

Managing small data centres

A short guide to running secure and resilient data centres for mid-sized businesses

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A sound IT infrastructure is fundamental to today's businesses and when that infrastructure fails the consequences can be far reaching. Whether it is business-to-business, business-to-consumer or public sector organisations serving citizens, applications and the services they drive increasingly need to be available all day, every day. Many organisations find it hard to achieve such service levels. This briefing looks at some possible solutions

BRIEFING NOTE:

This briefing has been written by Quocirca to address issues faced by medium sized businesses as they become more and more reliant on IT.

The report draws on Quocirca's knowledge of the technology and business issues faced by organisations in this area and provide advice on the approaches that can be taken to create secure and robust data centres that enable future growth.

During the preparation of this report, Quocirca has spoken to a number of end users, service providers and vendors and is grateful for their time and insights.

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- **To remain competitive and grow, businesses need to be responsive to the needs of their customers and seek new markets**
Customers, whether businesses or consumers, have come to expect continuously available services from suppliers. In turn suppliers aspire to serve broader geographic markets
- **The ability to provide continuously available services is under-pinned by IT applications that today are critical to many businesses operations**
If these applications become unavailable through poor management or component failure, or if data is lost or compromised, the business suffers and customer loyalty is impacted and reputation damaged
- **For many mid-sized businesses (typically those from 200 to 2,000 employees) this can be a huge challenge**
Managing IT is not their core competence, getting sufficient expertise in-house is hard and expensive and building enterprise class data centres is impractical
- **But it can be affordable. 3rd parties can offer enterprise class data centre facilities**
Such facilities have physical security levels beyond those of most enterprises, they have robust defences against fire, flood and other disasters, backup power supplies, they are adjacent to internet backbones and the extra security of a backup failover system is possible through the use of more than one location
- **However, if a poorly managed sound data centre facility is not enough, in-house or outsourced, good IT management is a fundamental requirement**
This includes mundane tasks like asset management, backup and recovery, as well as the ability to minimise and cope with emergencies such as security alerts or disk crashes
- **To help with this, many mid-sized businesses are turning to managed service providers (MSPs)**
Through economies of scale MSPs can invest in enterprise class management tools and expertise to make sure the business applications they rely on to serve their customers remain available, all day every day

The all day every day economy

It is 40 years ago this month that Reg Varney (a one-time British comedy actor) demonstrated the first ever cash withdrawal from an ATM in Enfield, North London. This new technology would give the bank's customers access to their cash whenever they wanted it, but more importantly to the banks, it would free up their staff to focus on transactions more profitable than dishing out cash – such as providing loans or investment advice – i.e. banks would be more productive. Good for all – unless the technology enabling the new service failed.

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ATMs are an early example of technology enabling a business to transact with its customers more flexibly. In the last fifteen years or so that opportunity has opened up for almost every business, be it for transacting directly with consumers or with other businesses. The communications technology that has enabled this revolution is the internet, which has put every business and its IT infrastructure online.

Direct electronic communications has allowed businesses to transact with customers and each other 24 hours a day, 7 days a week and to address global markets. But to do this requires that the IT systems that drive it all are continuously available. Whether it is a supply chain system linking many suppliers to high street retail outlets, an e-retailer selling music direct to consumers or a software vendor providing security updates to businesses, down time – planned or unplanned – is no longer acceptable.

It is said that people are more likely to get divorced than change banks, but in other areas customers are more fickle. Whether transacting on behalf of their employer or for themselves, individuals will go somewhere else pretty quickly if a business service is perceived to be unavailable. Today, being open for business means that information technology (IT) systems are up and running all day every day.

This is challenging for all businesses and indeed public sector organisations – citizens are coming to expect the same level of service from their governments as they do from commercial organisations. Large enterprises have invested a lot in more reliable and available computing resources, smaller businesses aspire to achieve the same, but with fewer resources they sometimes struggle with this.

This briefing looks at the data centre challenge for mid-market organisations (those with a few hundred to a few thousand employees) and how they can achieve enterprise level IT availability and compete effectively in a 24*7 global market place.

The mid-market data centre challenge

For any organisation it is not one single application that drives its business processes but a combination of many interconnected applications, some old some new. An increasing number of these are now considered business critical.



Fifteen years ago many businesses would not have used email much, for those that did it would have been for internal communications. Now email is the most widely used business communications tool, and an email system put in place 10 years ago may now have also become a critical business tool, for example as a way of receiving orders. Another system, perhaps even older, may be used to process transactions taken by email and dispatch goods and update a brand new customer relationship management system so that new customers are known to the support department.

All these applications may be running on different hardware and software or may even be provided as an external service. In many businesses they will have been linked together so that the process of order taking is automated. Such processes may link to external applications run by third parties as well, for example a credit checking agency or a bank clearing system for payments.

And, this works vice versa, the business processes of 3rd parties may become reliant for their business process on applications managed by your organisation. Either way, an IT failure can affect more parties than just the business that perpetrates it.

Whilst such problems are still common place, there is no reason why this should be so. With good management, appropriate security and suitable facilities a reliable 24*7 infrastructure is achievable. This has a price, but so too does being off line.

Enterprise IT at a mid-market price

Suitable data centre facilities may sound like an expensive proposition for a medium sized manufacturing company. Its dusty machine room is years out of date, physical security is minimal – it would not be that hard for someone to break in and steal the hardware servers – and don't even ask what would happen if there was a power outage, fire or flood.



To build a small data centre that mitigated all this risk is indeed expensive. In fact you need two, ideally separated by some distance, if you want a failover capability. For this reason many mid-market organisations are turning to co-location providers who lease cages in large enterprise class data centres to organisations that cannot afford to build their own, but want the benefits of such a facility.

Their levels of physical security are such that many enterprises use them to house applications that handle customer payments in order to meet the rigorous requirements of the Payment Card Industry (PCI). They also provide backup power supplies and enhanced levels of fire and flood protection. They locate their data centres near internet backbones to ensure high speed and reliable connectivity. So at a price that is certainly a lot less than building your own, enterprise class data centre facilities are available to any business.

Generally speaking co-location providers don't mind what is put in the rented space. Whether your organisation chooses to use such a facility or upgrade its own – there is still the question of IT management. Most enterprises with their huge IT departments will generally have the in house skills to do all this. Many mid-market organisations do not. They will often be reliant on a few individuals who are unlikely to have documented how everything works and should they disappear, fixing and upgrading applications can become problematic.

But more reliable and flexible IT management services are available. The nature of these varies. Some co-location providers do offer managed services for the systems they house. But there are also many managed service providers (MSPs) who will take care of IT infrastructure on behalf of businesses, whether it is on their own premises or housed at third party data centres.

MSPs bring a lot to the party. They have a wide range of skills with experts in many fields. Making sure your Microsoft Exchange email

server is running securely and efficiently is a skilled job, but for most businesses not a full time one. An MSP can use a number of Exchange specialists to run the applications of many customers. When a problem arises they will be likely to have seen it before.

Data centre checklist

Secure and robust IT needs a safe data centre facility that is well managed, this includes:

- ◆ Resilient physical and electronic security
- ◆ Disaster protection and recovery
- ◆ Failover capability
- ◆ Backup power supply
- ◆ Always available high speed internet connectivity
- ◆ Effective asset management
- ◆ 24 hour availability

Economies of scale allow MSPs to invest in enterprise level tools to monitor and manage the systems of all their customers. They can spot problems, often before they occur and have spare parts on hand to fix problems immediately. They have close relationships with the major software suppliers and hear quickly about new vulnerabilities and how to fix them. They will create test environments for new releases to learn about quirks before going live and they will have the experience to maintain old versions, even when the vendors themselves have lost interest in them.

MSPs will document customers' systems using enterprise class asset management tools. They know what needs patching and upgrading and when is the best time to do it. They will be able to carry out most maintenance whilst applications remain live. When things start to go wrong they will know what needs fixing and where to get spare parts. They can also make sure all software licensing is compliant.

Last but not least, they take care of the mundane stuff like making sure data is backed up and, more importantly have pre-rehearsed recovery procedures. They can make sure old stuff is archived (but still locatable), filter and check content (e.g. get rid of spam) and monitor logs of firewalls, databases and so on for anomalous activity.

The benefits of outsourcing data centre management

- ◆ Economies of scale allow MSPs to invest in enterprise level management tools
- ◆ Dedicated application specialists with in-depth expertise
- ◆ Been there done it – the chances are that a new problem to you is a familiar one to an MSP
- ◆ 24*7 services – do you want a critical business application to fail in the middle of your night?
- ◆ The mundane is every day for MSPs, they have the right tools for the drudge of backup, asset management etc.
- ◆ Rehearsed recovery – how quickly can you recover a failed server or disk?
- ◆ Crystal balls – the right tools allow problems to be noticed before they have an impact
- ◆ Spare parts – MSPs carry an inventory of spare parts – no waiting around for deliveries
- ◆ Quick fixes – MSPs quickly identify which vulnerabilities are serious for their customers and apply rapid fixes.
- ◆ Failover facility – the facilities and skill to provide continuous availability for business critical apps using backup servers
- ◆ Enterprise level tools and services become affordable through economies of scale

Most MSPs offer round the clock services keeping their customers' IT running 24*7, and if an employee of an MSP is run down by a bus, someone is there to step into the breach and pick up the pieces – with everything documented this should be a much smoother process than ensues in many poorly managed mid-market data centres.

Beyond availability

Even if the key driver for investing in more robust IT facilities and management is high availability,

there are other advantages in doing all this that should not be overlooked.

First, virtualisation of storage and servers can make the overall use of IT more efficient ensuring maximum utilisation, by better sharing of physical resources. MSPs will have the skill to help with this, off-setting some of the cost of their own services in the process. More efficient use of IT also allows the green flag to be waved – but the environmental message goes beyond this.



Data centres have come in for a lot of flak in recent times for the amount of power they consume. But it should not be forgotten that 100 mid-sized businesses, sharing a single facility, provided by a co-location provider is far more efficient than 100 small inefficient managed data centres.

But perhaps most importantly, unless they happen to be a managed service provider, IT management is not the core activity of most mid-market businesses. Entrusting the task to an experienced third party and ensuring that core business activity is underpinned by a solid IT infrastructure, increases the confidence to push business processes harder and reach out to the all day every day global economy.

Is your data centre up to the job? If not perhaps it is time to do something about it.

About Symantec

Symantec is a global leader in infrastructure software, enabling businesses and consumers to have confidence in a connected world. The company helps customers protect their infrastructure, information, and interactions by delivering software and services that address risks to security, availability, compliance, and performance. Headquartered in Cupertino, Calif., Symantec has operations in 40 countries. More information is available at www.symantec.com.

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