# MANAGE

## IoT Device Management with DataV Manage

Business-critical equipment is the lifeblood of all industrial organizations. The ability to easily manage the complete lifecycle of diverse, far-flung assets that may number in the millions is paramount. A scalable, secure IoT management system is essential for businesses seeking greater control over asset performance, maintenance, and full lifecycle management.

DataV Manage provides intelligent lifecycle management of millions of IoT devices, from adding new devices to decommissioning old ones. By evaluating the behavior and contextual information of digital twins of physical assets over time, DataV Manage allows actions to be taken on individual devices or logical groups, providing a network-wide picture of asset inventories and health. It determines actions to improve reliability such as over-the-air (OTA) software updates, bulk configuration changes or maintenance, in addition to managing software licenses by group or device. DataV Manage has robust security features with powerful access and identity management to ensure secure control over asset data flow and improve awareness of asset behavior, applications, and restrictions.

Statement Ball

BSOUA

### **Key Features**

DAA



- Search Enables device queries in order to find device twins and generate an aggregate view of device twins. Queries are structured as a JSON object that can provide a filter, projection, aggregate and list of sort expressions.
- Security Ensures secure user and device access through device certificate authentication, role-based user authentication, SSL encryption support for messaging, and HTTPS access to DataV. White listing allows devices with specified characteristics to be provisioned automatically, while black listing prevents devices from connecting to the system based on specified criteria. Devices can be isolated within subnets for monitoring and analysis.

Connectivity – Scales to manage millions of devices supporting popular communication protocols like HTTP, MQTT, and LWM2M for IoT device management.

Software Rights Management – Keeps track of application software running on devices and enables application downloading and other management functions to be performed in bulk. Supports rights management mechanisms such as perpetual and nonperpetual licensing. Notifies administrators of unauthorized application access and supports license revocation.

- Device Groups Allows devices to be organized based on attributes such as asset model, IP subnet range, and geolocation. Groups have dynamic memberships that are updated each time a device is provisioned or decommissioned.
- History Keeps track of all events that occur on a device or device group throughout the device lifecycle, such as what and when changes were made and whether a user or an automated process made the changes. Devices can be restored to a desired state by applying an earlier device configuration.

# Benefits

- Enables the management of millions of devices by analyzing asset behavior over time and applying machine learning to become more intelligent as additional information is collected
- Supports more informed decisionmaking about asset performance and maintenance with real-time health monitoring, rapid asset warning detection, and automated resolution for local and remote devices
- Simplifies secure management of vast numbers of diverse devices through one interface, including grouping of devices, asset status, software updates and issue resolution, licensing and asset lifecycle

### **DataV MANAGE**

## **DataV** Apps



#### Predict

Modeling of equipment behavior and monitoring of the real-time environment to identify a future failure event



### Repair

Automated evaluation of fault codes and operating parameters resulting in an optimized repair plan that adapts to current conditions



#### Manage

Lifecycle management of IoT devices, including provisioning, inventory, software updates, and configuration



#### Maintain

Determination of tailored maintenance schedules for managed equipment based on actual usage and external factors



#### Optimize

Performance improvement based on data models that can be used in offline mode for simulation or online mode for comparative analysis



#### Track

Real-time usage information from managed assets that can inform product design or maintain compliance in regulated environments

# The DataV Hybrid IoT Platform

The DataV Hybrid IoT Platform helps industrial companies get maximum business value from their critical assets by collecting, analyzing, and acting on data collected from connected equipment. It supports DataV applications by automating data analytics, rules generation, and algorithms. By creating a digital twin of each connected device, the platform enables powerful adaptive analytics across millions of assets for unparalleled scalability, insight, and management capabilities.

The user-friendly platform allows DataV applications to run concurrently, share data and insights across the entire system, and integrate with other operational and enterprise applications. This accelerates analytics processing and allows the system to become more intelligent over time through machine learning. The platform runs on-premise, in the cloud, or a combination, and can work independently or in conjunction with Amazon Web Services and Microsoft Azure for flexibility and scalability.



#### **ABOUT BSQUARE**

For over two decades, Bsquare has helped its customers extract business value from a broad array of assets by making them intelligent, connecting them, and using data collected from them to improve business outcomes. Bsquare software solutions have been deployed by a wide variety of enterprises to create businessfocused Internet of Things (IoT) systems that can more effectively monitor assets, analyze data, predict events, automate processes and, in general, optimize business outcomes. Bsquare couples innovative software with advanced professional services that can help organizations of all types make IoT a business reality.

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