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SUMMARY

A wide area network (WAN) consists of communication connections between multiple sites for the purposes of transmitting voice, video and data traffic. Any organization with multiple locations or remote/home offices requires some means to allow for interconnectivity between people and shared access to common resources.

If not designed properly, a WAN can be difficult to manage and expensive to maintain. WANs frequently struggle with bandwidth issues as new services are deployed and more diverse locations are added.

FEATURES

- Can cover a global footprint
- Any number of locations can be included
- Typically involve a public carrier
- Can be wired or wireless
- Most are privately used
- The Internet may be used as the backbone
- Variety of speed options
- Multiple circuit and packet technologies
- Multiple protocols

BENEFITS

- Cost savings and greater efficiency through sharing resources
- Flexibility and mobility in connections to disparate locations
- Less manpower required to maintain a well-designed network
- Less spending through future-proofed deployment

REAL WORLD EXAMPLES

Situation: A medium-sized international automotive supplier with 13 locations was operating separate networks for voice and data. They needed to decrease their monthly spend on leased lines from carriers by consolidating their two networks into a single converge network.

Problem: The current network equipment was more than 10 years old and was not upgradable.

Solution: The customer installed routers, VoIP gateways and handsets, and Ethernet switches. They also upgraded their structured cabling infrastructure to Cat5e. The upfront expense for the upgrades was calculated to have an ROI of 18 months due to the savings on recurring monthly charges from the carrier to operate duplicate networks and the reduced network maintenance costs.

Situation: A national insurance firm needed to provide network connectivity to several employees who were working from home.

Problem: The current infrastructure was not designed to handle home office environments.

Solution: The company purchased a small office and home office (SOHO) wireless router with VPN capabilities for each home office and utilized broadband Internet connections at the homes to create connections back to the corporate network.

ADDITIONAL INFORMATION

- Who maintains the WAN?
- How many locations are there?
- Will there be upgrades or network equipment added to any of the locations?
- Is there currently video and voice running over the data infrastructure?
- Are there plans to add voice over Internet protocol (VoIP) to the network?
- What testing and optimization tools are currently in use?
- What kind of security requirements are there?
- Is there a firewall?
- What virtual private network (VPN) requirements are there?
- What protocols are running on the network?
- What is the backup/redundancy plan?

PRODUCTS

- Routers
- Switches
- Multiplexers (MUX)
- Racks and shelves
- Jacks
- Ethernet cabling—Cat 5e, Cat6
- Cable management accessories
- In-building Wi-Fi/WLAN APs and enclosures
- In-building phone systems with base stations and wireless phones
- VoIP gateways
- Backup power—uninterruptible power systems (UPS)
- Test equipment
- Network installation tools
- Training

Knowledge Solutions

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