INTRODUCING
System 1* Fleet Management
A GE Predictivity™ Solution
System 1 Fleet Management Overview

GE’s Bently Nevada* System 1 Fleet Management is a web-based dashboard providing a single, secure access point for monitoring equipment and instrument health from the machine to fleet levels across industrial users. System 1 Fleet Management offers a simple and intuitive interface while supporting workflow in a secure and reliable manner. With a straightforward implementation, the dashboard is affordable and requires little training for use and maintenance.

System 1 Fleet Management adds new capabilities to the System 1 suite, GE’s patented condition monitoring software platform for real-time condition monitoring, and event diagnostics that enable increased equipment availability and reliability while reducing maintenance costs. System 1 Fleet Management applies Analytics to instrument and software alarms to help users quickly identify their equipment and instrument health issues. It securely connects to all your System 1 Enterprises to allow for summaries at the Fleet, Site, Train and Machine levels, allowing you to efficiently and effectively apply your focus.

The Fundamentals to Successful Condition Monitoring

There are three phases that drive a successful Condition Based Maintenance Program:

Work Identification

Work Evaluation

Work Execution

Today, System 1 is an enabler of Work Identification, or what is commonly referred to as Condition Monitoring. When applying Condition Monitoring Software, we feel there are three critical building pillars that will enable Adoption of Condition Monitoring: Accessibility, Usability, and Capability. An organization’s commitment to Adoption is the most critical, once successful its focus can move toward the other three. System 1 Fleet Management, coupled with Supporting Services from Bently Nevada’s certified services team strengthens each of the critical pillars.

Adoption

While successful adoption of condition monitoring software is largely associated with an organization’s overall commitment, having the right tools can also contribute to that success. The increased accessibility that System 1 Fleet Management brings will help with adoption by allowing a program to expand outside of the process control domain environment and into the business domain environment. Its focus on usability will allow more time for using the tool rather than learning how to use the tool. Lastly, the added capability will allow for more efficiency and effective condition monitoring. All of these critical building blocks will help drive the successful adoption of condition monitoring software and ultimately a successful condition monitoring program.
Accessibility

The focus on Cyber Security is growing at accelerated rates. Protecting your IT infrastructure from attack is an ongoing process and is constantly scrutinized. Network architectures are locked down with firewalls making it very difficult and sometimes impossible to effectively use all the data collected. In many cases, the tools and data used for Condition Monitoring can be buried deep and inaccessible. The foundation of System 1 Fleet Management is an OPC UA server built around System 1 that exposes System 1 machines and data as a collection of web services. These web services can be configured for HTTPS with SSL. To communicate System 1 data with the centralized Fleet Management solution in a firewall friendly manner, the Fleet Management communications agent has been developed. The Fleet communications agent will request data from the System 1 OPC UA server and send the information as an outbound HTTPS request to the centralized System 1 Fleet Management solution. This is a scalable architecture that allows communications agents to be deployed on a System 1 server and communicate with Fleet Management without having to open any inbound firewall ports. It also means that once the System 1 Fleet is configured, it can be easily and securely connected by simply pointing them to the IP address of the centralized Fleet solution. The communications agent uses HTTPS with SSL to ensure that data is kept secure and confidential.

Usability

The System 1 Fleet Management tool was developed with the word “simple” as our theme. It uses a simple hierarchy with the ability to quickly move to and from your Fleet, Site, Equipment Train, or Machine. The layout is simple to follow and easy to navigate. Analytics are used to drive easily distinguishable gauges that provide indications of the health of your equipment and instruments at all the levels stated above. The capabilities of OPC UA automatically drive the hierarchy to match what is in an organization’s System 1, allowing for simple deployment and easy correlation between the Fleet Management Tool and System 1.
Capability

System 1 Enterprises are configured to log many different types of useful Alarms and Events. While all this information is valuable, it can be overwhelming to interpret and effort intensive to manage. System 1 Fleet Management uses analytics to quickly identify proactive measures to resolve identified issues. These actions range from instrumentation problems to issues that compromise the availability of equipment.

System 1 Fleet Management allows you to evaluate the health of your equipment and your instrumentation separately. Further, it provides two views of equipment health: hardware alarms that could drive a shutdown through protection systems and software alarms used for indicating change. It also provides two views of instrument health, including hardware alarms that give indications of sensor issues and software alarms that give indications of data collection issues. Combining these two views allows you to know the health of your condition monitoring system to ensure that you have the data you need to evaluate the health of your equipment.

System 1 Fleet Management Features

Available end of 2013

Fundamentals Package

Equipment & Instrument Health
Summaries at the Fleet, Site, and Train Levels
Alarm & Event Management
Basic Diagnostic Capability
Secure Connectivity to System 1

Available beginning of 2014

Fundamentals Package
Premise or GE Hosted Capability
Alarm & Event Analytics

Advanced Package
Fundamentals Package Features
+ User Defined Screens
Mobile
Reporting
Secure Connectivity to SmartSignal
Access to our Advanced Widget Library

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