smartzone™ Connectivity

PanView iQ™ (PViQ™) Solution

PANDUIT®

infrastructure for a connected world

Leverage the Information Needed to Make Meaningful Operational Decisions

Research shows that half of all network problems arise from issues in the physical infrastructure. Yet the physical infrastructure is largely overlooked. Without real-time monitoring and visibility into dense physical layer connectivity and related data center infrastructure information, enterprises are vulnerable to a number of risks such as malicious disconnects or malicious tracing (to steal private information), and avoiding accidental disconnects creating unnecessary downtime.

Panduit® SmartZone™ Connectivity combines Panduit® PViQ™ Connectivity Hardware and Panduit® PViQ™ Connectivity Firmware to provide a secure connectivity solution. Giving the user higher network visibility through intelligent monitoring devices and pre-defined WebGUI dashboards. This solution will enhance security by monitoring for equipment disconnects in data centers as well as remote Edge Data Center & Colo Data Center for tenants. This combined approach helps optimize data center operations as enterprises embark on server virtualization, private and cloud computing initiatives.

"Because we are concerned about access to our network, audit ability, and the capacity to detect unauthorized connectivity as it relates to both patient info security and HIPAA guidelines, we have chosen Panduit to offer a complete end-to-end physical-to-logical software representation of our data center and infrastructure that will enhance our overall ability to deliver the highest levels of protection for health information privacy."

Kevin Lane, VP and CIO, Silver Cross Hospital
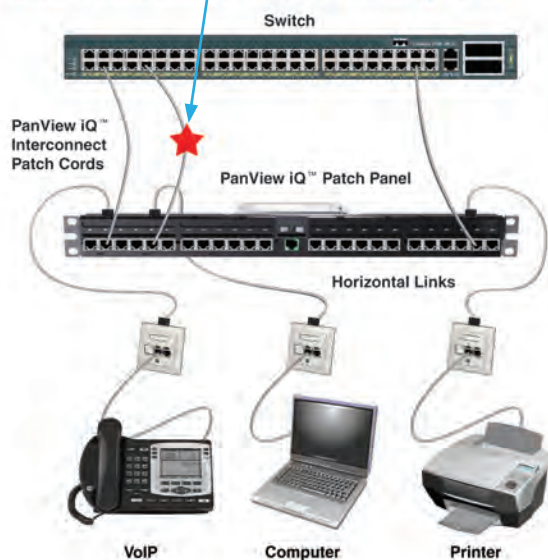
PViQ™ Connectivity Firmware

The Firmware provides the user a simple interface with a connectivity dashboard page for visual network connectivity status, patch configuration page to enable port provisioning, alarm page to show descriptive active alarms, and log page to show historical events of patching activity plus many more features.

Key Features

- Per port security policy setting, monitoring and alerting

- Real-time information on network connectivity status

- Monitor and alert of any patch field changes

- Monitor connectivity-based security risks

- Harden security with advanced encryption

- WebGUI-based management system

- Interconnect and cross-connect connections

- Cable presence detection assurance

- Cable mapping and visual tracing

- Copper and fiber options
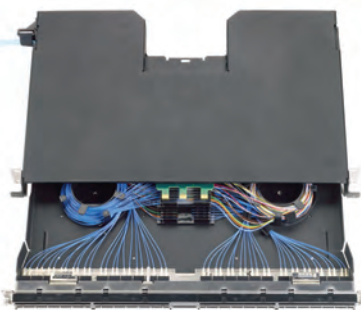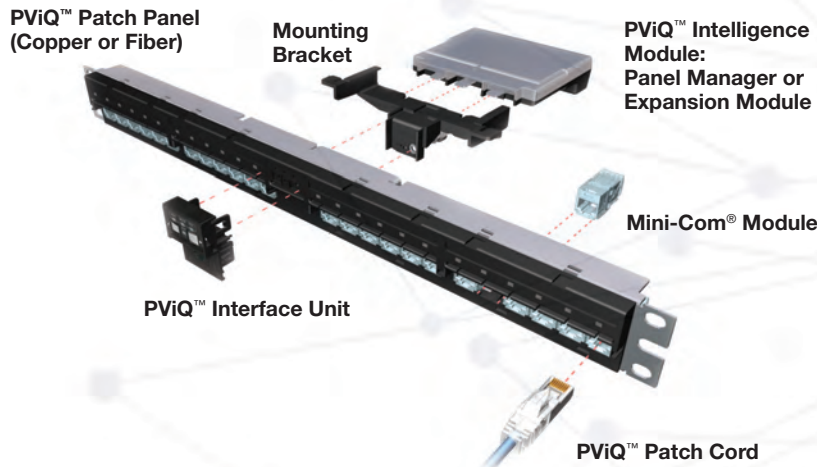
- Field upgradeable panel

PViQ™ Connectivity Hardware

As part of the SmartZone™ Solutions portfolio, Panduit's PViQ™ System Hardware combines industry-leading innovation of intelligent cabinet devices with complete system management. This combination of active patch panels, cabling, power distribution units, and environmental sensors provides you with a complete data center solution. Information about these devices can be accessed on site or remotely through a web-based interface to troubleshoot and execute on physical infrastructure changes for greater efficiency and cost savings.

PViQ™ Hardware for Connectivity Management includes intelligent patch panels, fiber trays, modules, and cabling to provide continuous real-time patch field monitoring and visibility of physical infrastructure connectivity for enhanced system reliability and security and capacity management.

PViQ™ Patch Panels
PViQ™ Patch Panels have been developed with functionality, scalability, and consideration for rack space efficiency. The innovative patch panel (copper or fiber) design gives IT Managers the option to phase installations (installing passive connectivity now and upgrading to a fully managed system at a later time) and to quickly swap out modules for upgrades or repairs without disrupting cabling or data traffic through the panels.

PViQ™ Patch Panel (Copper or Fiber)

Mounting Bracket

PViQ™ Intelligence Module: Panel Manager or Expansion Module

Mini-Com® Module

PViQ™ Interface Unit

PViQ™ Patch Cord

PViQ™ Fiber Trays
PViQ™ Fiber Trays provide real-time physical layer management to the fiber channels in the network. These fiber trays provide the capability to map and monitor the fiber channels to efficiently manage resources and substantially reduce network operations cost. They provide the capability to automate network documentation and maintenance procedures for the physical layer, which in turn supports improved reliability, security, and increased overall network management efficiency.

PViQ™ Enhanced Interconnect Patch Cords

The interconnect patching capability allows for accurate connections and disconnections between PViQ™ Patch Panels and specified switch ports through visual verification of change orders as defined through the SmartZone™ Software Suite.

The higher density of connection points on network equipment creates risk when changes are required. Identification of proper switch ports is imperative to ensure business continuity so that applications and services are not improperly connected or mistakenly taken out of service. The speed and accuracy of connecting to the correct switch port is increased through guided visual notification.

Building upon the functionality of the basic PViQ™ Interconnect Patch Cords, the new PViQ™ Enhanced Interconnect Patch Cords implement an industry-first design which integrates LEDs directly into the patch cord plug, providing visual verification of accurate patching and tracing activities.

Accurate Network Switch Port Connections: PViQ™ Enhanced Interconnect Patch Cords visually indicate and verify accurate insertion at the switch port, ensuring that the right services and networking capabilities are provided for this connection.

Visual Traceability: PViQ™ Enhanced Interconnect Patch Cords enable port tracing between PViQ™ Patch Panels and network switches via local access or remote management. This innovative capability allows for direct mapping and verification of end-to-end patch field connection points.

Guided Disconnects: The PViQ™ System Hardware guides removal of PViQ™ Enhanced Interconnect Patch Cords from both the switch and corresponding patch panel to reduce risk and enable secure disconnects reducing the potential for service disruption to peripheral ports.
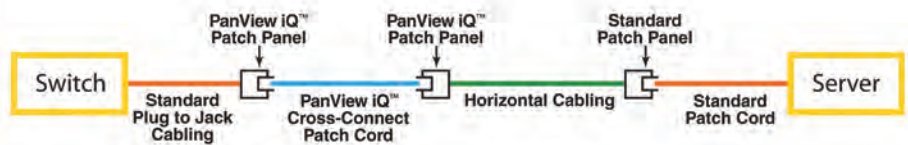
Interconnect Configurations

The interconnect configuration is ideal for data centers with limited space areas that have lower reconfiguration requirements and utilize higher density connections than other computing areas. The new PViQ™ System Hardware interconnect capability provides the assurance of accurate switch port provisioning and patch field documentation when monitored through the SmartZone™ Software Suite. This revolutionary design requires no additional cables, appliances, or obstructive overlays on network equipment which can interfere with port connections.

When network elements such as switches need to be reconfigured, the PanView iQ™ System provides LED guidance to ensure proper switch port allocation/de-allocation. Network elements such as servers can also be monitored at the physical layer to ensure proper connectivity. With the PViQ™ System Hardware, both ends of the switch-server relationship are monitored via the SmartZone™ Software Suite, which leads to quicker problem resolution and rapid service/application restoration.
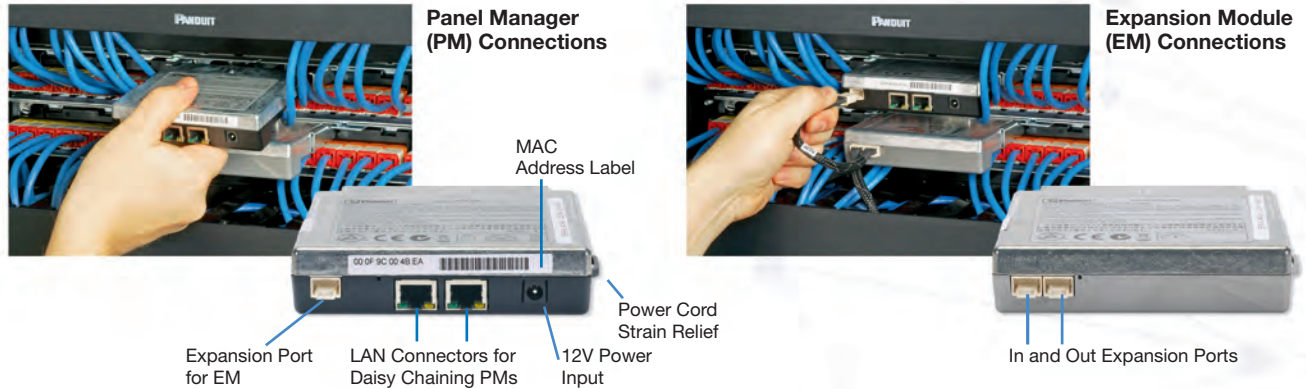
Cross-Connect Configurations

A cross-connect configuration is warranted in data centers where frequent Moves, Adds, Changes and application reconfigurations necessitate flexible and easily accessible patching connectivity.

In cross-connect configurations, the highest density network element (such as the high-speed switch) is permanently cabled through the back of a PViQ™ Patch Panel with modular jacks. PViQ™ Patch Cords are then connected between the front of that panel and the remote PViQ™ Patch Panel cabled via horizontal runs to remote cabinets, typically containing other network elements (e.g., servers) or endpoint equipment (e.g., computers, IP phones, security equipment, etc.).

PViQ™ Intelligence Modules

Panel Manager (PM) – The PViQ™ Panel Manager is designed to consolidate patch field scanning and management functions into a single, removable module. It contains an embedded web interface for remote management and access to connectivity information.

Panel Manager (PM) Connections

MAC Address Label

Expansion Port for EM

LAN Connectors for Daisy Chaining PMs

12V Power Input

Power Cord Strain Relief

Expansion Module (EM) Connections

In and Out Expansion Ports

Expansion Manager (EM) – The PViQ™ Expansion Module cost effectively expands the scanning and management capabilities of the PViQ™ Panel Manager to additional patch panels.

PViQ™ Interface Units

Secure Mode – Visually and audibly alerts users when any changes are made
Trace Mode – Visually verifies patch field connectivity at both ends of the patch cord
Maintenance Mode – Enables locally and remotely performed diagnostic services
Learn Mode – Allows ad hoc patching changes to be automatically updated in the database

Indicator LEDs

Navigation Buttons
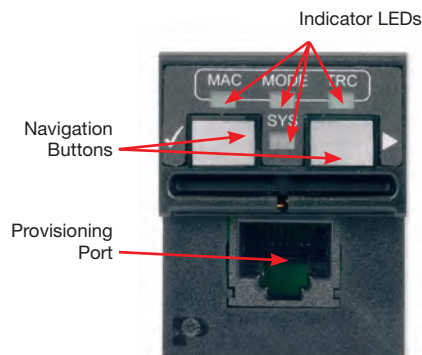
Provisioning Port

Interface unit shown for PViQ™ Panel Manager (PM). Interface unit for PViQ™ Expansion Manager (EM) does not contain provisioning port.

Part of Panduit's End-To-End Intelligent Data Center Solutions

Physical Infrastructure Management PanView iQ™ (PViQ™) System Hardware is a critical part of Panduit's Intelligent Data Center Solutions, which embody the next wave of systems integration and risk management by aligning and harmonizing critical systems to support the delivery of secure, energy-efficient, always-on, real-time data and services.

## The five key pillars of Panduit's Intelligent Data Center Solution include:

Data Center Advisory Services – offering expertise to provide a reliable and scalable physical infrastructure that delivers operational flexibility to reduce costs, improve scalability, and meet future requirements by laying a strong foundation for migration to next generation solutions, mitigating risks surrounding consolidation and virtualization, and achieving greater energy and real-estate efficiency.

Intelligent Software and Intelligent Hardware Appliances – providing complete data center infrastructure management (DCIM) through monitoring and management of critical physical layer resources (including IT asset tracking, allocation, and utilization), power usage, available space for expansion, and connectivity.

Energy-Efficient Cabinets – offering modular designs that improve cooling conservation for greater thermal management and deliver accessibility, flexibility, and effective space utilization.

High Speed Data Transport (HSDT) Copper and Fiber Cabling Systems – offering ease of deployment and proven performance to ensure availability, reliability, and scalability of mission-critical systems.

Physical Infrastructure Foundation – includes all critical systems, such as pathways, zone cabling, routing, grounding, labeling and identification, and more, that support a smart data center and ensure reliability, agility, and security to drive business advantages and overall success.
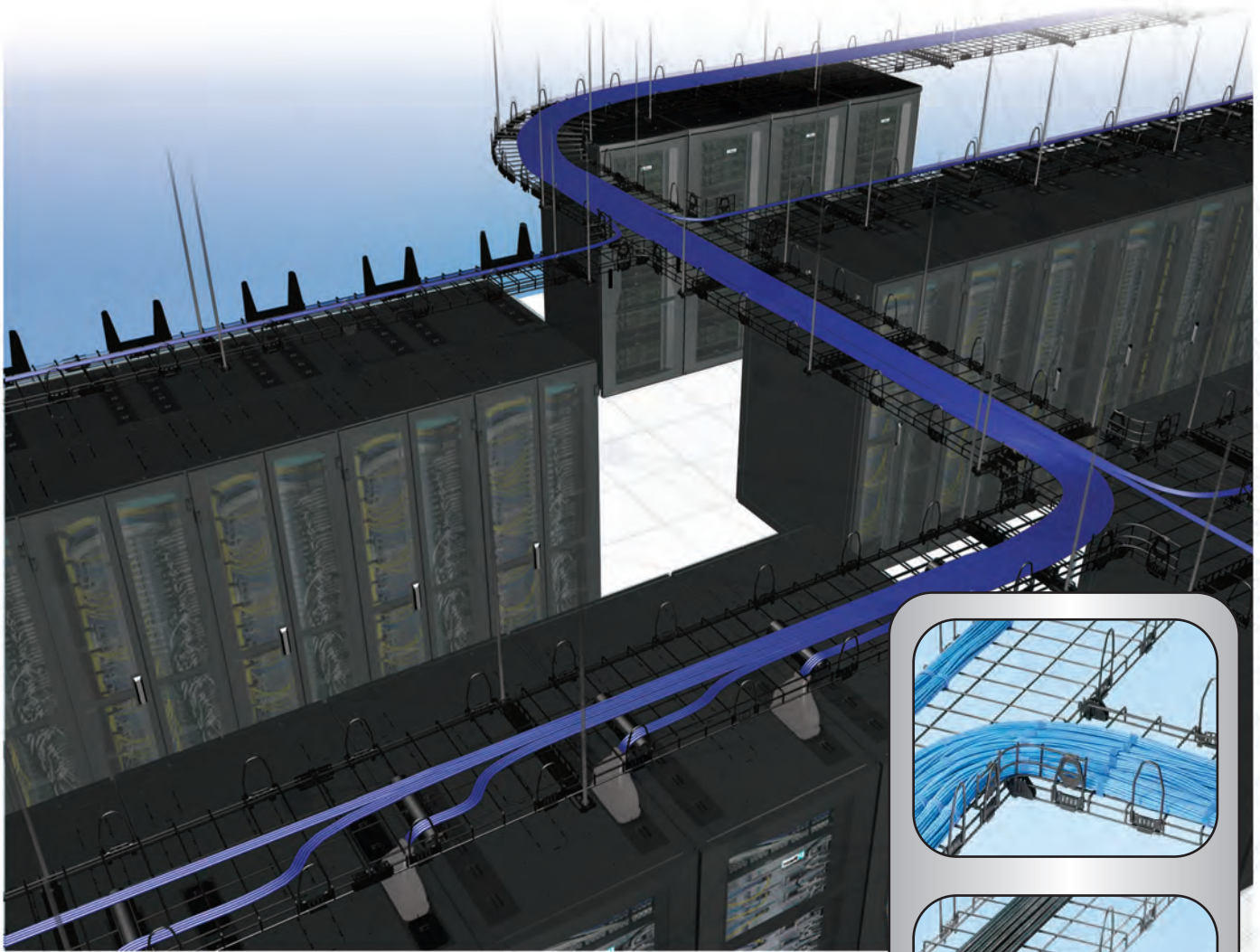
Panduit's full range of overhead and underfloor cable routing systems manage and protect fiber optic and copper cabling systems, as well as power cabling, to enhance reliability and flexibility in the data center.
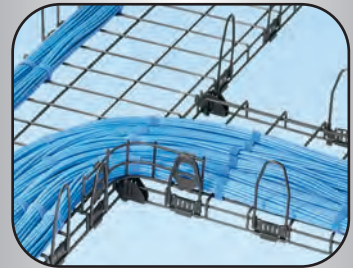
The versatile Panduit® Wyr-Grid® Cable Tray System is engineered to route and support high densities of data and power cables.

PANDUIT®

Panduit Corp.
World Headquarters
Tinley Park, IL 60487

cs@panduit.com
US and Canada: 800.777.3300
Europe, Middle East, and Africa:
44.20.8601.7200
Latin America: 52.33.3777.6000
Asia Pacific: 65.6305.7575

www.panduit.com