



machnation

**SOFTWARE AG RATED AS
A LEADING VENDOR IN
MACHNATION'S 2022 IOT DEVICE
MANAGEMENT SCORECARD**

July 2022

EXECUTIVE SUMMARY

The IoT device management (DM) space is one of the most important and complex technology areas of the Internet of Things (IoT). Enterprises realize that support for IoT devices in a heterogeneous environment enables them to launch new services, create revenue opportunities, and minimize solution support costs.

MachNation's 2022 IoT Device Management ScoreCard includes the following vendors (listed alphabetically): 1NCE, Akenza, Amazon, Amplia, AVSystem, Blynk, Eurotech, Google, IoTerop, Microsoft, PTC, Siemens, and Software AG. See [Figure 2](#).

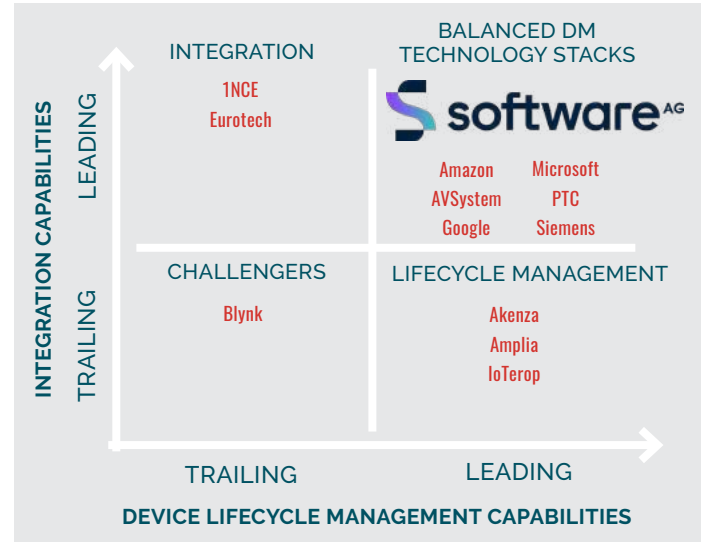
Methodology

The MachNation 2022 IoT Device Management ScoreCard was started in Q1 2022 and completed in Q2 2022. All vendors that agreed to participate in the ScoreCard received an Excel-based questionnaire asking them to disclose details about strategic and technical aspects of their IoT device management solutions. Following completion of the questionnaire, MachNation conducted a follow-up telephone call to ask refining questions generated by the vendor's questionnaire responses. The call also allocated time for a live product demo. Additional requests for information and clarification from the MachNation team were addressed via email or additional calls.

Findings

MachNation rated 13 IoT device management vendors across a set of requirements spanning four distinct categories. The four requirement categories are:

FIGURE 1 2022 MachNation IoT Device Management ScoreCard: Technology Capabilities



- Lifecycle management
- Architecture and security
- Integration
- Business and strategy

Lifecycle Management

Lifecycle management refers to the ability of a DM solution to provide capabilities for common operational tasks relating to the management of devices or gateways. A leading DM solution must provide capabilities for initial asset rollout such as onboarding or software deployment. It must also provide capabilities for asset configuration and ongoing operational maintenance such as diagnostics, monitoring, and alerting. An efficient and capable operational management layer is key to providing cost-effective support of connected assets over the course of their service life. MachNation evaluates an IoT DM vendor's lifecycle management functionality in 5 key areas: software and firmware management; monitoring, alerting and dashboards; bulk device management; diagnostics,

logging, and troubleshooting; and remote configuration and remote actions.

Architecture and Security

The architecture of a DM platform is crucial to ensure a solution functions effectively at the time of initial deployment, scales to production levels, and affordably serves the customer over the implementation lifetime. A high-quality technical implementation without an excellent underlying DM architecture is an easily made, but inevitably expensive mistake for a customer. MachNation has identified four evaluation criteria for overall DM architecture: security model, productization, scalability, and multi-tenant / multi-customer capabilities.

Integration

One of the most daunting prospects for any solutions provider is choosing an IoT DM that integrates efficiently with existing hardware and software assets while also providing a well-defined path for new asset deployments. MachNation believes that an effective DM platform should provide appropriate programmatic

and non-programmatic resources to enable integration of managed and unmanaged devices into the platform and to provide the ability to make sensor and machine data available to external systems. MachNation evaluates an IoT DM vendor's integration functionality in five key areas: platform API capability and extensibility; device SDK and API integration; connectivity management; device data egress capability; and developer usability.

Business Strategy

There are several business and strategy characteristics of leading DM vendors that will maximize their chances of market success by having the proper amount of internal resources and market presence. MachNation has identified four areas of requirements for successful business and strategy characteristics including the size of the vendor's overall business, the vendor's DM vision, its technology enabler partners, and its business enabler partners.

FIGURE 2 2022 MachNation IoT Device Management ScoreCard: Vendor List

1NCE	Akenza	Amazon
Amplia	AVSystem	Blynk
Eurotech	Google	IoTerop
Microsoft	PTC	Siemens
Software AG		

FIGURE 3 2022 MachNation Device Management ScoreCard: Overall Scores (Page 1 of 2)

VENDOR	TOTAL SCORE	INTEGRATION	LIFECYCLE MANAGEMENT	ARCHITECTURE	BUSINESS STRATEGY
Software AG	88	●	●	●	◐
Vendor 3	81	●	●	◐	○
Vendor 7	80	○	◐	●	●
Vendor 13	79	○	◐	●	●
Vendor 12	78	◑	●	○	●
Vendor 5	75	○	◐	○	◐
Vendor 8	73	◐	○	○	○
Vendor 10	71	◐	◑	○	◑
Vendor 6	68	●	○	◑	◑
Vendor 2	62	●	◑	○	◑

(Table continued on next page)



FIGURE 3 2022 MachNation Device Management ScoreCard: Overall Scores (Page 2 of 2)

VENDOR	TOTAL SCORE	INTEGRATION	LIFECYCLE MANAGEMENT	ARCHITECTURE	BUSINESS STRATEGY
Vendor 9	58				
Vendor 4	55				
Vendor 1	52				

TRAILING

BELOW AVERAGE

AVERAGE

ABOVE AVERAGE

LEADING



Software AG Overview

With more than 4,800 employees across more than 70 countries and annual revenue of over EUR800mm, Software AG is headquartered in Darmstadt, Germany. Software AG's IoT business is primarily focused on solutions and services to enterprises, service providers, and the public sector. Software AG continues to invest in its deep expertise in enterprise integrations and software, with particular focus on its skills in analytics, machine learning, and in-memory data storage. The Software AG IoT platform is Cumulocity IoT. Software AG focuses growth of Cumulocity IoT by providing a platform available for cloud, on-premises, and edge deployments that allows customers to **buy** a standardized OTS solution to deploy quickly and also **build** the differentiated applications and features to meet their unique needs. Cumulocity IoT emphasizes its platform's ease of deployment, open integration architecture (with both Software AG and third-party solutions), and configurability.

Managing edge deployments can be done centrally within a Cumulocity IoT tenant.

Customers can leverage Cumulocity IoT's excellent device lifecycle management capabilities to implement and maintain their edge deployments. Features like software and firmware management, remote connectivity access, device certificate authentication, and accessing insights into device health are all available within a customer's central Cumulocity IoT

tenant. Offering a unified solution across cloud and edge reduces development complexity, optimizes management functions, and saves customers time and money.

Cumulocity IoT Thin Edge continues to add new features and support for constrained edge hardware.

While still relatively new to the market, Cumulocity IoT Thin Edge continues to add new features and functionality at a considerable pace since its inception last year. Designed to support low-powered, memory constrained hardware (ARM v7/v8, 32mb+ RAM), Cumulocity IoT Thin Edge a lightweight framework with modular components that can be deployed on a range of programmable logic controllers (PLCs), protocol gateways, and devices using the Linux operating system. Most recently, thin-edge.io has added support for remote configuration management of device software and firmware, cloud mappers to AWS IoT services, x.509 certificate management, as well as a Docker plug-in for container management. Enterprise buyers should keep a close watch in the coming weeks and months to see what other improvements Software AG, in tandem with its partnership community, bring to its foundations in the open-source thin-edge.io project.

Cumulocity IoT's protocol-agnostic approach is critical to supporting a rapidly increasing LPWAN market.

Software AG recognizes the growing adoption rates of LPWAN network protocols like LwM2M, NB-IoT, and LoRa, especially for edge use-cases that primarily utilize power-constrained hardware. In addition to supporting a number of LoRa protocols out of

the box (Loriot, TTN, Orbiwise, etc.), Software AG has implemented a LoRa integration tool into its core device management functionality that enables users to integrate and manage any LoRa device via any LoRa network with Cumulocity IoT. As LPWAN adoption continues to rise, providing customers with the tools to create custom microservices to support LoRa Network Servers (LNS) will be a critical feature requirement for many deployments.

Conclusion

Based on MachNation's in-depth analysis of 13 IoT device management vendors, MachNation rates Software AG as a leading IoT device management vendor.

MachNation is exclusively dedicated to testing and benchmarking Internet of Things (IoT) platforms, end-to-end solutions, and services. MachNation conducts IoT performance and scalability testing with Tempest, the industry's first end-to-end IoT solution simulator. MachNation also owns and runs MIT-E, an independent, hands-on, benchmarking lab for IoT platforms. MachNation testers, developers, and analysts provide guidance to industrial enterprises, the world's leading IT vendors, and communication service providers. MachNation participates in many of the world's most exclusive IoT events and contributes regularly to leading IoT trade publications and business press.

