisticated network, systems and asset management systems that create reports which can give customers a clear picture of the current and future capabilities of IT/ network resources. The result is a reduction in the uncertainties and lack of information that often plague the IT dimension of business planning. Service providers should be thought of as a knowledge partner who can help company planners make better business decisions. Providers are typically involved in hundreds or thousands of different customer IT architectures, and all this real world experience can help business planners anticipate problems and avoid possible IT and network mistakes.

Managed services can help stabilise and simplify the IT environment while delivering the advantages of better integration, collaboration,

finances, productivity, responsiveness and decision making. Using these business drivers as a foundation, we will now examine seven specific managed service areas that are available across EMEA:

- **Managed IP VPN**
- **Managed security**
- **Managed IP telephony**
- **Managed hosting and data centre services**
- **Managed wireless and mobile computing**
- **Managed Web contact/ call centres**
- **Managed WAN data services**



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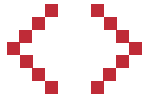
Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



A closer look – seven key managed service areas

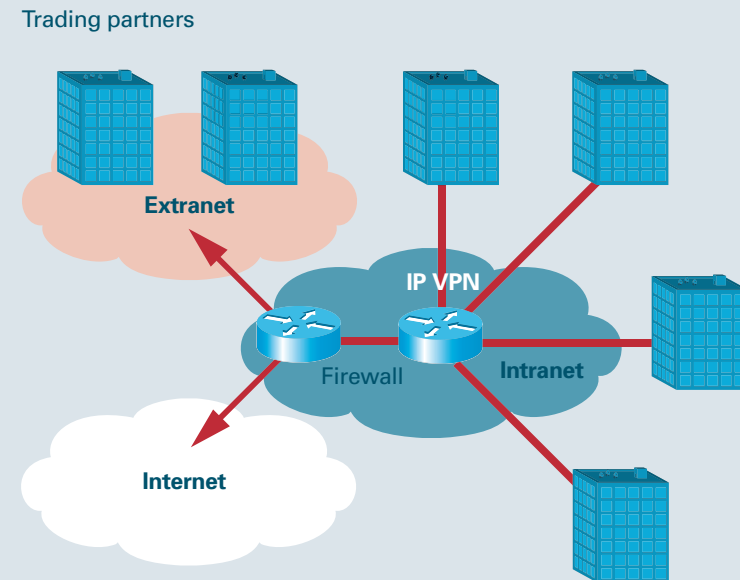
Managed IP VPNs

Managed IP VPNs are one of the most significant trends in IT today. IP VPNs can provide unified, secure, high performance connectivity for all users, remote sites, distributed applications and extranet partners throughout a company's IT architecture. In Europe, North America, and other parts of the world, managed IP VPNs are successfully replacing aging frame relay, ATM, and private line networks and in the process greatly reducing network complexity and total cost of network ownership. The expense of multiple parallel circuits to each remote site can be reduced to a single cost effective IP VPN access link.

Benefits delivered by managed VPNs:

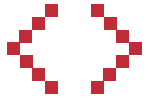
- Seamless data/voice/video connectivity between company sites
- Create a foundation for powerful distributed applications and multimedia workflows
- Improved performance, scalability and reliability – leverage the provider's world-class backbone resources
- Efficient, secure access for home and remote users
- Consolidated and simplified network infrastructure
- Reduce expensive parallel access connections
- High levels of data security and access authentication

Diagram 4.0
Intranet, Extranet and Internet access from IP VPN



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A closer look – seven key managed service areas

A managed IP VPN can transform chaotic network resources into a unified, efficient reliable communications fabric. The result is higher productivity for end users and IT staff, and more responsive business processes. Managed IP VPN contracts can stipulate that network and IT equipment must be refreshed at periodic intervals. This ensures that productivity stays high as the network keeps up with the latest technology and best practices.

With traditional frame relay, ATM and leased line networks, virtual communities of users and applications are created via time consuming, manual configuration of each virtual network. Managed IP VPNs in contrast can automatically sense when a new site has been added or removed from the company network. Because IP VPNs can automatically sense changes in network topologies, business planners have a great deal more flexibility in

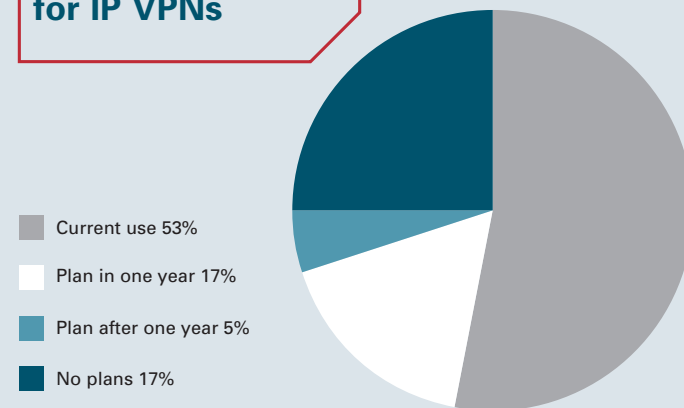
moving and repurposing processes and human resources. This level of planning and operational flexibility is not possible with existing circuit based networks. Note that managed IP VPNs accommodate both older “hub and spoke” traffic flows and newer peer-to-peer applications, so consequently they are the ideal foundation for companies that are continually redesigning business processes to adapt to changing competitive challenges.

Managed IP VPNs for improved IT economics

Traditional wide area and access networks too often become budgetary black holes that introduce hidden and unpredictable equipment/labour expenses into the financial picture. Managed IP VPNs reduce CAPEX costs and free capital for more strategic undertakings. Reduced OPEX comes in the form of lowered recurring line charges and greatly reduced labour expenses.

Managed IP VPNs traffic is secure, monitored and controlled by the provider 24 hours a day year round, so the risk associated with distributed applications is greatly reduced. VPNs can use a variety of security and encryption methods to limit the possibility of external threats to data and applications. In general, providers of managed IP VPNs can give companies a unified, dependable approach that creates an end-to-end IP connectivity solution.

Diagram 4.1
Usage and plans
for IP VPNs



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



A closer look – seven key managed service areas

Managed security services

As businesses integrate business functions and reach out to customers and trading partners through networking, there is an increasing danger that distributed systems will be compromised by viruses, hackers and other external or internal threats. The most secure IT resource in the world is a sealed data centre with no outside links. The more extended and open business networks become, the more vulnerable they are to security attacks.

Managed security is one of the hottest areas of managed services today. There is a very large range of managed security services on the market in EMEA, including security for servers, local networks, wide area networks, applications, desktop computers, wireless users and so on.

Benefits delivered by managed security services:

- **The latest security best practices, software and hardware**
- **Reduced cost and risk associated with data theft and data corruption**
- **Reduced productivity loss from downtime and network outages**
- **Proactive administrative policies to combat hacking and viruses**
- **Protection from internal and external threats**
- **Managed security can protect physical assets as well as data**
- **High performance firewalls and security resources that are remotely managed**
- **Ongoing testing and upgrading of security systems**
- **Detailed reporting of security incidences and vulnerabilities**

Security is an area that has become extremely fast moving, new threats and new threat aversion technologies are emerging every day. For instance, firewalls are being built into VPN equipment, routers, switches, and servers. The software for detecting and neutralising viruses and other attacks is advancing all the time as well. Given the enormous cost and effort it takes for a company to stay on top of security technologies, it's difficult to justify a build-it-yourself approach. In general, the total cost of ownership is very high for building in-house security measures. There is also a very high cost associated with the loss of productivity, revenue and intellectual property when in-house security measures fail.

At its best, data security is a highly proactive activity that involves constant monitoring of networks, servers and desktop computers on a continual basis. Focused security providers protect companies from increasingly sophisticated attacks with the latest anti-virus and anti-hacker tools, managed firewalls, and remote intrusion detection systems. A service provider's security teams can remotely monitor and protect all the devices on the company network from the provider's secure 24x7x365 data centre.

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES



A closer look – seven key managed service areas

Managed IP telephony

With IP-based business telephony systems and related unified business communication services, service providers are now able to match and exceed the capabilities of traditional enterprise PBX phone systems. Many companies are attracted to the large cost savings that can be achieved by running voice and data on a converged network infrastructure. But ultimately the benefits of lower costs may be far exceeded by powerful multimedia training, collaboration and customer-relations applications that are possible when phone services are augmented by computer applications and network services – the highly coveted goal of computer-telephony integration (CTI).

Benefits delivered by managed IP telephony systems:

- Major cost reductions compared to conventional PBXs
- IP telephony is foundation for a wide array of powerful e-commerce, collaboration and customer service applications
- Phone system adapts rapidly to changes in business processes and business organisation
- IP phones that can plug into any standard Ethernet hub
- Unified messaging, directories and search services
- One number calling, call follow-me, call forwarding and call filtering
- Voice mail and voice/email integration
- Auto-attendant and automated call handling

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



A closer look – seven key managed service areas

In the IP telephony approach, each user is assigned an IP address that becomes a central contact point for calls, messages, conferences, paging, and a wide range of unified internal and external communications.

An IP telephony system can deliver a very high level of functionality; it can also greatly lower recurring toll charges by routing calls across the company's data network wherever possible. Companies that are moving to managed IP VPNs are particularly good candidates for IP telephony. Business telephone systems are generally considered mission critical, with a very demanding requirement for high performance and reliability. The robust, fault tolerant nature of the provider's backbone and data centres are the ideal foundation for IP-based business phone and messaging solutions. IP phone signalling and voice calls can be routed across a managed IP VPN with great efficiency, using the VPN's native class of service capabilities.

The low jitter, latency and packet loss characteristics of managed IP VPNs ensure that voice calls will take place without distortion or disruption. The combination of IP telephony and managed IP VPNs delivers inherently strong business continuity capabilities that lower a company's risk profile.

Traditional business PBXs have a very long life cycle of up to 8 years or more. Some companies who would like to move to IP telephony and converged business communications are holding back because their phone equipment has not reached the end of its life cycle. But considering the reduced operating costs and productivity advantages of IP telephony, waiting for replacement cycles is in many cases a false economy. Savvy companies are using managed services to move as quickly as possible toward converged IP voice/data business applications.

“According to Yankee Group data, 76 percent of large European enterprises are committed to convergence of some portion of their voice and data infrastructure within the next two years.”

[TELECOMMUNICATIONS STRATEGIES EUROPE, FEBRUARY 2004, BY AMY RODGER]

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



A closer look – seven key managed service areas

Managed hosting and data centre services

For many years, data centres were considered the proprietary inner sanctums of corporate competitive prowess. These days many data centre hardware and software resources have become commodities that are best outsourced/tasked to focused network service providers. Today there is a very large range of managed data centre hardware and applications available from EMEA providers. Service providers have aggressively invested in data centre facilities, servers and personnel, allowing them to offer a lower TCO compared to self-built and managed data centres.

Benefits delivered by managed hosting and data centre services:

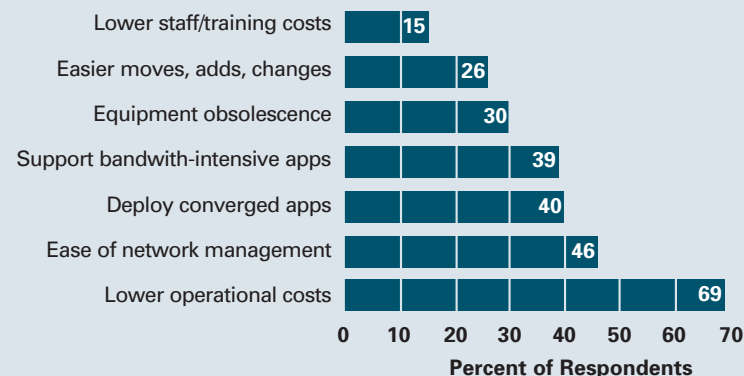
- Telco-grade data centres with high levels of performance and reliability
- Greater scalability and larger national or regional IT “footprint”

- Cost effective support Microsoft Exchange Server and other messaging software
- Major Web and database server products
- Remote storage/backup/archiving
- E-commerce markets and “storefronts”
- Content streaming and caching (CDN)
- Multimedia streaming, video multicast, etc.
- CRM and sales force automation (SFA) applications

In the managed data centre model, if applications need more network, storage or server capacity, the provider has the resources to scale operations up, so companies can rapidly respond to changing business needs.

Diagram 4.2 European enterprise drivers for convergence

Source: The Yankee Group, 2004



Communication strategies Europe, February 2004, by Amy Rodger

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A closer look – seven key managed service areas

Pay-as-you-go data centre services allow more flexibility in business and financial planning and finance, as special projects and unusual spikes in demand of customer requirements are rapidly addressed without huge investments or lag times. When companies build their own data centres, capacity is much less scalable compared to the situation where the company has an ongoing outsourcing relationship with a provider who has world-class computing resources and secure 24x7x365 operations.

There is a high amount of risk with the deployment of critical data centre applications, as can be seen in the prominent failure of major ERP and CRM initiatives. There is also high risk associated with system and network management systems that attempt to monitor, diagnose, maintain and report on all the diverse networks and devices inside a company. There have been many visible failures of integrated management systems in recent years, when companies chose the wrong products or deployment methods. With a total core focus on getting system management and data centre operations right, service providers take on the risk of deploying complex network and IT infrastructure, hence lowering their customer's exposure downtime and wasted expenditures.

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



A closer look – seven key managed service areas

Managed wireless and mobile computing

Wireless LAN and wireless WAN computing is rapidly becoming a business-critical dimension to IT. Users are travelling between offices, cities and countries with laptop computers and handheld devices that have virtually all the power and functionality of desktop PCs. Users can check their messages, look up corporate documents, query backend transaction data and keep in touch with their customers from any location. At first glance wireless computing may seem like a convenience or an employee perk, but studies have found a substantial ROI is associated with wireless computing investments, due to enhanced productivity, responsiveness, and better customer relations. Mobile computing lets companies leverage their precious internal human and information

resources in ways that would have been unthinkable just a few years ago.

As with wired LANs and WANs, wireless data services are great productivity and collaboration tools, but their deployment is not a “core” activity for most companies. Hence many managed service providers have developed complete managed wireless and mobile computing solutions that allow companies to avoid the capital expenses, complexity and deployment effort associated with mobile computing.



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



A closer look – seven key managed service areas

Benefits delivered by managed wireless and mobile computing:

- Rapid deployment of revenue generating wireless initiatives
- With the latest mobile computing tools, travelling employees are free to focus on customers, field service and field sales
- No requirement to develop internal expertise in a fast-moving technology area
- Secure provider data centres are ideal place to host mobile applications
- Provider economies of scale can mean lower TCO for managed mobile computing services
- Extensive provider help desk and support resources mean that mobile users will get the support they need for business critical mobile applications.
- Providers can often maintain, repair, and upgrade mobile resources remotely

Providers often host wireless e-mail, scheduling and sales force software in their secure data centres, where they are accessed by field workers via wireless WAN connections. Providers often own their own wireless infrastructure which allows them to rapidly deploy managed mobile computing solutions that include wireless WAN air time, mobile application software hosting, end user support, remote management and updates for mobile computing devices. In the wireless LAN area, many providers are actively involved in the deployment of WiFi hotspots for wireless VPN and Internet access in company premises and public areas. WiFi is available as a fully installed and managed service in many EMEA countries today with lower TCO and higher resiliency that is possible with the average build-it-yourself approach.



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



A closer look – seven key managed service areas

Managed Web contact centres

Before the advent of IP telephony, traditional call centres required major CAPEX and OPEX expenditures and a rigid infrastructure with fixed physical locations and assets. In contrast, Web enabled contact centres combine traditional call centre features with Internet-enhanced communications and affordable pay-as-you-go cost models. Web contact centres are a major advancement for sales, marketing and CRM departments because they allow cost effective customer support via an integrated workflow of email, phone, Web, instant messaging, fax and other human or automated forms of contact. Web contact centres deliver higher customer loyalty, reduced churn, greater customer lifetime value, and reduced sales costs.

Benefits delivered by Managed Web contact centres:

- Rapid deployment of powerful customer relations and sales applications
- Location independent – virtual assets: call centre software is embedded in provider's network
- Very flexible deployment models, customer agents can work together or separately – home, office or boiler room
- Greatly reduced Capex costs – agents can access system with standard office PCs
- Very controlled and predictable Opex costs: usually cost is per seat or by usage
- Integrates well with VPNs; leverages IP network infrastructure

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider

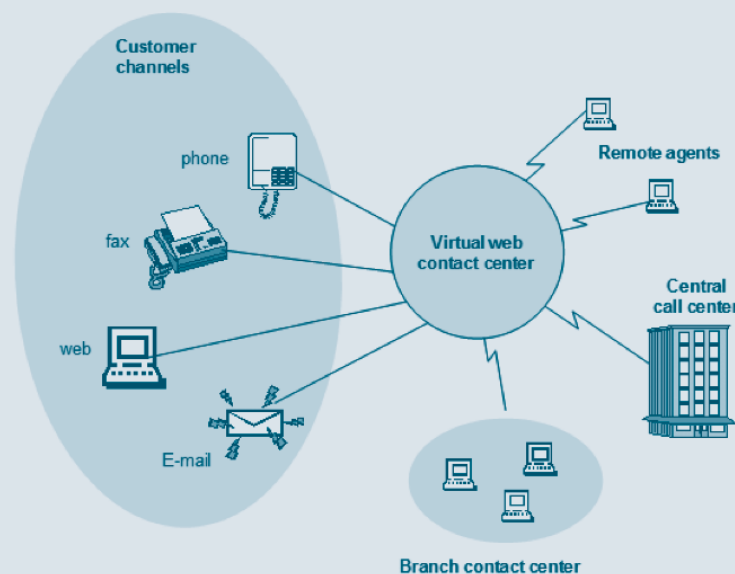


A closer look – seven key managed service areas

Companies can build multi-media contact centres themselves, but this is another network service that greatly benefits from the economies of scale and provider focus that are part of the managed services approach. Given the cost and complexity of building an online contact centre, outsourcing is very often a better option. Web contact centre software runs reliably in a provider's data centre and can be accessed by agents on any PC with a Web browser (see Diagram 4.3). The provider takes on the technology risk and financial responsibilities by making the virtual contact centre available on a subscription basis. This approach requires no special CTI, ACD or programming skills on the part of in-house company staff members.

Managed Web contact centres are complete solutions that can be up and running in a very short time. Web centres can start with as little as one agent and scale up to hundreds of agents as customer demand grows, which frees business planning and decision making from the constraints of heavy capital investments and long risk deployment efforts. Managed Web contact centres are a good choice for companies that need better customer relations but without the in-house effort of integrating e-mail, Web, CTI, messaging and workgroup collaboration tools around a central contact tracking database.

**Diagram 4.3
Managed contact centres: Rapid deployment with low capital investment**



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THE CISCO GUIDE TO MANAGED NETWORK SERVICES



A closer look – seven key managed service areas

Managed WAN data services

Given the importance of non-stop reliability for network connections between company sites, the WAN is a natural area for managed network services. It is possible for a company to purchase, install and maintain its own WAN connections, but there are very few companies that can achieve the high levels of reliability and support that a focused managed network services can provide. In addition to reliability issues, the cost aspects of do-it-yourself WAN data services are not as good as they may first appear. In many cases the hidden costs of ongoing support, maintenance, repair, configuration, and downtime are much greater than what's apparent at first glance. The TCO for managed data services is often superior to the build-it-yourself approach.

Benefits delivered by managed WAN data services:

- Lower total costs compared to self-built WAN services
- Higher reliability and enforced service level agreements for WAN links
- Providers generally have more sophisticated troubleshooting and problem resolutions resources
- Providers 24x7x365 operations mean less downtime and better end user support
- Providers will in many cases manage and maintain custom premise equipment on site
- Improved reporting and capacity planning for WAN links

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



A closer look – seven key managed service areas

Today EMEA network providers offer a wide range of managed WAN connectivity services that over the entire “lifecycle” of frame relay, private lines, ATM, metro Ethernet, and other wide area services. Service providers guarantee service levels with binding Service Level Agreements that specify minimum acceptable performance and availability. For mission critical WAN applications, providers are capable of delivering 99.999% availability for both core and access aspects of the WAN.

There are many variations but a complete package will deliver an end to end network service including edge devices, ATM switches, WAN routers, network management systems, asset and change management software, help and support functions, design, maintenance and so on. In some cases network providers will provide a managed WAN data service based on CPE owned by the customer. In the next few years, many large and small companies will begin to move key parts of the WAN network infrastructure to managed services as the total cost of ownership picture becomes clearer.



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THE CISCO GUIDE TO MANAGED NETWORK SERVICES

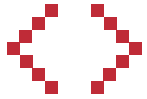
Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



Choosing a Managed Service Provider

Managed network services shift much of the design, installation and maintenance responsibilities to the service provider, but enterprise planners must make an effort to ensure that the correct provider relationship is established. The first step is to understand and define your business needs:

Internal assessment of needs

Even the most qualified and well-resourced network services provider cannot create an optimal solution if there is inadequate knowledge of the enterprise's business and technology needs. Ideally the desired goals of each managed network service should be defined, prioritised and communicated by the enterprise. The success of a managed services project can be largely affected by the up front needs assessment. In many cases service providers can help enterprises determine needs requirements before a service is specified.

Some of the key areas to look at when determining enterprise requirements are:

Number of sites and locations	Security criteria
Number of users	Risk vulnerabilities
Target applications	Budget resources
Bandwidth requirements	Projected downsizing/growth
Acceptable latency, jitter, error levels	Merger and acquisition plans
Support and help desk requirements	Strategic business and financial goals
Reliability/availability needs	Macro economic and competitive factors

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed Services in action

Business case

Closer look

Choosing a service provider



Choosing a Managed Service Provider

Step by step approach

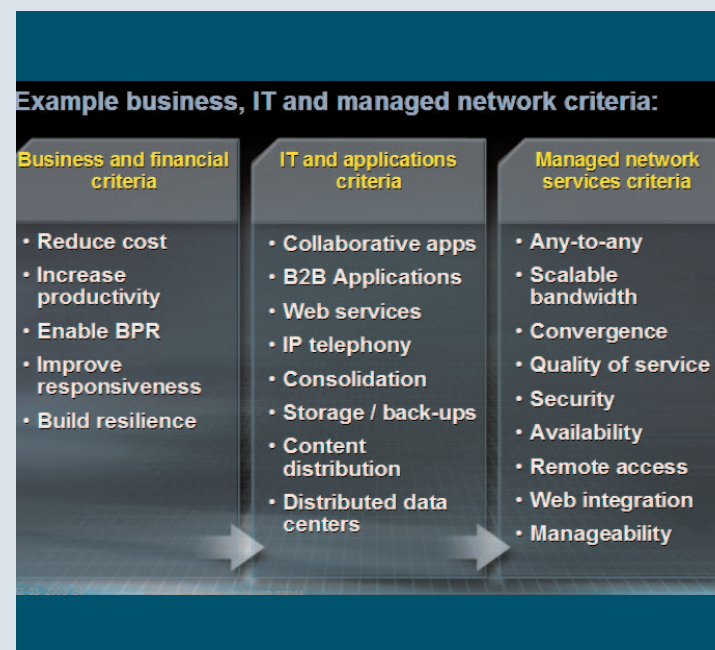
Experience shows that managed services will be more successful if business requirements are developed with a cross functional team of management, technical staff and end users. Once a company's business and financial goals are established, these should be translated into IT criteria. After IT goals and applications needs are understood, then an accurate picture of managed network service criteria can be determined. With a set of valid criteria (see Diagram 4.2), it is then possible to identify a managed network service provider with the right levels of technology expertise, transport infrastructure, geographic coverage and price levels. Using this step by step approach, companies can maximise the performance, security, reliability, and cost efficiencies that managed network services can deliver.

Provider strengths and limitations

Some carriers are more focused on network connectivity and operational excellence, while others have deep levels of IT and applications hosting expertise. Given the very large range of managed network services that have emerged, it's important that you understand the core competencies of candidate service providers. It also helps to understand the size and financial resources of your vendor. Learn the track record and history of the provider's management team and directors, and find out where their greatest strengths lie. Once you start talking to managed service providers, ask questions about how they fit your specific vertical industry needs.

Please have a look at the following page where you can find a set of questions, which help you to identify a service provider who best fits your needs.

Diagram 4.4
Example business, IT and managed networks criteria:



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Choosing a Managed Service Provider

Which service provider meets your needs

- Has the provider ever worked in your industry?
- Does the provider have experience supporting your specific business applications?
- Does the provider often work with companies that are similar to yours in size, location, etc?
- Who are the provider's business and technology partners?
- What is the financial and cash position of the provider?
- Does the provider have a good track record for customer support and SLA execution?
- Does the provider have a network backbone coverage that provides the connectivity the enterprise requires?

Service level agreement strategies

The best service level agreements (SLAs) are ones that are crafted with the end-to-end performance of key business applications in mind. An SLA should be oriented towards the specific needs of end users and applications. It is also important to make sure that SLAs have enough detailed criteria to be measurable and enforceable. An over-vague SLA is as bad as none at all. SLAs must be able to evolve and adapt as conditions in the network, applications and the managed service relationship change as inevitably they will.

Each type of managed service SLA has a different set of measurements and metrics that are relevant. For instance:

- **Managed IP VPN SLAs can include network delay, packet loss, jitter, and mean time to restore values**

- **Network storage SLAs can include metrics for available storage levels, disk access speed, levels of raid redundancy, backup/archive frequency and so on**
- **SLAs for voice over IP services can include the quality of voice calls in terms of end to end latencies, voice bandwidth, echo levels, call set-up time, call re-route time, etc.**

For all types of network services, SLAs aren't enforceable without adequate network performance information, so thorough and regular reporting on network operations should be made available by the provider. Metrics and performance goals should be end-to-end and as "close to" the application as possible – SLA values that are divorced from end application performance are of questionable value.

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES



Choosing a Managed Service Provider

In addition to performance and reliability metrics, it may be desirable to include less tangible criteria in agreements. For instance, there can be a clause about the service provider's responsibility to provide a support staff and helpdesk team with a high level of professionalism and a positive, helpful attitude towards the enterprise's employees and business goals. Whenever possible, ensure that contracts have the flexibility to be expanded/contracted using costs that are in line with expectations and budgets. If you anticipate for instance upgrading bandwidth in your access lines, get some understanding in advance how much this will cost within the framework of the existing managed network services contract.

Keep in-house talent

A world-class managed services provider gives you access to a large pool of talent and experience, but that doesn't mean that you can do without technically savvy staff internally. It takes business and technical knowledge to manage a network services contract.

The simple truth is, if you eliminate all in-house technology talent, you can't manage the outsourcing and out-tasking relationships properly. The skills of your in-house staff won't need to be as granular as before. But additional skills like contract management and the ability to analyse network reporting and accounting will come to the fore. Managed services are a good way to free up staff to think strategically and develop the service provider relationship in the direction that will most benefit the enterprise and its key revenue-generating IT applications.

Managing the services contract

Put an in-house person in place to oversee the managed network services relationship. This person will monitor service levels and make sure they fall within SLA parameters. The in-house contract manager can also ensure that the enterprise is getting the full value out of the contract, ie, that the services contracted for are actually being used. If the contract is providing an excessive or deficient level of services for enterprise needs, the in-house contract manager will be aware of this and the contract can be adjust "mid flight" or during the contract renewal process. This will avoid the situation of over-buying or under-buying network services. And it will also ensure that communications between the enterprise and provider flow smoothly.

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



Choosing a Managed Service Provider

Cisco Powered Network designation: The service provider advantage

Cisco Systems is the world's leading network equipment maker and a major force behind the development of innovative managed network services for enterprises. When seeking or assessing a service provider offering managed network services, enterprises should consider those with the Cisco Powered Network designation because they are committed to:

- **End-to-end cisco network technologies**
- **Advanced network design and planning methodologies**
- **High standards of operational excellence**
- **High standards of customer service and support**

When an enterprise chooses a provider with the Cisco Powered Network designation, there is added assurance that network applications will get the best technology and expertise possible. The Cisco Powered Network designation gives enterprises the peace of mind that network-based business operations will perform reliably – so the enterprise can focus on what it does best in the marketplace.

Enterprises can search for Cisco recommended service providers at www.cisco.com/cpn



Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



Choosing a Managed Service Provider

Why buy? – the top 10 reasons

The reasons for buying managed IT or network services are different for every organisation but some of the most common justifications are:

1. Reduction of operating and capital costs
2. Take advantage of latest network and IT technologies without losing focus on core competencies
3. Streamline, integrate and standardise network resources for more efficient business processes
4. Extend network to customers, partners and supply chain members
5. Shift risk exposure to service providers
6. Move rapidly towards IP telephony, computer/telephony integration and voice/data convergence
7. Achieve a robust, reliable IP infrastructure for advanced distributed applications, multimedia and peer to peer computing
8. Move towards a real time enterprise (RTE) by reducing delays in internal processes and information flows
9. Get better asset, capacity and fault reporting on IT and network resources... for better decision making and better IT governance
10. Virtualise IT assets.... respond rapidly to dynamic market and competitive conditions

Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider



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Build or Buy?

THE CISCO GUIDE TO MANAGED NETWORK SERVICES

Introduction

Managed
Services in
action

Business
case

Closer
look

Choosing
a service
provider