



INTERNET OF THINGS

OVERVIEW

There are more objects connected to the internet than people.

In the past decade, the number of connected devices in our world has grown exponentially. Wearables, automobiles, sensors on manufacturing lines, and even refrigerators can now communicate with each other through the Internet of Things (IoT). This network of end-points interacts through embedded technology, which in turn allows for the deployment of algorithms and AI for new engagement models and data, the Digital Age's new currency. Companies use this real-time data collection to immediately react to certain events, augment their business processes, and learn more about end-user behavior and usage. IoT, at its core, opens the door for all business to transform into digital enterprises.

IoT has become a new layer of communications on top of the Local Area Network (LAN) that is already managing traditional web based services and internet access. So, as enterprises roll out Machine-to-Machine applications and add IoT devices to their LAN, how do they manage those devices and the information they are sending across the network? Visibility becomes difficult since they're all running quiet technology in the background which can easily turn to "out of sight, out of mind." These machines and devices still need to be monitored for responsiveness, defects and traffic patterns so that your network can adapt. It's critical that the data those IoT systems are collecting become the lifeblood of your new digital world.

That's why TenFour provides a turnkey solution for the deployment of IoT devices within your enterprise. We are not the cool IoT application vendor. We don't build the advanced end-points such as those embedded in automobiles or used to remotely monitor patient healthcare. We are the company that builds, manages, and monitors IoT infrastructure while decreasing cost and unplanned downtime. Your IT department may be able to tell you the cost of managing a switch, but that doesn't apply to IoT applications. Does your IT department have a plan to sustain your IoT initiatives at a large scale?

That's where we come in.

BUSINESS SOLUTIONS



IoT Enabled Enterprise Infrastructure

We are establishing a hierarchical controller strategy that enables us to manage the entire IoT infrastructure, including edge computing devices, the network infrastructure, and the transmissions that traverse the network.



Extensible Platform and Services

We use the same management infrastructure to administer IoT devices and enterprise IT environments.



Edge Computing Support

We support the physical infrastructure to provision and maintain edge computing in IoT networks.



Intelligent Analytics

We leverage advanced operational analytics to understand what is going on with customers' IoT infrastructures, algorithms, and applications in real-time. These operational analytics provide key insights, for example, alerting staff when more processing power will be required at the edge to support increased demand.

SERVICE FEATURES

By delivering the following capabilities, TenFour ensures the evolution to IoT is seamless:

Device Connection

- IoT Devices
- IoT Connectivity

Data Sensing

- Data Capture
- Sensors & Tags
- Storage

Application Server

- Log
- Monitor
- Sensor Control
- Alarm

Communication

- Wired and Wireless Transport
- Wired and Wireless Local Area Network

IoT Edge Controllers/Gateways

- Plan
- Implement
- Manage

Management Server

- Security
- Firmware Over-The-Air (FOTA)
- Heartbeat

ADDED VALUE

Multi-Layered IoT Architecture

Depending on the application, data may be computed at the edge, agents and gateways, or even brought back to the enterprise. In order to support this multi-layered IoT architecture, our Network Observation System—integrated with our ITSM strategy and core network—monitors, alerts, thresholds, and helps mitigate issues at the different layers in the IoT architecture.

Proactive Approach to Connect to the Edge

Today, our service supports 802.11 WiFi, 3G/4G LTE, broadband and/or MPLS. As the edge extends further from the enterprise, these access methods may no longer be cost effective for IoT devices. When new technologies such as 5G, Bluetooth Low Energy (BLE), and Low Power Wide Area (LPWA) networks mature, we will evaluate and include them in our reference architecture where applicable to deliver even more reliable, resilient and cost-effective connectivity.

Governance

Many IoT initiatives will be driven by line-of-business teams. TenFour integrates these initiatives into a single enterprise-wide IT infrastructure to ensure they are effectively aligned with other IT environments and IoT initiatives.

Convergence of IT and Operational Technology (OT) Management

We believe business operations across IT and OT should be managed as a complete system. In the IT infrastructure space, TenFour delivers a managed service that utilizes ITIL best practices from design, deployment, and transition to lifecycle operations. For OT, we currently perform remote monitoring, management and remediation. As IT and OT infrastructure become more tightly integrated, we stay ahead of this curve to ensure that our customers can take advantage of advances in IoT.

Data Privacy & Security

We manage customers' infrastructures with the highest level of network security available in the current IT environment. By building simplified and standardized architectures, we can significantly reduce the number of vulnerabilities, and minimize our customers' exposure to threats.

Location and Device Agnostic

It doesn't matter where your IT infrastructure or IoT devices sit or if they're public or private. We provide a location-agnostic approach designed to connect your business, its employees, and its customers across the globe.

Shared Risk

TenFour builds IT infrastructure that just works. If something's not right, we're responsible for fixing it, not you. We handle all required maintenance and operations across the infrastructure's lifecycle, take on the cost of ownership, and assume all responsibility for infrastructure-related key performance indicators (KPIs) and service level agreements (SLAs). We commit to delivering any IT infrastructure, anywhere in the world, reliably.

Reduced Technology Debt

TenFour assumes the financial risk of device obsolescence and failure. We offer enterprises the opportunity to upgrade to new equipment on a regular basis, which means no more end-of-life equipment and no more technology debt.

END-TO-END

At TenFour we understand that an organization's IoT focus is vital to digital transformation, but it can't operate properly without a strong and reliable IT infrastructure foundation. That's why our IoT platform is designed to easily connect with and support all other applications of the infrastructure delivered by TenFour via its various utility services.



Wide Area Network



Local Area Network



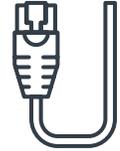
Unified Communications & Collaboration



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.

We've created a new type of IT infrastructure company. We build 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 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 IoT utility service can help ensure your organization's future is built on the strongest foundation possible.