

## Wired and Wireless WAN Access Backup with Vanguard's 3480 ASG

The WAN Access Services Gateway (ASG) has become a critical termination point for a variety of end-user applications that need to operate in real time and on a 24/7 basis. In many cases, a large number of these applications run simultaneously.

A typical example is a convenience store co-located with a gas station sharing the same network access infrastructure, where point-of-sale (POS) terminals, ATMs, money-order machines, lottery machines, gas-dispensing operations, handheld scanners, and the store manager's PC all share the same access link and services connecting the store to the service provider. Other end-user applications such as bank ATM kiosks serve only one application, the processing of ATM banking transactions, but are just as mission-critical as the convenience store applications.

### The Challenge: Lowering Network-Related Downtime Costs at the Point of Sale

Infonetics Research surveyed 80 large North American companies (over 1,000 employees) to determine the various factors impacting downtime, and found that service providers and cable connectivity problems accounted for no less than 26% of the cost of network downtime. With a combined annual productivity and revenue loss of \$40.7M per company due to network downtime, service provider and cable/connectivity problems account for \$10.5M in loss on average per company. Figure 1 shows the percentage of costs associated with each source of downtime at the surveyed companies.

The data from this survey is compelling and has dire implications – point of sale locations like convenience stores, bank branches, and ATM kiosks owned by the same company can lose millions of dollars due to even a few minutes of service outage or service degradation from a single service provider.

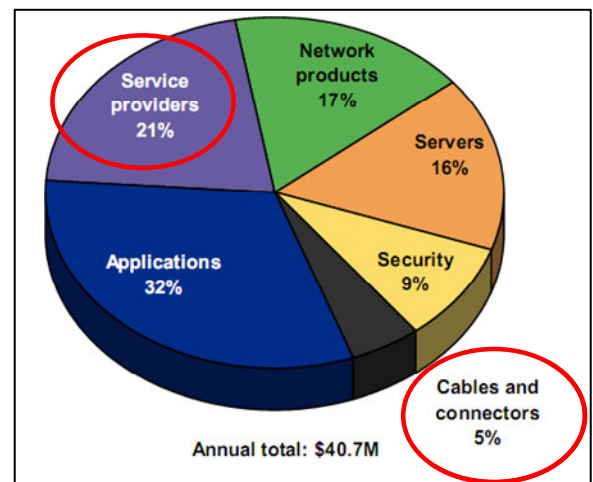


Figure 1: Annual cost of Downtime by Source -- Source: Infonetics Research: The Costs of Enterprise Downtime, North America 2004

### Meeting the Challenge: The Vanguard 3480 ASG Key to Lowering Downtime Costs



Figure 2: Vanguard 3480 ASG Supports Multiple WAN Access Ethernet Ports

The Vanguard 3480 ASG introduces integrated Ethernet WAN access ports, a critical capability that provides robust options for maintaining business continuity at enterprise organizations with multi-site remote branch profiles. With up to five (5) routable Ethernet ports available with the 3480, point of sale branch locations now have a choice of wired and wireless WAN backup connectivity.

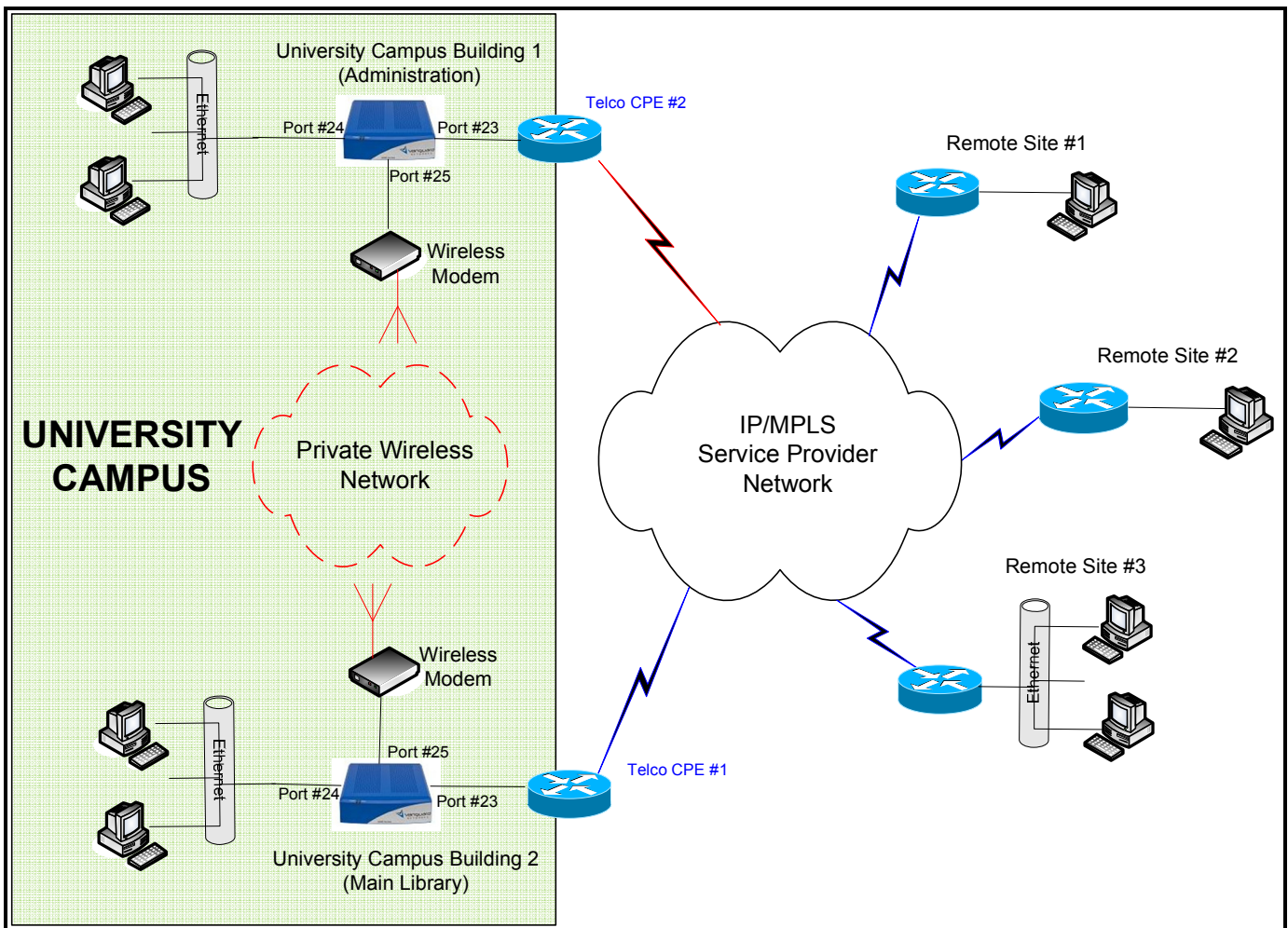
Some of the choices available to the branch for backup connectivity include:

- Dual wired Ethernet WAN access connections, with one serving as primary and the other as backup
- Single wired Ethernet primary WAN connection, and single wireless

(Ethernet to external wireless modem) backup WAN connection.

Selecting the most suitable service provider for primary and backup WAN access depends on a number of criteria such as geographical location, service availability, and business model of the enterprise organization, most large service providers generally provide both wireless (3G) and wired WAN access that route traffic over independent data paths that minimize single points of failure within the service providers network infrastructure.

### Private Wireless Backup with the 3480 ASG



**Figure 3: Multi-Site Campus WAN Access with Wireless Backup Using 3480 ASG Routed Ethernet Ports**

Figure 3 shows an example of a campus-type WAN access installation using one 3480 ASG Ethernet port (port 23) for primary WAN access over IP/MPLS based network and backup WAN access using a wireless modem connected to another 3480 routed Ethernet port (port 25). Port 24 is connected to the local LAN network at each campus building. During normal operation, remote sites can connect to each campus building location through the individual Telco CPE's shown.

However, if the WAN link from the service provider to Telco CPE #2 is broken, then the remote locations can still connect to the campus “Administration Building” via Telco CPE #1, through the 3480 at the “Main Library”, and over the private wireless network. When the WAN link from the service provider to Telco CPE #2 is restored, the remote locations will one again be able to connect directly to the campus “Administration Building” via Telco CPE #2.

### 3G Wireless Backup with the 3480 ASG

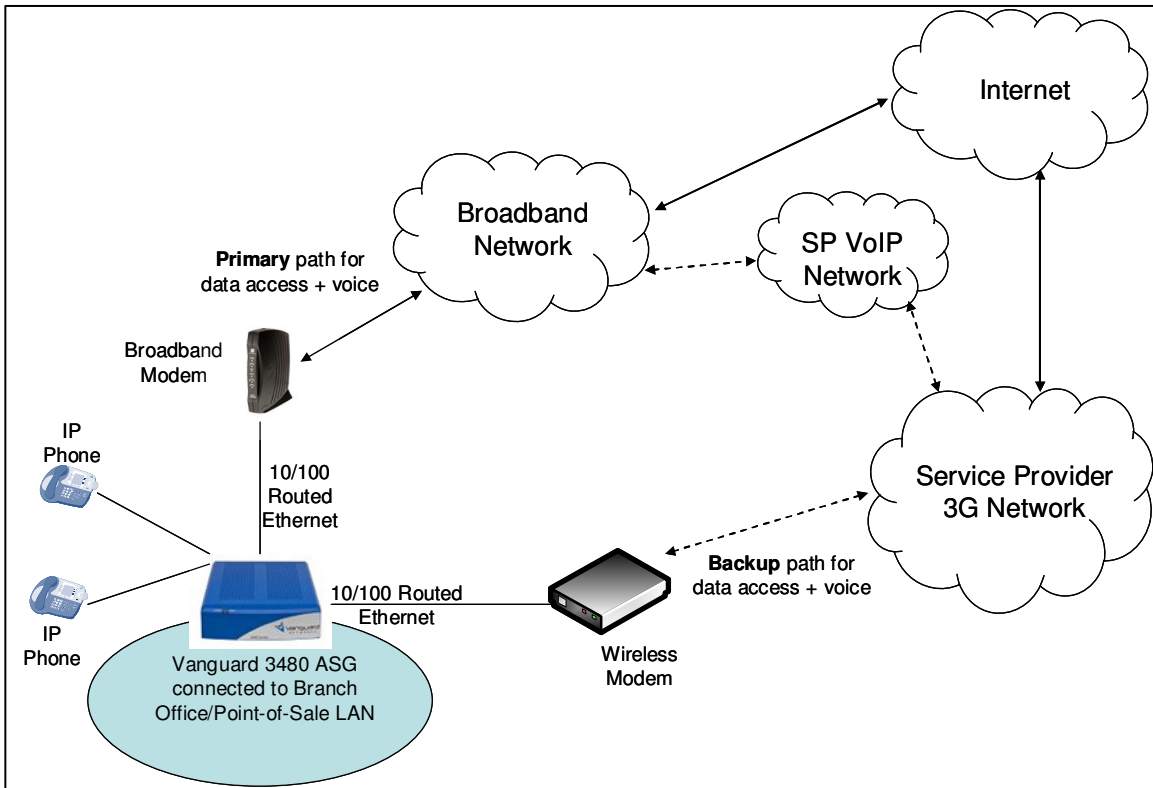


Figure 4: 3G Wireless WAN Backup Using the 3480 Routed Ethernet Ports

Figure 4 shows a typical application using 3G wireless backup that makes use of the 3480 routable Ethernet ports. This is a typical application for small/medium sized branch offices that rely on WAN access for both data and voice services, thus making service availability critical for this environment.

### Benefits of Routable Ethernet WAN Access in the 3480 ASG

- Low cost to implement a primary/backup WAN access solution. Backup (wired or wireless) service costs still apply.
- Wireless WAN backup can be utilized when ISDN backup connectivity is not available.
- Both wired and wireless backup offer satisfactory coverage and speed for short term usage till the primary service comes back on line.
- Rapid deployment of primary and backup service with simple configuration of the 3480 ASG (along with wireless modem in the case of wireless backup)