

# Plex Systems, Inc. uses Virtana to empower peak performance for Plex Manufacturing Cloud



## ABOUT

**Industry**  
Software Development

**Headquarters**  
Troy, MI, USA



## OBJECTIVE

Implement a solution that provides realtime monitoring, data collection, and infrastructure performance analysis.



## RESULTS

A highly responsive Plex Cloud, with storage and fibre channel infrastructure continuously running optimally.

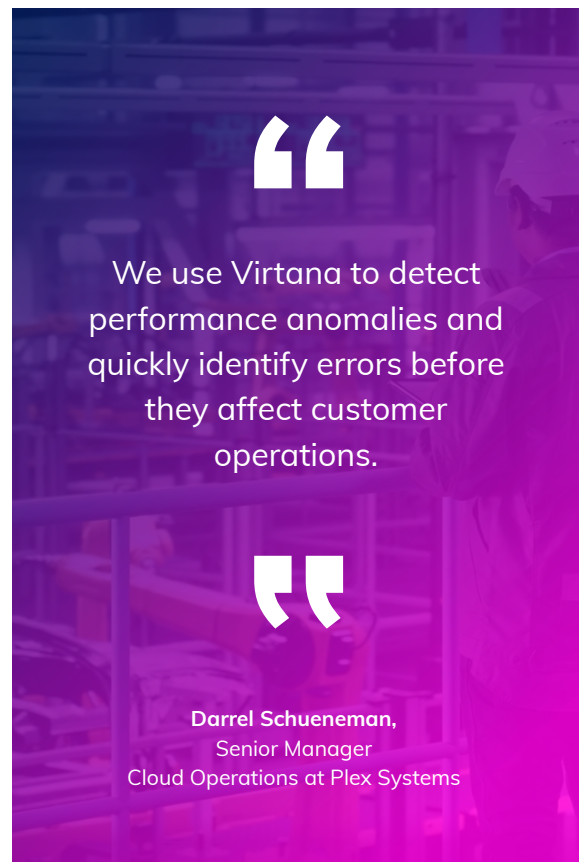
## ABOUT Plex Systems

Plex Systems, Inc. is a leader in cloud-based manufacturing ERP and MES software for various industries, including automotive, aerospace, food and beverage, industrial machinery, and precision metal forming. With an end-to-end solution that captures information from the 'shop floor to the top floor' for analytics and reporting, Plex enables its customers to make crucial business decisions more quickly and efficiently.

The PlexManufacturing Cloud is distributed across four data centers that house several petabytes of Hitachi and EMC storage connected via Cisco switches, serving approximately 600 customers across 2,000 facilities in more than 20 countries.



by **ROCKWELL AUTOMATION**



We use Virtana to detect performance anomalies and quickly identify errors before they affect customer operations.



**Darrel Schueneman,**  
Senior Manager  
Cloud Operations at Plex Systems



**THE CHALLENGE:**

**Evolving its IT infrastructure to meet changing customer demands quickly and cost-effectively**

As Plex has grown, continuously improving its IT infrastructure has remained a priority to maintain high levels of performance and reliability. As part of this effort, Plex is constantly evaluating system performance, reliability, and scalability. Against a backdrop of healthy global growth, Plex decided to increase its investment in server and storage infrastructure health and performance monitoring to meet customer requirements for performance, reliability, and scalability.

Plex was looking for a solution that would provide comprehensive monitoring, data collection, and analysis of infrastructure performance—including availability, throughput, response time, and resource utilization, as well as workload and storage I/O performance. Because Plex’s cloudbased solution is hybrid, the solution needed to work seamlessly across physical and virtual environments. In addition, Plex had several critical technical requirements.

**Technical Requirements**

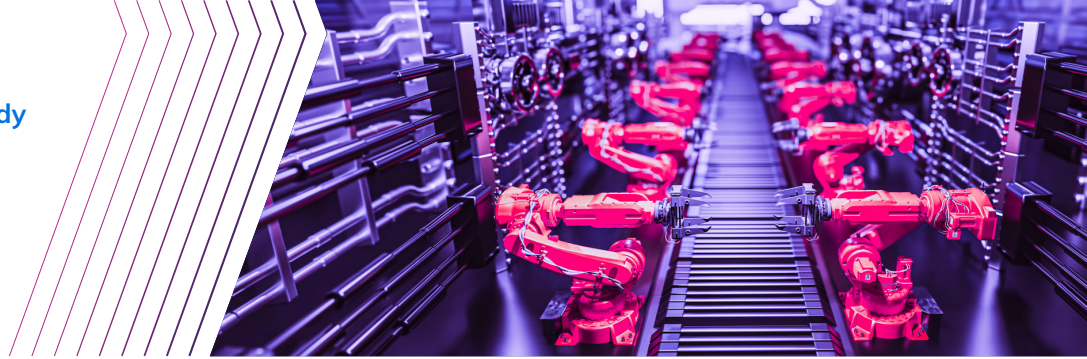
- Infrastructure Monitoring
  - VMware virtualization
  - Communication between VMware and storage arrays
  - Traffic between storage arrays and backup data
  - Communication between SQL servers and storage arrays
  - Fibre channel storage (all aspects)
- Collect both real-time and historical data for deeper insight—to enable proactive management and trend analysis
- Provide pre-production storage/workload validation
- Tight integration with VMware, Cisco switches, EMC, and Hitachi storage
- Quick installation and time-to-value

**THE SOLUTION:**

**Virtana Storage Load Testing and Infrastructure Performance Management**

The Virtana product portfolio met all the requirements. Virtana Storage Load Testing provides workload performance analysis to find optimal storage configurations across a range of workload types running on a variety of systems, storage, and networks.

Plex also used Virtana’s Infrastructure Performance Management (IPM) to gain real-time insight into performance across their multiple cloud-based data centers. By using these solutions, Plex can meet customer requirements for performance and reliability and resolve issues before they impact customers.



**THE RESULTS:**

**A set of tools that identify anomalies before they become problems.**

Plex provides a mission-critical cloud service. Even a minute of downtime or unacceptably slow performance can mean lost revenue or productivity to its manufacturing customers. With Virtana IPM, Plex can address problems proactively, resolving performance-related issues with instant monitoring of critical infrastructure components.

For example, Plex monitors storage infrastructure in real-time, looking at fibre channel traffic and storage arrays at a very granular level that isn't possible with alternative monitoring solutions. Darrel Schueneman, Senior Manager of Cloud Operations at Plex Systems, noted, "The Plex Cloud must be very responsive, with storage and fibre channel infrastructure running optimally at all times. For example, we use Virtana to detect performance anomalies in fibre channel communication, quickly identifying errors and replacing faulty components in our physical infrastructure before they affect customer operations. Without Virtana IPM, we would spend days to find issues like that, with a huge potential cost to both Plex and its customers."

Schueneman continued, "After the PowerPlex user conference, our customers tend to adopt and use new aspects and features of our applications based on what they learned at the conference. Using tools like Virtana IPM ensures we are covered for any spikes in usage by expanding to add more throughput or storage capacity."

Plex used Storage Load Testing, which enabled them to run tests that simulate production workloads to capture performance metrics.

When Plex assessed the EMC VMAX storage array pre-purchase, Plex used Storage Load Testing to validate EMC performance claims. Virtana set up the configuration in the EMC test lab, gathered the workload profiles, set up a simulation to mimic production scenarios, studied workload patterns, and helped Plex perform all the testing—concluding that the EMC VMAX met or surpassed Plex's performance requirements.

Finally, Virtana's partnership with Cisco is essential to Plex. Schueneman observed, "With most of our storage being EMC and our heavy use of Cisco switches, we are able to get critical information across our entire infrastructure, which makes it easier to identify trends and tie different events together."

Plex has deployed Virtana IPM in all four of its data centers. As Plex grows and expands its footprint, the company continues to rely on Virtana to improve performance and availability for Plex customers. Plex is also working with Virtana to integrate with other infrastructure management elements, including ServiceNow, to improve automation and show trends, linkages, and dependencies across its infrastructure.

One of Plex's other goals is to extend automation throughout the Plex Manufacturing Cloud, creating repeatable and consistent processes. The next phase is automating those processes to do configuration and capacity planning. The Virtana product portfolio is in lockstep, providing information on historical trends and real-time data to support automated tasks."