TENFOUR

LOCAL AREA NETWORK

OVERVIEW

Customers and employees might take your local network's performance for granted, but can you afford to do the same?

Whether between computers, applications, employees, or equipment, reliable connections power your business. TenFour's Local Area Network (LAN) utility service delivers the highest quality wired and wireless networking capabilities to computers, devices, and machinery close to one another in a variety of locations, such as an office building, college campus, manufacturing facility, and more.

Our LAN enables a consistent workflow free from interruption by seamlessly incorporating all of the connections, network security, and backup features you need into your organization's IT infrastructure. Our wired and wireless LAN solutions are managed together to provide complete visibility of your network infrastructure's health and performance. And by installing WiFi-enabled, wireless components as part of your LAN to provide increased bandwidth and flexibility, your IT department is able to imagine and implement new applications capable of delivering the innovative experiences that will set your business apart.

We optimize your LAN's server configuration to provide maximum application and data availability, which results in increased productivity. And by connecting all employees to the same devices, we help reduce costs on things such as digital storage, printers, and office equipment, while delivering our service at one single, streamlined price.

Although our LAN service provides the highest level of reliability, it also helps mitigate disasters and downtime by facilitating data and application backups according to your compliance framework. Instead of managing dozens of computers and devices individually, TenFour makes it easy to monitor the status of networked devices and troubleshoot them from our 24x7x365 Network Observation Center (NOC), no matter where the issue arises. Wouldn't it be nice to know that the network infrastructure on which your business depends is always operating at its best?

BUSINESS SOLUTIONS

Flexibility & Scalability

Each year organizations purchase new devices, hire new employees, and decommission old equipment. That's why we engineer our LAN utility service using proven reference architectures that reduce the number of variables and allow you to increase or reduce the size of your network quickly and securely. We handle all of the changes to your network's infrastructure and permissions, so your IT department can focus on more important things. And should you need to expand your network to encompass new wired or wireless capabilities or multiple LANs in a Wide Area Network (WAN), TenFour's service is able to seamlessly integrate every piece into one overarching framework.

Reliability

In conjunction with our embedded services, we deliver highly reliable, resilient, and comprehensive LAN with up to 99.999% availability. Built on a hierarchical model that consists of core, distribution, and access layers, our LAN services provides the resiliency and flexibility to modify wired or wireless capabilities of your network as business needs change. We proactively refresh our service with the latest equipment so it keeps pace with new technology and you don't have to worry about compatibility or licensing. Plus, TenFour maintains code version control for all operating systems and software, so changes are always tested prior to being delivered in a proactive and orderly fashion.

Longevity

Through TenFour's lifecycle management program we ensure that the hardware, operating systems, and features associated with your network are continually maintained to uphold business requirements, preserve network security, and facilitate overall improvements. Wired and wireless network capacities are monitored to ensure adequate bandwidth is always available; as we see trends go up, we'll make recommendations for additional capacity and help prioritize business critical applications. And whether it's cybersecurity or communications, we're constantly assessing new technology for integration into the existing LAN infrastructure.

Cost

TenFour is committed to ensuring that all of our services remain on the cutting edge of our industry while also reducing your total cost of ownership. By standardizing the LAN design with our reference architectures and pairing the service with our streamlined lifecycle management and maintenance programs, we are able to leverage our expertise to eliminate hidden costs. And because we include an automatic equipment refresh in our LAN service, you don't need to make new capital investments or struggle with vendors to get the best price.

ADDED VALUE

Reduced Technology Debt

We use fully redundant and rigorously tested software and hardware in conjunction with our specially designed reference architectures to make implementation, operations, and administration as streamlined and worry-free as possible. Plus, we refresh all equipment at regular, agreed-upon intervals so you never have to worry about technology debt.

Lifecycle Management & Maintenance

Our ongoing lifecycle operations support process keeps your software and hardware up to date in order to address critical vulnerabilities, bugs, or new functionality and implements mitigation strategies. We're able to easily configure, monitor, troubleshoot, and change the network as circumstances demand with our Lifecycle Manager.

Availability & Support

If an issue arises, our 24x7x365, U.S.-based Network Operations Center (NOC) is always available to proactively or immediately remediate any problem. Plus, we provide scheduled, regular updates and emergency patch management for all hardware and software and test all changes before implementing them.

Security & Compliance

We use the latest authentication, encryption, and communication protocols to secure data and communications. Web authentication for wireless connections ensures guests' internet access is kept separate from internal operations, and we provide historical wireless domain visibility to locate and track all network users. Plus, our embedded network security service supports attack prevention, risk reduction, and compliance requirements.

SERVICE FEATURES

Features and capabilities supported by our LAN utility service include:

Wired Components

- LAN data transport speeds from 1 Gbps up to 40 Gbps
- Highest level of availability via Virtual Switching System, Multichassis EtherChannel (MEC) trunks, and StackWise Switch Technology
- Non-blocking switch interconnectivity for maximum data throughput, as well as total link utilization
- Multi-gigabit technology at the access layer, allowing for speeds from 1 to 10 Gbps over Category 5e/6 cables, along with support for Power over Ethernet (PoE), PoE+, and Universal PoE (UPoE)
- Auto Quality of Service (QoS) configured at LAN access layer and QoS trust configured at the LAN distribution layer, including special policies and queues for voice and video
- All switch admission via Secure Shell (SSH) with authentication, authorization, and accounting from defined management source subnets
- Static routing, Enhanced Interior Gateway Routing Protocol (EIGRP), and Open Shortest Path First (OSPF) based on peering relationships between TenFour switches and customer-managed equipment
- Integration with customer-owned NETFLOW and SYSLOG analysis systems, including most Security Information and Event Management (SIEM) platforms
- Direct Simple Network Management Protocol (SNMP) access

Wireless Components

- WLAN data transport speeds from 5 Gbps up to 20 Gbps
- Up to 1500 access points with centralized management, high controller availability via Stateful Switch Over (SSO), as well as management site redundancy
- WLAN Controller (WLC) for up to 20,000 clients and aggregated throughput of 20 Gbps via Link Aggregation Control Protocol (LACP) and MEC
- Access point WiFi standards supported: 802.11a/b/g/n/acW2
- Support for internal and external antennae, primarily omni-directional and yagi/patch antennae
- Lightweight access point data rate of 5 Gbps with FlexConnect local switching of remote site traffic with RF interference avoidance, plus rogue access point detection
- Centralized Access Point (CAP) registration and user authentication via WLC and Security Manager Platform (SMP) with Active Directory integration
- Guest wireless internet access through an open wireless Service Set Identifier (SSID) with web authentication to keep traffic separate from internal network
- End-to-end Quality of Service (QoS) via WLAN Application Visibility & Control (AVC), including total historical wireless domain visibility via Wireless Locator (WL) and lifecycle management via Lifecycle Manager (LM)

BUSINESS USE CASES

TenFour's LAN infrastructure utility service can be installed in any modern work space and can incorporate as many switches, ports, and segments as a business location requires connections. We provide a combination of both wired and wireless reference architectures and components, depending on an organization's industry, business type, or requirements.

Office Space

Business Problem: An organization's headquarters office is housed in a standard office building with drop ceilings and carpeted floors. Hundreds of employees are logging into and out of the network throughout the day from a variety of locations throughout the office, including dozens of offices, conference rooms, break lounges, and more. On top of this, many users are accessing printers and networked storage facilities simultaneously. To facilitate agile collaboration between different teams, every employee must be able to quickly and easily log into the network from anywhere.

TenFour Solution: TenFour's LAN utility service is designed to provide maximum reliability, speed, and coverage, regardless of your site's unique characteristics. For wired connections, we deploy a wired access layer to connect end-user devices, such as hardwired computers, printers, storage appliances, and more to a LAN access switch. Groups of LAN switches are then configured together and connected in the distribution layer to interconnect various LAN segments. And in the core layer, the segments and devices are tied together in one overarching system to create the LAN.

For wireless connectivity we add Wireless Access Points (WAPs) and Wireless LAN Controllers (WLCs) that integrate into the LAN to expand its range and functionality. We provide wireless controller, access point, antennae, and routers numerous enough to accommodate a high density of connections and provide redundancy in case of failed connections. Centralized access point registration and user authentication ensure that only the correct users are accessing your protected network, while a wireless LAN controller anchor allows and monitors guest access and traffic.

Manufacturing Plant

Business Problem: An organization's manufacturing facility is housed in a large warehouse-like location with high ceilings and exposed structural elements, such as beams, columns, and scaffolding. In addition to the primary manufacturing space, a small office is attached to the building, from which operations management and quality control monitor machinery performance. Dozens of employees, computers, and machines connect to the network via both wired and wireless devices. At any given moment, a QA operative must be able to move from the office space to the manufacturing floor to check the equipment, using a table to relay observational data back to the office for analysis.

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Centralized access point registration and user authentication ensure that only the correct users are accessing your protected network, while a wireless LAN controller anchor supervises guest access and traffic. Plus, we provide complete lifecycle management, so monitoring your network's health, troubleshooting, making configuration changes, and much more are all included.

Distribution Center

Business Problem: An organization's distribution center is housed in a large, warehouse-like location with high ceilings and exposed structural elements, such as beams, columns, and scaffolding, as well as numerous tall storage units. Dozens of employees are often coming to and going from the facility over the course of the day, each carrying a mobile device that must sync wirelessly with the local network. Work stations on-site must be wired to numerous printers and robotic sorting equipment. In addition, every device on premises needs to maintain access to a wireless inventory tracking system that uses RFIDs to make sure the correct items are being shipped to the correct locations.

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END TO END

The LAN that bridges your devices, computers, and machinery is a building block of your IT infrastructure, but only one facet of your organization's success. That's why our LAN is designed to easily integrate with our other platforms and provide you with greater visibility, control, and cost efficiency.

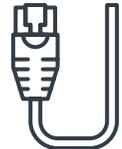| Wide Area Network	Unified Communications & Collaborations	Internet of Things	Data Center	Network Security	Physical Infrastructure

ABOUT TENFOUR

What got you through the Information Age won't get you through the Digital Age. You need new tools.

That's why we've created a new type of IT infrastructure company. TenFour builds exceptional, private domain global IT infrastructure that is simplified, has fewer defects, and costs less to operate than traditional models. And we don't just build and operate your IT infrastructures; we own them.

We're not a Cloud computing company, but we've taken the Cloud model and extended it beyond compute and storage to core components, platforms, and services, such as routers, switches, wireless access points, IP phones, IoT devices, and so much more which has traditionally been "uncloudable." The best part is: just like electricity and water utilities, you pay only for what you use, when you use it.

LET'S GET STARTED

You're building the future of your company, but you don't have to build it alone.

Reach out to **+1 973 267 5236** or email **hello@tenfour.com** to see how TenFour's LAN utility service can help ensure your organization's network is running as fast and smooth as the Digital Age demands.