NetCommWireless

Business Continuity & Disaster Recovery:

Maximize uptime and minimize costs

6th June 2013

Introduction

1. Aberdeen Group, Feb 2012.
2. Business Continuity Institute: 'Horizon Scan 2012'.

Business continuity and disaster recovery solutions protect businesses from disruptive events. Whether the threat is a disaster in the form of a tsunami, hurricane, flood or fire, or simply a disturbance caused by a network outage or technical fault, achieving 'always-on' connectivity is now more critical than ever as businesses become increasingly automated and reliant on IP-bases services such as Point of Sale (PoS), VoIP, Machine-to-Machine (M2M) and cloud-based systems. This increased dependence on the Internet resulted in a 38% escalation of the cost of downtime between 2010-2012[1].

Losing a network connection is a very real risk and has become a primary concern for businesses worldwide with 74% of the 459 organisations across 49 countries surveyed by the Business Continuity Institute identifying unplanned IT and telecom outages as being the number one threat to business continuity.[2] According to a recent study by the Aberdeen Group, depending on the continuity solutions in place, businesses can experience up to 39.6 hours of disruption annually. As well as affecting revenue, Internet downtime can impact productivity, customer service and reputation.

This white paper evaluates the business continuity and disaster recovery options available and looks at the benefits of using 3G/4G wireless broadband technologies to keep the business up and running.

Revenue protection

As continuity and recovery solutions have no direct link to revenue generation, SMEs often find it difficult to justify investments in this area. By quantifying the real cost of IT-induced downtime and evaluating the business continuity options available, SMEs can avoid the risk of downtime without spending more on protection solutions than what the business stands to lose.

According to a report by Aberdeen Group, the average cost of an hour of downtime for businesses is $138,000, and that figure is expected to rise as an increasing variety of business functions are managed online.

Figure 1: Time to Recover from Business Interruptions

Source: Aberdeen Group, February 2012

Yearly Cost Metrics	Best-in-Class	Industry Average	Laggards
Business interruption events	.3	2.3	4.4
Time per business interruption event (hours)	.1	1	9
Total disruption (hours)	.03	2.3	39.6
Average cost per disruption	$101,600	$181,770	$99,150
Total cost of business interruption events	$3,048	$418,071	$3,926,340

To determine the best solution for your business, it is important to quantify the effect that each hour of downtime will have on profitability, productivity and customer satisfaction. Even a short disruption can have a significant impact on retail outlets and other businesses that operate in an increasingly cashless economy. With online shopping now achieving a significant share of retail trade, the survival of traditional retailers depends more heavily than ever on the ability to process EFTPOS sales without disruption.

Cloud cover

3. InformationWeek. Cloud's Role in BC/DR. Dec. 2011.
4. 3 Cloud-Based Disaster Recovery Barriers And Drivers In The Enterprise, Forrester Research, 2012

Businesses are fast moving their systems to the cloud for a flexible, efficient and economical alternative. As well as offering lower costs, easy data sharing, scalability and simple upgrades and installation, the cloud is replacing outdated disaster recovery practices such as shipping data to another physical site or putting disaster recovery data on a storage device.

The cloud is increasingly used for disaster recovery as a service (DRaaS), backup and business continuity with InformationWeek reporting that 23% of respondents have already incorporated cloud services into their business continuity and disaster recovery strategies and 28% indicated they would do so by mid 2012[3]. Forrester Research came to a similar conclusion having found that as many as two thirds of enterprises surveyed have adopted, or are interested in, DRaaS[4].

With reliance on the cloud at an all time high, guarding against the threat of network failure is essential. If the Internet connection is lost, so too is access to the cloud.

Keeping the network connection up and running is also important for Machine-to-Machine (M2M) applications which are moving to the cloud thanks to the incentive of scalability, performance and the reduction of upfront investment barriers.

Comparing the options

In today's around-the-clock business environment, maintaining a solid Internet connection in the event of primary connection failure is vital. Should the primary interface (which is most often a fixed line ADSL, cable or fibre connection) fail, Internet-critical businesses can confidently sustain their revenue and uphold their reputation by using a wireline or wireless continuity and recovery solution. Before selecting between the two options, is important to weigh up the cost, practicality, mobility and reliability differences in relation to your business requirements.

Wireline upgrade or redundancy

A wireline backup connection can be achieved by upgrading your network technology or by adding service redundancy. Upgrading from an ADSL or cable service to a leased T1 (also referred to as a T-carrier line) or T3 (or DS3) network technology offers fast and reliable connectivity, but the high leasing cost can make it difficult for SMEs to justify the expense.

Although a leased line offers superior data transmission rates, it is still a single line with no redundancy and does not offer protection against the risk of natural disasters, power outages or accidents that cause physical line damage. This option is not generally suited to businesses which are dispersed across different locations or that operate at temporary or outdoor locations as the cost of running the line would outweigh the benefit.

T1 and T3 lines are best suited to large corporations, hospitals or universities with mission-critical equipment at a central location. As the leased line remains susceptible to the factors that can contribute to material line damage, deploying an alternate wireless backup is recommended.

Another option is to add network redundancy for cover in the event of primary connection failure. While purchasing a separate ADSL or cable Internet service from another provider may protect against outages and other potential problems from the carrier's end, it remains susceptible to the issue of line damage and does not allow the connection to be moved, thereby making it a costly option for businesses that operate from different locations.

Wireless failover

5. Garner. November 2011.

Progressive businesses have long recognized the economical and practical benefits of using wireless technology for a fully redundant solution. 3G/4G mobile broadband offers a failover solution that can be cost-effectively deployed across multiple sites, making it a flexible backup option for businesses that operate multiple food outlets, retail stores or business branches. With 30 per cent of midsize companies expected to have recovery-in-the-cloud services in place by 2014[5], 3G/4G failover offers an economical complimentary solution.

What is failover?

If a business has a wireline and mobile broadband connection available, a 3G/4G device featuring automatic failover will switch from the primary wireline connection to 3G/4G, or vice versa, by constantly sending a signal to an outside IP address to determine whether the primary connection is active. If the device detects that the primary connection has failed for any reason it will automatically revert to the backup connection, ensuring maximum uptime.

Wireless failover delivers genuine redundancy as it is immune to any potential threats to a wireline. As with most risk minimization strategies, diversification is highly effective and in this case, diversification is achieved by deploying backup infrastructure that is completely separate to the primary line because the event that causes damage to the wired connection is unlikely to interrupt a mobile broadband connection.

Optimal failover

Business continuity or disaster recovery objectives can be achieved using a device that supports automatic Internet failover to 3G or 4G/LTE when the primary wireline connection is lost; or by allowing you to establish a primary 3G or 4G/LTE connection and switching to ADSL or fibre in the case of a disruption.

NetComm Wireless develops high-speed 3G/4G WiFi devices with redundant connectivity to ensure a constant connection by periodically checking access to a user-configurable Internet host. Once connectivity resumes via the WAN connection, Internet access will immediately revert to the WAN port, thereby eliminating the burden, cost and risks of manual activation.

When selecting a 3G/4G WiFi device, it is important to know what to look for both in terms of failover and the other features needed to keep the business up and running when the lines are down.

Connection selection

For maximum flexibility select a device that offers alternate connection options through the integration of an ADSL2+ or Gigabit (WAN) and 3G or 4G LTE in a single device.

Configuration backup and restoration

Restoring the system configuration is an important component of disaster recovery. In the case of power failure, for example, a device that features configuration and restoration management will ensure that the settings are automatically restored following a disruption.

Keep everything connected

To ensure that all devices on the network remain connected in situations where there is no access to wireline services, it is important to select a wireless device with the capacity to create a high-speed WiFi network for multiple devices such as laptops, tablet computers and smart phones on a single data plan.

If PCs, media players and other higher bandwidth devices are used in the office, it is important to ensure that the backup device features an Ethernet port for wired connectivity. And, if required, a device that features a USB port will keep networked printers and mass storage devices connected.

Security

Data breaches and cyber attacks can compromise access to business-critical applications and have been identified as being two of the top five threats to organisations worldwide based on their own risk assessment[6].

As well as providing the security of automatically connecting to an alternate connection should the primary connection fail, NetComm Wireless' devices come equipped with advanced security features such as VPN pass-through support for connections over the public cellular network and WEP, WPA and WPA2 encryption for secure WiFi.

Other security functions include stateful packet inspection, packet filtering and denial of service protection.

6. BCI. 'Horizon Scan 2012' surven of 458 organizations across 49 countries.

Case Study

Second Cup: a second connection

Issue: Achieve business continuity across a nationwide network of coffee cafés for undisrupted debit terminal uptime when the lines are down.

Solution: Deploy a portable backup solution with automatic failover to maintain a high-speed Internet and telephone phone connection across multiple devices wherever 3G coverage exists.

Benefits:

- Portable high-speed 3G primary or backup connection
- No fixed line (ADSL, cable, fibre) requirements
- Automatic failover to 3G when the primary fixed line connection is lost
- Wireless LAN network for up to 15 devices on a single plan
- Connect a standard analogue phone to make calls over the cellular network
- Connect wired devices via the Ethernet LAN port
- Ethernet WAN port for alternate fixed line connectivity
- VPN pass-through support for secure connections over the public networks
- Simple setup

Second Cup Ltd is Canada's largest franchisor of specialty coffee cafés. What began as a modest whole bean coffee kiosk in 1975 has grown to become a second home to hundreds and thousands of guests every day. With over a million coffee and tea beverages sold across 350 cafés every week, maintaining business continuity is critical.

As a business that has built its reputation on coffee integrity, and by providing the best possible café experience, Second Cup is committed to ensuring customer satisfaction and efficiency through seamless service and a flawless flow of debit transactions.

After exploring the most effective way to avoid disruptions caused by phone line, cable or modem failure, Luke Weagant from Second Cup Ltd selected the NetComm Wireless HSPA+ WiFi Router with Voice (3G27WV) for a smart, simple and portable Internet and telephone phone backup solution across all stores.

"The 3G27WV is a simple, all-in-one portable backup Internet solution in a box. We use the devices as backup Internet connections during network outages, primarily for debit transactions in our stores. We keep roughly one device in every province, and ship them to stores when needed. In the event of a phone line or cable going down, or when a modem dies, the 3G27WV ensures that the store can continue to process debit transactions," said Luke Weagant.

Any disturbance to business continuity can have a damaging impact in terms

of cost, productivity and credibility, so the need was for a device that minimises downtime by providing undisrupted Internet and phone connectivity, even in the event of fixed line DSL, cable or fibre connection failure.

“The device is simple to setup, making it easy for end users. We plug a debit terminal directly into the LAN port; and for extended outages, we simply plug the router into the LAN port. Plug it in, plug a device into it, and it’s done. It’s an idiot proof backup Internet solution.”

The 3G27WV combines a powerful antenna system, 3G modem and a Wireless LAN access point in a single unit, offering portable high-speed WiFi and Ethernet connectivity for up to 15 devices simultaneously wherever coverage exists. For complete fixed line replacement, the built-in voice feature enables calls to be made using a standard analogue/cordless phone (e.g. DECT base station).

“At a recent convention we used the device to run two demo PCs, two iPads and a few phones, meaning we didn’t have to mess around with the expensive Internet offered by hotels and convention centres. The sole reason for deploying these devices is to effectively resolve network problems and other issues using a simple all-in-one 3G device.”

The automatic failover feature switches from ADSL to 3G by continuously sending a signal to an outside IP address to determine whether the fixed connection is active. If the 3G27WV detects that the fixed connection has failed for any reason, it will revert to 3G, automatically switching back to ADSL when the problem is resolved.

“The device saves time and money by keeping commerce working smoothly at our stores, even during Internet outages. It is much cheaper than 3G/4G debit terminals; and we also found that having redundant secondary WAN connections at every single store too costly and often during outages the backup solutions wouldn’t kick in properly. Smoothly working redundant backups also masked other issues, such as internal wiring damage. It is much cheaper for us to just ship, or drive, a 3G27WV to a site with an outage.”

The 3G27WVwas developed to provide a high-speed primary or secondary broadband Internet and telephone connection straight out-of-the-box. “The device is very simple and easy to setup and maintain. Plug in a SIM card, turn it on and get instant Internet.”

Conclusion

For businesses that engage in Internet critical activities, maintaining an undisrupted high-speed network connection is vital. A disaster or disruption can result in lost revenue, customer dissatisfaction and a breakdown of internal and external communications; and the cost of downtime is rising as businesses become ever more reliant on connecting people and assets through the Internet.

Over the next decade cloud computing will continue to introduce a host of innovative ways to collaborate across consumer, business and M2M applications; and with an increasing number of business applications moving to the cloud there are challenges to be overcome, but with access to a constant, reliable and transportable 3G/4G network connection, the potential is limitless.

NetComm Wireless' 3G/4G broadband devices come equipped with a host of features that offer security, flexibility, reliability, ease of use, reduced operating expenses and, most importantly, business continuity and disaster recovery.

About NetComm Wireless

NetComm Wireless Limited (ASX: NTC) is a leading developer of innovative broadband products sold globally to major telecommunications carriers, core network providers and system integrators.

For over 30 years NetComm has developed a portfolio of world first data communication products, and is a respected global provider of 3G and 4G wireless devices servicing the major telecommunications carrier, Machine-to-Machine (M2M) and Rural Broadband markets. NetComm's products are designed to meet the growing needs of today's data-intensive home, business and industrial broadband applications and customized to optimize performance in line with global network advancements. Headquartered in Sydney, Australia, NetComm has offices in New Zealand, North America and the Middle East.

For more information about NetComm visit: **www.netcommwireless.com**