

SOLUTIONS BRIEF

MANUFACTURING DISTRIBUTION

Network disruptions in a manufacturing plant or distribution center can kill production. If production slows down or stops, every minute is lost revenue. And minor delays in order processing, shipment tracking, and fulfillment obligations instantly affect the bottom line. Ideal for modern manufacturing environments that leverage wireless-enabled IoT clients such as PLC devices, RF inventory scanners and automated robots, Voyance has become the standard network analytics platform. Voyance delivers actionable insights into, control over and remediation of essential devices driving top line revenue and bottom line operational efficiency. With Voyance, manufacturers now have context-based analysis and unique cross-stack visibility into network-driven production plants driving efficiencies between RF devices and MRP systems.

QUANTIFIABLE BENEFITS

- Reduction in network service disruptions
- Unprecedented visibility into IoT devices
- Single source for client/user performance
- Monitoring of custom manufacturing apps
- Proactive remediation recommendations
- Quantifying the effect of network changes
- Reduced reliance on disparate network tools
- Faster remediation of client/network incidents
- Proactive capacity planning

KEY ISSUES

- Production disruption from dropped connections
- Lack of visibility into IoT tools and devices
- Inability to track and measure IoT device performance
- Bottom line revenue impact due impacted production
- Cross stack client network transaction measurements
- Finding and fixing client misconfiguration causing problems
- Measuring and tracking application response times

USE CASES

- Detailed visibility into PLC, manufacturing and automation devices
- Performance management of RF scanners
- Automatic performance analysis of IoT-based tools and networked production machinery
- Custom MRP/ERP application monitoring

RESULTS AND RETURN ON INVESTMENT

- 10-50% increase in production/operational efficiency
- 40-50% reduction in time to find and fix network issues
- 45-55% improvement in device and client productivity
- Ability to demonstrably improve top line revenue
- ROI validation of infrastructure changes and upgrades

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IMPROVED PRODUCTION CAPACITY AND QUALITY

- With a single source of truth for all factions within network team, Voyance improves device performance, application response times and network service behavior with precise identification of service disruptions and lost hours of client connectivity to increase manufacturing production and quality.

GREATER UPTIME AND FEWER MANUFACTURING DISRUPTIONS

- Automatic real time and historical insights into device, application, and network service disruptions deliver greater uptime, increased productivity and fewer disruptions to the production process.

UNPRECEDENTED VISIBILITY INTO NEW PRODUCTION LINE IOT TOOLS

- Real time / historical insights and remediation recommendations for device, application, and network service disruptions impacting client performance.

BETTER WI-FI STABILITY AND PERFORMANCE

- Wi-Fi device performance is measured and analyzed across a variety of dimensions to pinpoint where problems and capacity constraints are hiding. Proactive remediation suggestions help network staff get and stay ahead of any issues creating a more stable and smooth performing wireless environment.

COST JUSTIFICATION FOR IT MANAGEMENT

- Justify technology spend through user adaption, validate network design and identify potential service problems across all parts of the wired / wireless infrastructure to ensure the highest possible productivity.

SELECT COMMERCIAL DEPLOYMENTS



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CASE STUDY: IoT insights from network analytics increase product line efficiency



For a global car manufacturer using Wi-Fi connected tools such as robots and automated machinery on the production floor, ensuring the best possible client performance wasn't optional.

If these tools didn't function properly with the network, car production stopped. Troubleshooting these devices and their performance on and with the network requires analyzing too much data from too many disparate systems by too many people.

THE BIG CHALLENGE

With Bosch electronic torque wrenches tweaking cars on the production line, if any network connectivity or performance problems arose production suffered.

This network-attached machinery was expensive and needed to work at full capacity. These automated robots depended on stable Wi-Fi connectivity to report back their progress to the manufacturer's OPC application.

While the devices reported that they were connected to the Wi-Fi network, their operation wasn't optimal. Getting to the heart of problem(s) presented a major challenge within an elaborate wired and wireless access network with a wealth of devices, services and apps running.

ENTER VOYANCE FROM NYANSA

After trying a number different options, the car company turned to Voyance from Nyansa. Soon after installing a Voyance crawler in the network, answers poured in.

Voyance discovered that many of the Wi-Fi attached tools were behaving badly or experiencing intermittent issues on the network which were causing problems.

While the tools would successfully associate with the Wi-Fi network and connect, some often became sticky to a specific access point (AP). Conversely if these tools roamed, they would often roam between a variety of APs, some of which were far away.

THE BIG PAYOFF

Voyance also determined that at the time of the incident, these tools encountered high L2 packet retransmission rates, poor roaming behavior, and interference from rogue APs. Another issue discovered was significantly lower channel availability on the access points.... And although acceptable, the SNR during the time of the issue was less than after moving to the new AP.

To gain these insights in any other way would have required network operations to capture packets, analyze log data from a number of disparate systems and stare at wireless LAN statistics for days.

After resetting the tools, tweaking the wireless LAN and eliminating some of these identified issues, production is now in full swing.

Armed with quantifiable performance data of each client, the car manufacturer was able to take specific configuration actions to address each root cause.

And if problems persisted, manufacturer could also go back to the supplier with the exact data proving the problems.

With Voyance, driving just got a whole lot better.

