Improve Uptime with Predictive Maintenance

Leverage a data-driven model for predictive analytics.

An enterprise intelligence platform built on Dell technology and optimized for Splunk that leverages historical machine data to reduce downtime and avoid the associated costs

The Dell Validated Design for Analytics — Predictive Maintenance with Splunk uses a combination of data, statistics, machine learning (ML) and modeling to provide actionable insights about production machinery that allow businesses to avoid making unnecessary repairs, proactively prevent potentially catastrophic machine failures, and eliminate the profit-reducing costs of unplanned downtime.

This solution is composed of Splunk® Enterprise software for collecting, exploring, analyzing and operationalizing data, running on an engineering-Validated Design composed of Dell PowerEdge servers, PowerSwitch networking and ECS storage. The solution is optimized to deliver the performance required for timely and actionable predictive analytics.

Avoid costly unscheduled downtime.

Organizations today deal with data being generated more rapidly than ever. The proliferation of industrial Internet of Things (IIoT) has compounded the data torrent by driving rapid growth in the number of sources (sensors, actuators, and other devices). Often, the data from those sources pertains to the operational or functional status of IIoT-connected systems or machines.

The abundance of machine data does not automatically yield abundant insights. The volume of existing data, the velocity at which new data is generated, and the variety of data created are among the primary reasons it is difficult to perform analyses to drive actionable insights. Teams need to focus on when and why to perform unanticipated, just-in-time maintenance on machines that are about to fail and lead to costly unscheduled downtime.

Machine data informs operations.

Splunk Enterprise can ingest, analyze and visualize real-time and historical machine data from any source, including industrial control systems and connected IIoT devices. It works with any data type — structured, unstructured, and semi-structured data. Splunk collects and correlates that machine data with data from other sources using machine learning (ML)-driven scenarios focused on preventing unplanned outages. This enables Splunk to provide guidance that informs teams to move beyond preventive and reactive maintenance to predictive maintenance. Proactively remediating machine failure reduces unplanned downtime and helps avoid the associated costs.

Splunk can best achieve these deep insights when it is running on an infrastructure optimized for efficiency. Dell Technologies and Splunk created a Validated Design for Predictive Maintenance to tap into the true predictive potential of your machine data.

Technical specifications

The Validated Design for Analytics – Predictive Maintenance with Splunk is based on extensive customer experience, and it includes all the hardware and software needed for predictive maintenance workloads.

Dell servers	Dell networking	Dell storage	Software
3x PowerEdge R650 (head nodes) 4x PowerEdge R750 (worker nodes)	2x PowerSwitch S5248F-ON	5x Elastic Cloud Store (ECS) EX500	Splunk Enterprise

Get started with predictive maintenance

Performance and quality of information are important components of a predictive analytics solution, and this Design provides both. Dell has tested and validated the solution with Splunk Enterprise software to optimize your Splunk deployment and make it easy to upgrade and scale.

Dell Technologies analytics experts are available to help you design a solution for your specific needs. And Dell Technologies Services — ranging from consulting and education to deployment and support — are available when and where you need them. Dell Technologies also offers a broad range of financial options, including flexible consumption models to evolve with you over time.

D&LL Technologies