

Solutions for Federal, State, and Local Governments



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At the federal, state, and local levels, communities depend on governmental agencies to provide essential services. Whether it is mission critical military communications for mobile command centers across the globe, security and surveillance systems designed to protect citizens at public events, or broadband service for local communities, it is essential that government networks are functional at all times. However, many governmental agencies are challenged with how to keep their aging infrastructure operational while evolving their networks to deliver secure and reliable services for the people and organizations they serve.

Transition Networks has been an industry leader in evolving networks of all kinds for over 30 years. This expertise has resulted in a broad portfolio of solutions that allows for cost-effective integration of fiber into any data network, supports multiple protocols, and accommodates multiple interfaces to suit nearly any application. The Transition Networks team also works closely with customers to develop custom designs for new, modified, and integrated solutions in very specialized applications.

Using a consultative approach to understanding customer problems and supported by strong agency relationships, Transition Networks has long been a trusted partner of the Federal, State and Local governments. Transition Networks is headquartered in Minnetonka MN, U.S.A. and provides worldwide technical support. Transition Networks is also ISO 9001 quality system certified, provides TAA compliant products, has a 99.4% customer acceptance rating, and offers a lifetime warranty on most products.

The Transition Networks Advantage

- Trusted government partner for over 30 years
- U.S. based company, founded in 1987
- Turn-key solutions for a variety of applications
- Experts in fiber integration
- Strong understanding of government networks, challenges, and applications
- Outstanding customer and technical support 24 x 7 x 365
- ISO 9001 certified
- Lifetime warranty on most Transition Networks products
- Available on GSA Advantage, SEWP V, NETCENTS II, CHES and more
- TAA compliant products
- Dedicated Federal Sales Team: fedgov@transition.com

Partners



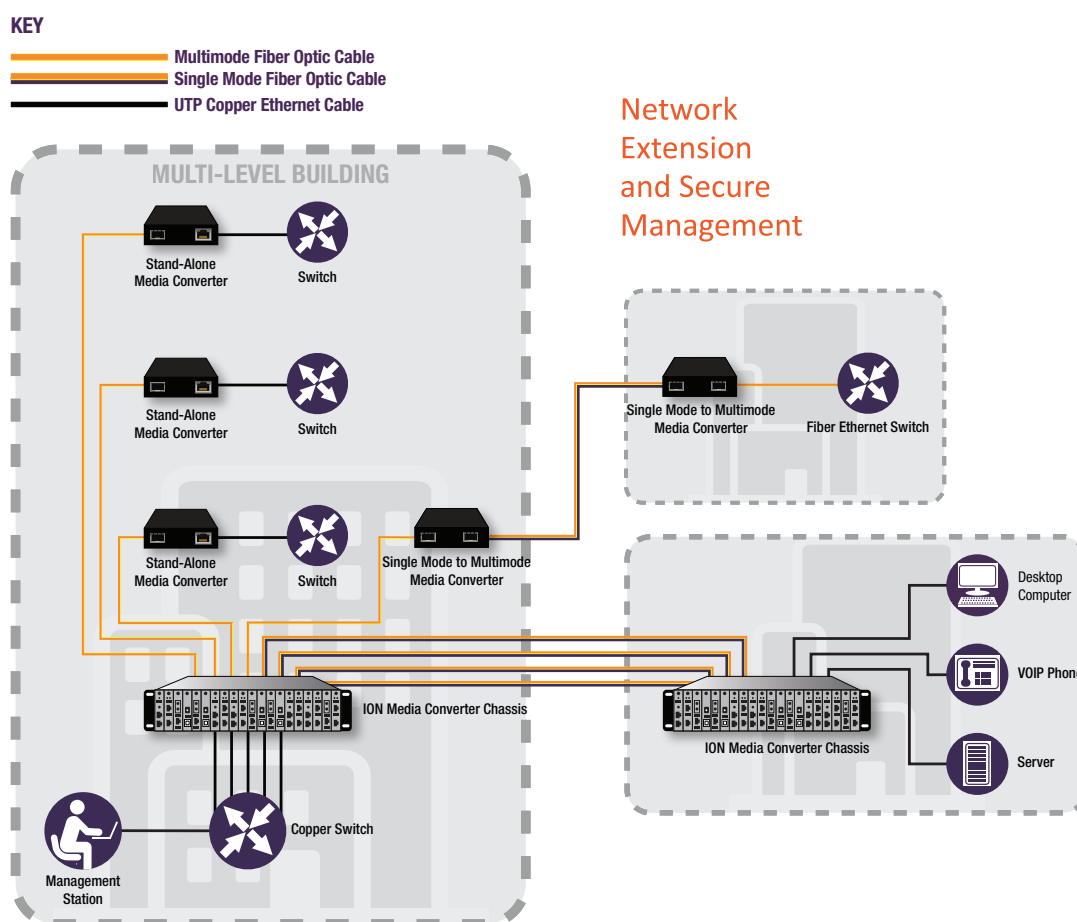
Global Standards



Network Extension and Media Conversion

Governments and municipalities are looking to get the most return out of their infrastructure investment. They can do this through fiber integration, and extension. For network extension within a building, between buildings, or throughout a campus, Transition Networks can help integrate fiber with copper equipment or overcome the distance and security limitations of copper or UTP cable.

The ION Platform offers cost-effective solutions for integrating, optimizing and navigating networks. The system accommodates a variety of modules and interface devices supporting multiple protocols and networking environments, providing simple and secure management of all the connected network interfaces. The ION Platform optimizes installed multimode fiber within buildings, capitalizes on the distance advantages of single mode fiber between buildings, and optimizes the installed fiber infrastructure with bi-directional single strand fiber. It allows various components to be easily configured, monitored and managed remotely while providing a high level of secure access to management data.



Secure Connection of IP Phones and Desktop Workstations over Fiber

Like many other organizations with limited budgets, government agencies typically need to make the most of their investment in their existing copper infrastructure. Transitioning from copper to fiber can be challenging, and many government agencies can't afford any interruption of critical services. The benefits of fiber optic cabling are widely recognized: fiber optic cable is more secure and protects data from noise and interference, offers greater bandwidth and capacity, and is able to extend networks over a greater distance.

Transition Networks provides a diverse portfolio of solutions to cost-effectively integrate fiber into any network. Media conversion solutions are a quick, inexpensive method for delivering Ethernet over fiber, TDM over fiber, and providing a demarcation device for Ethernet services. MSA compliant optical solutions, such as small form factor pluggable transceivers (SFP, SFP+, and XFPs) and optical multiplexing solutions, offer the ultimate flexibility for connecting, growing, and modifying networks while ensuring interoperability with other MSA compliant devices. Switching and Ethernet extension solutions, including managed, unmanaged, and hardened switches for commercial or harsh environments, help deliver services wherever needed.

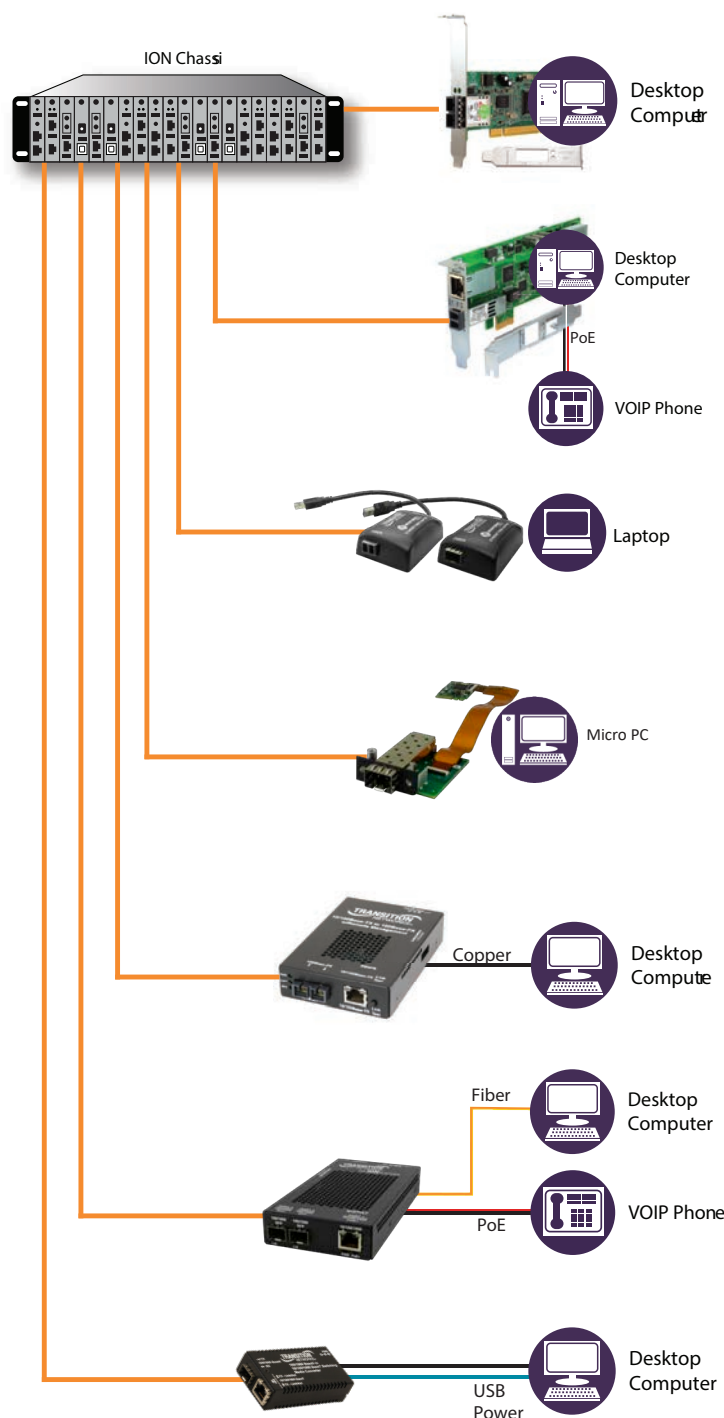
Fiber-to-the-Desk (FTTD) allows for greater transmission distances and speed, supports services requiring increased bandwidth, and enables IP phones. Municipal and military agencies are also deploying FTTD to reduce the risk of security breaches while providing these services, since it is virtually impossible to tap into fiber cabling without being detected by network managers. Transition Networks offers multiple options for quickly and easily delivering Ethernet service via FTTD.

- **Fiber Network Interface Cards (NICs)** allow for simple integration of fiber at the desktop or laptop. PCIe and M.2 network interface cards are available in speeds ranging from 100Base to 10 Gigabit. Many NICs support Wake-on-LAN (WoL) power management and are easily installed with included software drivers for multiple operating systems.
- **Scorpion-USB™ Ethernet Fiber Adapters** create a secure data connection over fiber between a USB port on a PC, laptop, or tablet. No external power supply is needed, and the advanced power saving mode preserves PC battery life. Installing Scorpion-USB™ is as simple as plugging the adapter into the USB port and installing the desired driver.
- **PoE Media Converters and PoE NICs** allow network managers to use fiber to connect IP phones and desktops over the same backbone. The Power Sourcing Equipment Link Pass Through (PSE LPT) feature increases reliability by automatically rebooting IP phones if there is a loss of link. Power consumption can be reduced utilizing features such as Wake-on-LAN (WoL). Stand-alone media converters save space as their compact design allows them to be discreetly tucked behind the PC or desktop.



Fiber-to-the-Desk (FTTD) Application

Protect the security of data and future proof networks by enabling fiber-to-the-desk



Fiber NIC

- PCIe bus fiber NICs are securely installed within PC and provide a fiber connection between main computer room and desktop location
- Fiber NIC with PoE also enables VoIP phones

USB to Fiber Ethernet Adapter

- Provides fiber connectivity point for laptops, tablets or thin clients; requires no external power supply

M.2 Fiber Network Interface Card

- Provides fiber connectivity point for micro PCs, mini PCs and thin clients

Media Conversion

- Provides connection between fiber infrastructure and embedded copper NIC
- Media conversion with PoE adds PoE power to copper port to enable VoIP phones
- USB-powered media conversion uses line or USB power in mini media converter which is ideal for limited space environments or where power is not available

Unidirectional Network Security

While most networks rely on full-duplex, simultaneous bidirectional communications to provide maximum bandwidth and throughput, there are some situations where bidirectional communications are not required. For example, if a computer's primary function is to receive data and compile it into a database, then its ability to transmit data can be disabled, providing additional data security. Unidirectional communication is often used to safeguard information in secure environments such as in government agency and military networks. A unidirectional network device, sometimes referred to as a unidirectional security gateway or a data diode, provides a connection between two or more networks with different security classifications and helps to protect assets by ensuring, on a physical layer, that information is directed only to, or from, the appropriate network as designated by the directional device.

Combining unidirectional communications with media converters can add two levels of physical security to your network. First, media converters allow you to take advantage of the inherent security offered by fiber optic cabling while connecting copper based equipment to a fiber network. Second, adding unidirectional technology creates a physically secure one-way communication channel between a secure network and an unsecure network.

The first diagram illustrates how unidirectional copper-to-fiber media converters can be deployed to ensure a secure data environment. These devices allow data from a classified, high-security area to be transmitted to a low-security area, while preventing unsecure data from re-entering the classified network.

Benefits:

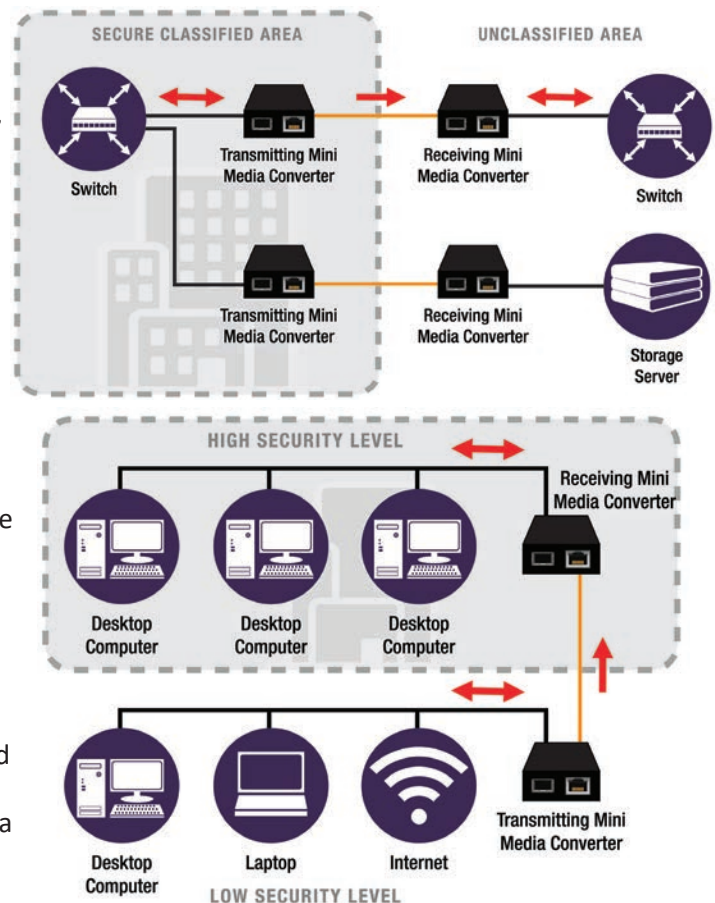
- Protect assets and data
- Block access to the secure area
- Prevent manipulation of secure data

The second diagram illustrates a secure network that needs to be updated with data from an unsecure external source, where it can be analyzed and used to make key decisions. Unidirectional communication ensures no data is able to leave the classified area.

Benefits:

- Maintain integrity of data in secured area
- Block classified data from leaking out of the secured area
- Allow databases to be updated with current information

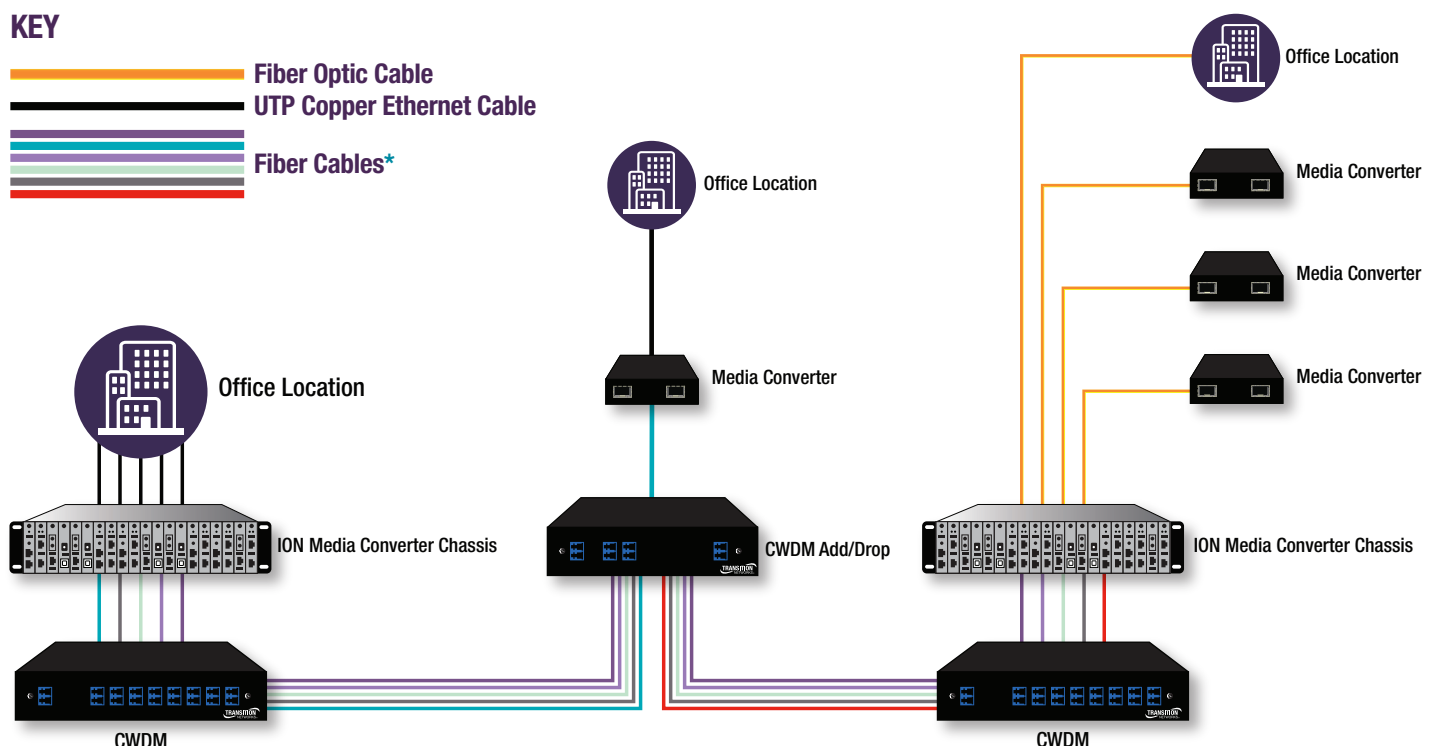
Software based data encryption provides an excellent method of providing data security between networks, but if you are looking for the peace of mind only found in physical layer data security, then cost-effective unidirectional media converters offer the exact solution you are looking for.



Transition Networks offers unidirectional data transmission in three versions of our Gigabit Ethernet Mini Media Converters: enterprise grade, hardened, and PoE-powered unidirectional media converters. All versions of these unidirectional converters are used in pairs, with a transmitting converter at one end and a receiving converter at the other end. These converters provide a 10/100/1000Base-T RJ-45 port for the copper connection and a 100/1000Mbps open SFP slot for the fiber connection.

Fiber Conservation and Optimization

Coarse wavelength division multiplexing (CWDM) solutions increase the bandwidth of embedded fiber by multiplexing multiple optical signals on a pair of single mode fiber optic strands, offering up to 16 times the capacity over the existing fiber infrastructure. The modular design is cost-effective, supports multiple protocols, and is a passive solution that requires no complex configuration and little to no change to network design.



*Multiple colored fiber cables represent a single fiber link carrying multiple data links, each on a different wavelength.

Extend Surveillance and Control Access Even in Remote Locations

Government agencies are increasingly challenged by needs for security, surveillance, and access control for law enforcement, national security, and the protection of proprietary information. As a result, government security networks have increased in number, size, and scope. Transition Networks' fiber integration solutions can help overcome the distance limitations of copper-based networks and offer security network designers more options with fiber optic cabling.

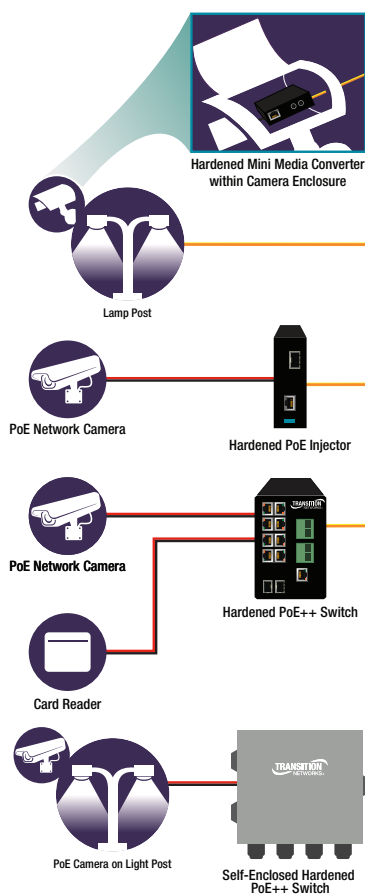
As security systems have evolved from analog cameras to digital, so has the technology to enable remote monitoring and the capability for security networks to reach nearly any remote location. Power-over-Ethernet (PoE) devices power equipment through the same UTP cable being used to transmit the data signal. This enables cameras, access controls and other powered devices to be installed and used in locations that were previously unavailable due to lack of, or cost of, standard power. Transition Networks' line of **PoE/PoE+/PoE++ switches, media converters, Ethernet Extenders, and PoE injectors** assist in expanding the function and coverage of security and surveillance networks.

Often times, applications require equipment to be used outside of an office environment. This may include lamp posts, parking areas, or along highways. Transition Networks offers a line of **hardened grade media converters and switches**. These products are rated for extended temperatures and their ability to handle the increased dust and moisture associated with outdoor environments. By using hardened products, the restrictions and limitations of UTP or coaxial cable can be overcome, even in harsh outdoor environments.

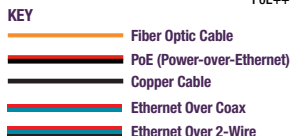
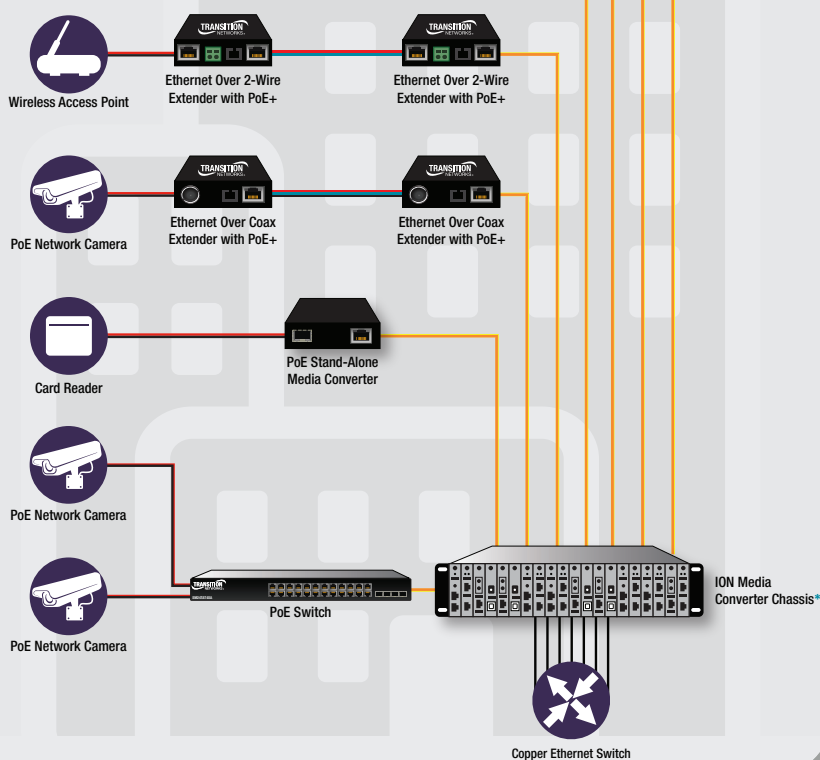
Advanced access control systems, such as IP-based keypads, biometrics, smart cards, and radio frequency over Ethernet networks, transmit complex information that offers unprecedented security. The information being communicated requires additional management control that traditional rapid serial interfaces and terminal blocks can't accommodate. Transition Networks' range of **PoE/PoE+/PoE++ devices** provide the option to integrate fiber optics and Ethernet protocol when necessary to expand bandwidth and extend the distance of the network, allowing for growth of advanced access control networks.

Extension of Surveillance and Access Control Networks

OUTDOOR ENVIRONMENT



INTERIOR MULTI-LEVEL ENVIRONMENT

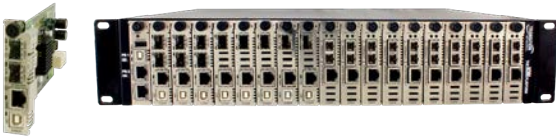


*Compatible with existing Infrastructure, switches, or Transition Networks' many other product offerings; ION Media Converter Chassis not required

Product Overview

Media Converters

- Central chassis with remote management and fault detection
- Configure via dip switches or management module
- Hot-swappable
- Auto-MDI/MDIX
- Automatic Link Restoration



PoE Media Converters

- 10/100 or 10/100/1000 versions available
- IEEE 802.3af Power-over-Ethernet compatible
- IEEE 802.3at standard (PoE+) compatible
- 48VDC PSE output voltage
- Power device restart after link loss
- Over-current protection and under-current detection
- Minimum load sensing
- Capitalize on the advantages of both fiber and PoE



Unidirectional Media Converters

- Protect assets and data in classified networks
- Unidirectional transmissions provide physical layers data security
- Prevents un-secure data from entering a classified area
- Blocks classified data from leaking out of a secure area



Ethernet Extenders

- Extend networks to remote locations
- Save time and money by leveraging existing cabling infrastructure
- Connect and power IP security cameras, wireless access points, and other IP devices
- Options for 2-wire or coax cable available in media converter or SFP form factors
- Support up to Gigabit speeds
- Provide PoE/PoE+ power to devices



Fiber NICs

- Available for Fast Ethernet, Gigabit and 10 Gig
- Standard and low-profile mounting brackets
- Support M.2, USB, and PCIe
- Power-over-Ethernet
- Wake-on-LAN (WoL)
- PXE Remote Boot
- Support Multiple operating systems



Fiber Switches

- Support jumbo frames up to 9KB
- QoS
- TACACS+ and SSH/SSL
- Spanning tree
- IGMP and DHCP snooping
- SNMP V1, V2c, V3





PoE/PoE+/PoE++ Switches

- IEEE 802.3af Power-over-Ethernet compatible
- IEEE 802.3at Power-over-Ethernet Plus compatible
- IEEE 802.3bt Power-over-Ethernet Plus Plus compatible
- 48VDC PSE output voltage
- Over-current protection and under-current detection
- Minimum load sensing
- Add PoE functionality on a port-by-port basis



CWDM

- Up to 16 times current fiber bandwidth
- Requires little to no change to network design
- Multiple protocols and network speeds supported
- Completely passive solution
- Layer 1 connectivity with plug-and-play provisioning
- Modular design allows for pay-as-you-grow expansion



Hardened Switches

- Rugged hardware performance for harsh environments and outdoor enclosures
- Highly flexible for a variety of PoE or non-PoE applications, like surveillance cameras and wireless access points
- Offer advanced Ethernet management
- Multiple fiber optic interfaces to support ring architectures
- Full management features including support for redundant rings, VLANs, QoS, etc.
- Support both IPv4 and IPv6



SFPs

- Hot-swappable SFP footprint
- Class 1 Laser International Safety
- Standard IEC-60825 compliant
- Compatible with SFP Multi-Sourcing Agreement (MSA)



For more information, please visit transition.com/government.

Global Presence

Contact Information

Americas

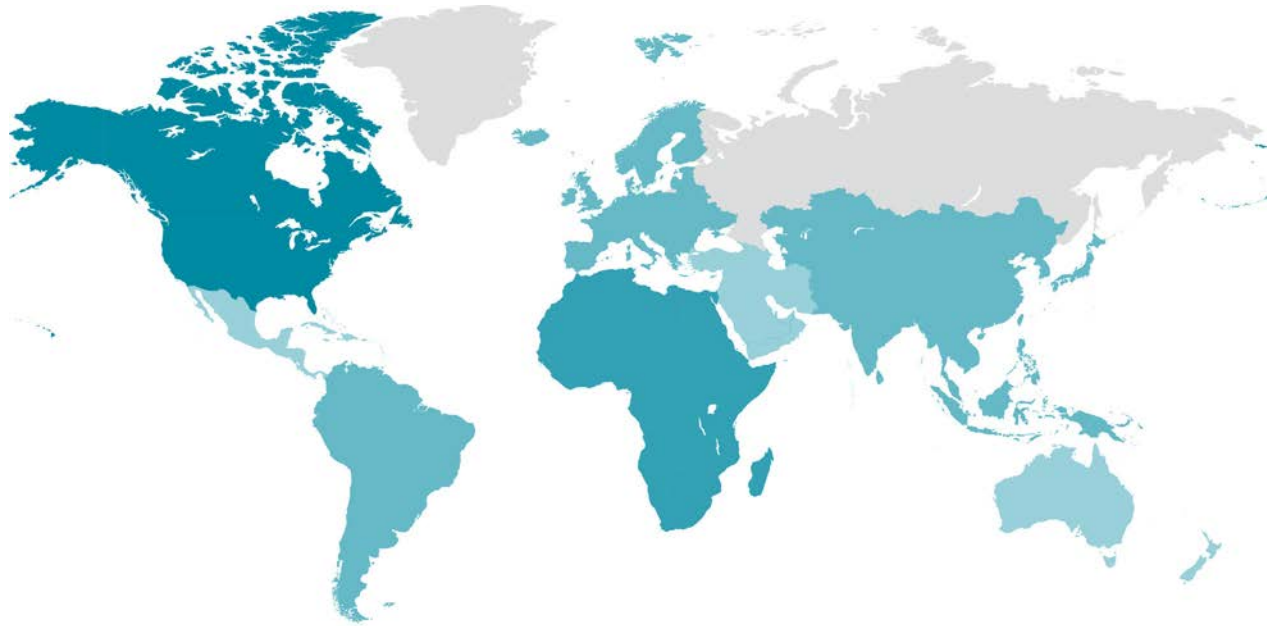
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