



IntraVUE™ Industrial Network Visualization and Analytics

Increasing Plant-level Awareness of the Industrial Network

Real-Time Visibility into Critical Plant Network Infrastructure

Ethernet networks are the critical link between the Manufacturing and Automation Systems and the Business Systems. With the number of connected industrial devices expected to increase dramatically in the future — the Internet of Things (IoT) is rapidly shifting toward an astonishing 50 billion connected devices by 2020¹, creating a greater possibility of disruptions. With so many connected devices to manage, detection, diagnosis and problem resolution have become a costly and time-consuming task.

IntraVUE™ Industrial Network Visualization and Analytics² addresses the challenges unique to industrial environments, providing visibility into all levels of devices. This enables operational field technicians to efficiently communicate with IT resources. IntraVUE™ software also helps to speed both documentation and deployment, and provides advanced analytics to optimize ongoing performance.

Armed with these capabilities, the software empowers controls professionals to shift from a reactive response approach, i.e., responding only when a disruption occurs, to a pro-active approach, which can greatly improve both the uptime and performance of critical, real-time networks.



- “IntraVUE™ software by Panduit provides its manufacturing customers a window into its physical infrastructure solutions that will help them avoid or shorten unscheduled downtime, which can often provide an immediate return on investment the first time downtime is prevented or substantially reduced.”

— Craig Resnick, Vice President,
Consulting – ARC Advisory Group



Increase Awareness with Greater Visibility

Leverage Real-time Visualization and Monitoring Across Ethernet Endpoints

IntraVUE™ software delivers real-time, graphical visibility into devices that reside on the edge of the network, leveraging switch data to detect many issues that can disrupt performance or availability.

Designed for ease-of-installation and minimal required training, the software automatically detects all Ethernet-connected devices, and assembles them into a connection tree diagram of the physical layer network infrastructure. The map details:

- Devices
- Associated IP addresses
- How devices connect to each other

This information provides comprehensive, accurate view of the entire Ethernet device architecture. The map is displayed via a powerful, yet intuitive hyperbolic graphical interface, making it the ideal tool for non-technical users. IntraVUE™ software automatically generates notifications for the most common plant floor network issues. Once devices are detected, the software provides 24/7 monitoring and data capture, from intermittent disturbances to the overall health of devices and connections.



Speed and Validate Software Deployment

Download and Get Started Today

Available as an Internet download to a laptop or desktop PC, IntraVUE™ software can be deployed quickly, and is easy to maintain. As the architecture and number of connected devices increase, IntraVUE™ software can seamlessly scale to incorporate those as well—from a handful of devices to thousands. Displays are typically set to manage 500 devices. IntraVUE™ software simplifies a variety of deployment tasks, including:

- Disaster recovery
- Validation of as-built versus current state
- Support for interactions among the System Integrator (SI) Project Engineer, installer, and the end user

IntraVUE™ Deployment and Maintenance At-a-Glance

- Reduces time-to-deployment and troubleshooting of automation devices
- Provides insight for preventative maintenance
- Organizes details and information to simplify support activities

Realize Fast Return on Investment

Once installed, IntraVUE™ software customers usually realize ROI in only six months, through cost savings around improved documentation, reduced failures, fewer errors, less reliance on high-skilled IT to resolve network problems, and reduced time and costs associated with network expansions.



Collect and Document Essential Data

Streamline Documentation

IntraVUE™ software can export data devices connected to your network with port-by-port mapping to assist with asset management. The software functions as a data recorder, documenting all events and time periods, including specific details— within seconds resolution—and stores the data in an internal database.

This real-time data provides a live view of the network and details for diagnostics and advanced analytics that local teams responsible for your equipment can leverage. Most importantly, you can use the IntraVUE™ software detailed diagnostic reports to speed problem identification and prevent costly downtime. The software:

- Identifies and tracks changes
- Does not require seat licenses
- Collects data and provides views offline to review networks that have been scanned elsewhere

IntraVUE™ Monitoring and Data Capture At-a-Glance

- Capture intermittent disturbances and health of devices and connections 24/7
- Remotely view one or many IntraVUE™ software systems
- Easily transmit captured details electronically for analysis
- Generate targeted reports to simplify and inform support actions

Diagnose Network Problems from Any Location

Another common challenge is understanding which connectivity failures are the most critical. IntraVUE™ software narrows the scope of problem detection, by generating event logs and trend graphs that are available instantly via web browser or email. The report provides a detailed analysis to assist in troubleshooting network connections, helping to prevent costly network disruptions.

In addition, IntraVUE™ software provides easy remote viewing, to quickly identify network issues that occur outside work hours. This enables users to capture and share data while avoiding unnecessary plant-to-plant travel outside work hours.



Use Advanced Analytics to Accelerate Troubleshooting

Narrow the Scope of Problem Detection

Designed for immediate problem analysis or for periodic maintenance reviews, the IntraVUE™ software online Diagnostic Report Generator is accessible 24/7/365 from any laptop, tablet, or smartphone. Users can generate various reports, which are targeted to the skills and responsibilities of each user. Once requested, reports are available via email in minutes.

In addition, you can use IntraVUE™ software to establish custom Key Performance Indicators (KPIs), and generate a daily KPI Report that provides instant access to information on issues affecting critical equipment. Diagnostic Reports and KPI Reports are available 24/7/365 via laptop, tablet or smartphone on both iOS and Android devices.

Pinpoint and Resolve Connectivity Failures

Once the most critical areas of concern have been identified in the on-demand diagnostic report, users can return to the trend graphs to access granular views by device. Drill-down boxes on the graphical map provide information at the device level about the connection, history of events, and support documentation —reducing the time and labor costs of network installations and locating documentation. Connectivity status is displayed in color codes on the map; green (connected); red (not connected); and yellow (outside user set threshold).

Advanced analytics views provide access details that, as with all IntraVUE™ software reports, are specifically tailored to the responsibilities and skill levels of various users, including:

- Maintenance technicians
- Controls professionals
- Manufacturing IT
- Plant management



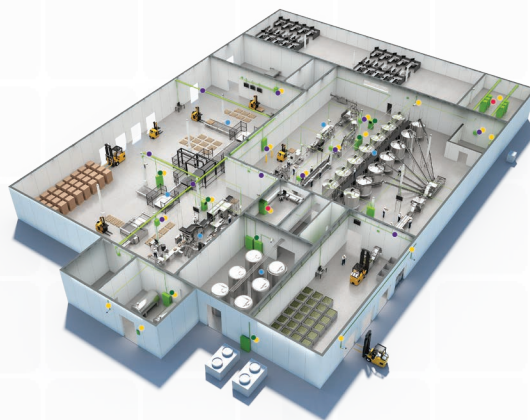
Simplifying Robust Industrial Network and IoT Deployment

Simplify the Management of Ethernet Connectivity

With fast, simplified problem detection and diagnosis, IntraVUE™ software enables manufacturers to gain a reliable, secure, robust automation network infrastructure deployment—a much-needed tool in today's complex and highly sensitive industrial automation ecosystem. IntraVUE™ software leverages real-time visualization and monitoring of the industrial network to identify potential issues.

An End-to-End Solution

IntraVUE™ software is part of the Panduit industrial building blocks, supporting network convergence in a secure, protected environment, and allowing identification and reporting of critical information. These building blocks enable a reliable end-to-end physical layer infrastructure—from the enterprise to the edge.

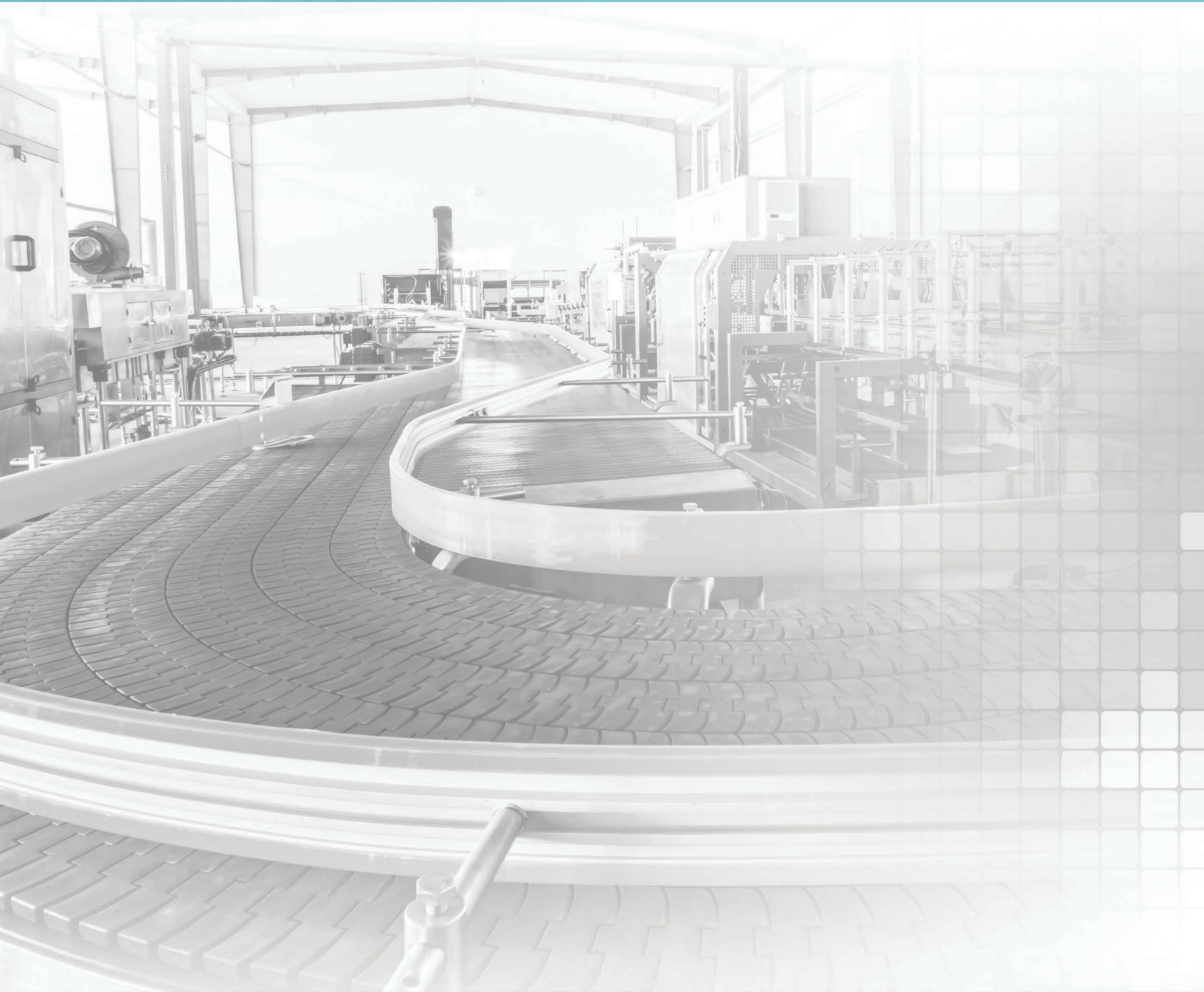


-  IN-ROOM™
-  IN-ROUTE™
-  IN-PANEL™
-  IN-FIELD™
-  IN-FRASTRUCTURE™

For more information about IntraVUE™ software and how it fits into Panduit Industrial Automation solutions, visit **www.panduit.com** or contact us at **iai@panduit.com**

¹Source: Cisco, The Internet of Things, April 2011

²License and annual maintenance purchase required for access to software.



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