



Understanding Managed Network Services

Shara Evans highlights the important issues and gives solid advice on what to invest in.



- Types of managed network services
- Choosing the right one for you
- Layer 2 and layer 3 networks

All telecommunications services are managed services to some degree. The trick in getting the most out of your managed service purchases is to understand what suits you. Until recently, telecommunications stopped at a strict boundary, at the 'wall' of the customer's premises. What happened 'in the network' belonged to the carrier; what happened on the customer's network belonged to the customer.

Data networks are now critical to most companies' ability to function – and they're more complex than ever, often requiring close coordination with carrier services. Managed services help solve this conundrum: a service provider takes responsibility for the maintenance and

administration of the customer's technical infrastructure, including equipment purchase, configuration, monitoring and more. A managed service might cover a single key aspect of the system, a complete subsystem, or a whole-of-company outsourcing service.

TYPES OF MANAGED NETWORK SERVICES

Unless you're a telecommunications carrier, it's almost certain that you've been a customer of a managed network service at some time or other. Even the most basic service – a PSTN telephone service – depends on a carrier's ability to manage the complex interplay of technologies and networks.

When new technologies arrive, however, customers often find themselves taking a more active role in network management. For example, the advent of IP-based routed networks gave customers a way to take advantage of new technologies at a time when carriers were yet to establish their own skills or credentials in IP network management.

The other key development in managed data services is that customers can now treat their carrier services as a 'plug in the wall'. The more that IP becomes the underlying protocol for all network communications, the more a carrier's services can cover everything the customer needs.

MANAGED DATA NETWORKS

Any company that needs its data network to cover multiple offices probably has some experience with private data networks. The DIY approach to this is to choose and purchase carrier data links for each site, buy equipment to connect the office LANs to the carrier service, install and configure the WAN equipment, and devote staff and skills to the ongoing management of the WAN. The aim of the managed service is to make the telecommunications network as simple as possible: all the user should have to do is walk in, switch it on and use it.

With managed private network services, the carrier configures and manages the CPE (customer premises equipment). There are various options available such as equipment maintenance, equipment purchase or lease/rental, as well as various levels of proactive and reactive support.

Reactive support covers familiar activities such as responding to equipment failure with repairs and loan systems, and restoring system operation after a network outage. Proactive support covers activities such as backup management, scheduled maintenance, software upgrade and patch management, and network capacity planning.

Customers looking at managed network services have the choice between what are known as layer 2 and layer 3 networks. In a layer 2 service, customers share some of the telecommunications carrier's switching infrastructure, with virtual paths or virtual segments segregating customer traffic. Layer 3 services offer similar capabilities. However, customers share the same carrier routers on an IP or IP/MPLS network.

LAYER 2 NETWORKS

The layer 2 service includes traditional data network services as well as modern networks such as Metro Ethernet and national VPLS networks. In traditional networks, layer 2 data services put a relatively heavy management load on the customer.

Next-generation layer 2 services such as Metro Ethernet and VPLS still treat routing as a separate activity – but increasingly form the foundation of a fully-managed network in which the service provider manages the customer's routing as well. Customers

with relatively simple networks may well find that a managed layer 2 service, which looks and behaves like a simple Ethernet connection between different offices, is sufficient for their needs. Layer 2 services are also highly secure, make efficient use of bandwidth, and support technologies to guarantee the bandwidth available for vital network applications.

LAYER 3 NETWORKS

Layer 3 networks include internet-based VPNs, carrier-based private IP and IP/MPLS network services. Internet-based VPNs are suitable for occasional point-to-point links. While encryption makes them secure enough for corporate applications, there are no performance guarantees over the internet, making these services unsuitable for high-performance inter-office links.

Private carrier IP networks or IP/MPLS services offer the best solution for customers. If the network has only moderate performance requirements, a private carrier IP network offers a reliable and cost-effective solution. Where the network needs guaranteed and predictable performance, IP/MPLS has the ability to guarantee network performance for key applications, making it the network of choice for new carrier-based VoIP services.

From the perspective of the customer the most important difference between layer 2 and layer 3 services is which approach is most compatible with your network environment.

MANAGED INTERNET ACCESS

Until recently, companies have had to decide whether employee internet access is the responsibility of the head office or the local branch office. If internet access is a branch office responsibility, it can quickly become an administrative nightmare.

The alternative is to acquire a large internet connection at head office, and channel all internet traffic across the enterprise network to branch offices. This gives the head office IT department more control over internet usage and costs, but it demands a larger private data network and means performance of corporate applications can be hostage to download traffic on the internet service.

The managed services solution to this is to provide the internet gateway at carrier level rather than at customer level.

MANAGED NETWORK APPLICATIONS

A faster network in which all applications use one protocol (IP) and one pipe opens up all sorts of possibilities. Carriers are increasingly adding value by hosting key enterprise utility applications in their environments, and selling these applications to customers. Depending on the kind of host application, prices may be structured by usage or by user.

The key attraction of the managed network application is that the carrier almost certainly has a far more robust data centre than almost any company.

While almost any application can, in theory, be offered as a hosted service, the following examples will be familiar to the small and medium business: hosted voice, voice facility management and hosted security.

HOSTED VOICE

This is perhaps one of the fastest-growing segments of the hosted application market. Riding on the VoIP wave, the hosted IP telephony service – also known as IP Centrex – is now offered by more than 50 companies in Australia, from our largest carriers down to tiny start-ups.

Hosted voice is designed to remove the risk that customers generally associate with implementing a new VoIP application. Choosing, buying, and implementing a new service – as well as the technology associated with that service – is challenging for anybody who doesn't have specific technical expertise.

You can, however, avoid the implementation entirely, by having the whole IP telephony environment hosted by a service provider. Instead, what the customer buys is the right to use the service, usually by paying for the service on a per-user, per-feature, per-month basis.

It's important to keep your VoIP plans in mind when looking at managed network services, because some hosted voice services can only be purchased as part of a bundle with the network service.

VOICE FACILITY MANAGEMENT

Customers who still choose to purchase their own PABXs or IP telephony systems can take a different route to enjoy the benefits of a hosted environment. A number of facility managers will assume management responsibility for the day-to-day operation of the customer's system.

Until recently, this involved site visits by field service staff for nearly every aspect of the managed service. Affordable high-performance broadband has enabled a new business model in voice facility management: your equipment can be hosted in the provider's data centre. By eliminating some of the travel burden, the facility manager should be able to pass on cost savings to customers, and since the voice systems are under the constant care of the provider's engineers, systems become more reliable and outages can be fixed more quickly.

HOSTED SECURITY

Security is another application that's well-suited to the hosted model. Two security challenges in particular are stretching the capabilities of many companies: the flood of spam overloading email inboxes; and attacks (usually carried in spam emails) trying to exploit vulnerabilities in common operating systems.

Firewalls, spam filters and email protection need to be kept updated on a frequent basis – and here's where hosted security comes into its own as a network application. The service provider has the staff and the skills to keep all these pieces of the security application up-to-date, and by hosting the service on large-scale application servers, it can spread the costs of security over a large number of customers, offering a cost-effective security solution for its customers.

OTHER APPLICATIONS

The world of hosted applications is growing quickly, so much so that a comprehensive directory would be too large for this article. There are, however, a few other hosted network applications which are worthy considering:

- **Hosted email:** If you're already trusting the network provider to manage your email virus protection and spam filtering, it may be worth outsourcing the entire email system.

- **Hosted CRM applications:** Companies like Salesforce.com are revolutionising the way companies use customer relationship management software using the hosted model.

- **Hosted conferencing:** Conferencing, especially when it involves individuals from a number of companies, is another application which is well-suited to a hosted model.

MANAGED SERVICES BUSINESS MODEL

The managed services business model is built on two key foundations: the skills base, and the cost of high-quality technical infrastructure.

Most of the companies in Australia fall into the SME category – they have fewer than 200 staff, and most have fewer than 50 staff. At that size, the cost of IT skills becomes significant. If the business is operating a normal LAN, as well as a database server, various specialist applications and a voice system of any kind (either a PABX or a new VolP system), it can easily find itself needing skills sets that can't be found in a single individual.

At the same time, if any of these applications are mission-critical, they should be hosted on highly reliable servers installed in a proper computer room. Any carrier or service provider of reasonable size needs these skills on hand to run its own business, and as discussed earlier, already has many facilities with a suitable physical infrastructure. So from a hosted applications environment, the service provider's value proposition is that it can spread the costs over a number of customers.

On the network side, the business model for the customer is very simple: where a site may once have needed three connections – one for voice, one for private data and one for internet access – it can now buy a single 'hole in the wall'. The carrier benefits, by getting a 'stickier' customer relationship (it's harder to move three services than to move one), and the customer benefits through a more cost-effective and more easily-managed service.

The benefits are only fully realised, however, if you are a smart customer.

Full text available online at www.strategicpath.com.au

BUYING MANAGED SERVICES

The managed service customer has four key considerations to cover before committing to the service:

- **Understand your network:** What are your most important applications? How quickly is your network growing? Do you need business hours service or is your network critical 24/7? What costs can be eliminated by moving to a single supplier? Can one supplier deliver connectivity to all sites?
- **Understand your applications and requirements:** Do you need to keep any of your applications in-house? How much are you spending on maintaining and updating your applications? Would a hosted model allow you to move excess licenses between different sites?
- **Understand your core competencies:** One of the best arguments for managed network services is that you can focus on your core business, and outsource activities that don't add value to that core business. Also, by freeing up resources now devoted to IT maintenance, you can put more of those resources into building the internal skill sets which support your core competencies.
- **Understand SLAs:** The key to making a managed service work is to ensure that your service provider commits to service level agreements that match your requirements.