

Improving Retailer Efficiency And Peace Of Mind With New Nonstop Networking Solutions

For more than 25 years, satellite-based communications networks, commonly known as VSAT (very small aperture terminal) networks, have been the WAN (wide area network) technology of choice for some of the largest retail chains in North America. Notable retailers that rely on VSAT networks include Dollar General, Do it Best, Goodyear, Sunoco, and Bob Evans, to name a few. Today, VSAT networks provide reliable broadband communications not only to large corporations with thousands of locations, but also to individual franchise owners with just a handful of stores.



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Applications that led to VSAT networks' prominence, including credit card processing and POS data management, began with relatively narrowband speed requirements. But, in recent years, VSATs have seen dramatic growth as a true broadband-converged communications platform, supporting carrier-class voice and two-way video as well as traditional retail applications. Two goals, in particular, seem to be driving more large retailers to deploy satellite networks – the distribution of digital media and the growing need for high-availability hybrid networks. Each application, in its own right, can improve a retailer's operational efficiency. Combining the two into a single network builds the business case for return on investment in a satellite-based networking solution.

How VSAT Networks Work

Although VSATs connect stores via a satellite in high-

earth orbit, the actual use of a VSAT network is relatively simple. Satellite networks send and receive voice and data via high-frequency radio waves bounced off a satellite in orbit some 22,300 miles above the earth. The satellite beam effectively provides a single, continent-wide, wireless, last-mile solution. VSAT networks are designed in a hub-and-spoke fashion, with customer locations connecting directly over the satellite to a central teleport facility. The teleport, in turn, is connected to the public switched telephone network (PSTN), the public Internet, and in some cases, direct backhauls to corporate headquarters. At a customer site, the equipment includes a VSAT modem/router (similar to a DSL or cable modem) that connects to the LAN, including POS devices, PCs, and telephones. A small satellite antenna, or dish, is mounted on the roof or outside of the building.

VSAT networks provide a two-way broadband link, available anywhere that a customer can get a clear view of the southern sky. These networks have a number of unique advantages, including the ability to deploy one solution at all of a customer's locations nationwide (or worldwide, for that matter). Additionally, VSATs provide a completely independent communications link that works even when terrestrial and wireless networks are down or inaccessible. Today's top VSAT service providers can seamlessly integrate satellite, wireless, and wireline connections into a single managed network.

Distributing Digital Media

With the proliferation of digital media as a tool to increase revenue per customer visit and lower employee training costs, a growing number of retailers are exploiting the broadcast capabilities of VSAT networks. VSAT technology is ideally suited for broadcast applications such as digital signage, in-store music, distance learning, and business TV, or any application where the content is sent from a single corporate headquarters to many locations. Even interactive applications such as video conferencing, video surveillance, and digital telephone services have matured so they can be delivered efficiently and reliably over VSAT networks. In short, satellite is not just for narrowband

transactions. VSAT networks are an excellent platform for delivering completely converged voice, video, and data communications to retailers.

For the retailer using a VSAT network primarily for the point of sale, upgrading the network bandwidth to support digital media applications can quickly enable new in-store revenue growth or operational enhancement strategies for very little cost.

Maximizing Uptime Via Hybrid Networks

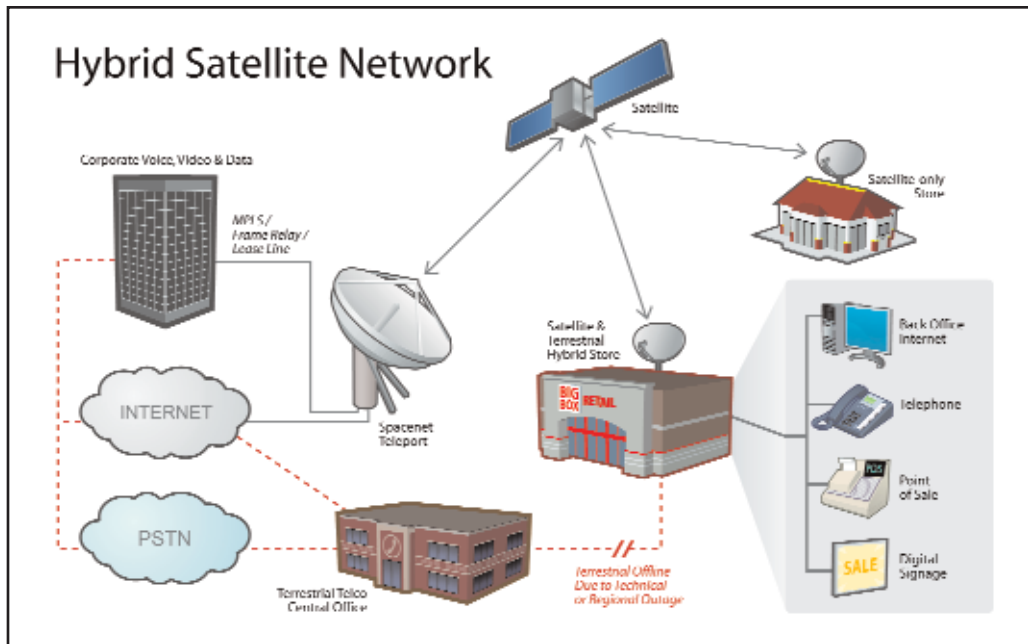
For most retailers, even a temporary loss of communications can translate into lost revenue. For a multilane big-box retailer, just a few minutes of downtime can equate to thousands of lost dollars. A disabled DSL line means no credit card authorizations, no POS updates, and no back office connectivity to the corporate intranet. Even emerging wireless technologies – such as WiMAX (Worldwide Interoperability for Microwave Access), EV-DO (Evolution-Data Optimized), and other 3G cellular services – are dependent upon cell phone towers and local telecom infrastructure that may be subject

The Business Case For VSAT Networks

While on-demand (part-time) satellite service plans can enable the retailer to pay only for satellite bandwidth in the event of an actual disaster, there is often a more effective way to view the investment in a VSAT-based, business-continuity solution.

To maximize the ROI of a VSAT network, many retailers combine digital media distribution with a hybrid network. This approach uses the satellite during normal operations for broadcast applications such as digital signage or business TV. In the event of a wireline failure, these applications are placed on hold, while more critical voice and data traffic takes over the VSAT link. Once wireline services are restored, the critical traffic automatically switches back to the landline, and broadcast applications resume.

This combination approach allows the retailer to maximize the investment in a VSAT solution by providing a single link for revenue-boosting, cost-reducing, digital media applications and nonstop networking for real-time business transactions.



In a hybrid satellite network, a DSL or other wireline link serves as the primary communications connection, and a VSAT serves as a standby solution in the event of a failure.

to disruption from even a small regional outage.

To mitigate this risk, retailers with high uptime requirements are employing hybrid networks where DSL or other wireline links serve as the primary communications, and VSAT serves as a standby solution in the event of a failure. This approach uses a diverse, completely independent connection (the VSAT) to provide 99.99% network availability. The experienced VSAT service provider can also include a network appliance or router-integrated VSAT module that manages the switchover between the terrestrial line and satellite. Switchover is automatic and usually requires fewer than 3 minutes to complete.

About The Author

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