

## Enterprise Buyers' Guide 2018 - Which IoT Platform?



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## *There's nothing lightweight about how LwM2M empowers IoT devices*

As the numbers of sensors grow from a low base in early trial deployments, device management and data orchestration are critical capabilities for IoT success.

Robin Duke-Woolley, the chief executive of Beecham Research, interviewed Slawomir Wolf, the CEO of AVSystem, to understand the company's offerings and to gauge his perception of market development

**Robin Duke-Woolley: What is the role that AVSystem wants to play in the IoT market? What has been your story so far and how does your vision fit with IoT?**

**Slawomir Wolf:** We have the ambition to be a key vendor in IoT ecosystems. We have a strong offering in device management where we utilise the Lightweight M2M (LwM2M) specification to empower IoT devices. It is a great technology being adopted widely by telecoms operators. Our solution – Coiote IoT Device Management – is a top-ranking device management platform. Our second product – Coiote IoT Data Orchestration – is more focused on data processing, presentation, reporting and integration with different systems or data sources. It can readily be an integration layer for several systems and it is designed to fulfil enterprise needs with carrier-grade scalability. Either product can operate as standalone, in-house installed solutions or hosted in the cloud. Our value is that we come from the telecoms world where standards and interoperability are really important. With more than 100 deliveries completed worldwide for different telecoms players, we bring to enterprises features like flexibility, reliability, security and scalability out of the box.

**RD-W: The IoT market is currently very crowded with different vendors offering different solutions at different levels. What is the unique proposition that AVSystem has to offer in the market? What are the key areas of specialisation for you?**

**SW:** This is very true. The market is crowded and you can easily find more than 400 different IoT platforms. Our vision is simple – we are focused and specialised. You cannot do everything. Our area of expertise is device management and integration. If you add here our embedded endpoint for device management using LwM2M protocols – Anjay.io – and the LwM2M software developer kit (SDK) which we open sourced for everybody, most probably we are the only company on the market able to offer such a trinity of products.

I have been saying for many years: if you want to build or introduce your IoT or services around IoT, you need to first think about device management. There is no IoT without device management. All connected devices must be securely managed. Security fixes need to be applied in firmware by doing firmware over the air (FOTA). Secure telemetry channels for data you want to collect from devices need to be established and maintained. All of this means you need to have a proper device management solution in place. We are not talking here about a system handling say 2,000 devices, which is easy to do. We are talking about a system hosting 50 or 100 million sensors. That sort of scale can be a challenge, but not for us.

**RD-W: Can you give an overview of the products and solutions you offer?**

**SW:** The Internet of Things forms a very important part of our portfolio with Coiote IoT 



being a complete product suite that delivers both device management and integration capabilities with two separate platforms – Coiote IoT Device Management and Coiote IoT Data Orchestration. Both can be deployed independently or work together delivering fully operable IoT platform with inbuilt M2M Connectivity Management for those customers who might need to touch connectivity service on the telecoms level. As far as the device management platform is concerned, we offer full flexibility and features being a result of our experience of working ten years in this industry. AVSystem was a device management oriented company many years before anybody even thought device management might be so important. Frankly speaking, even myself 12 years ago when I founded AVSystem, never thought one day it will become one of the pillars of a completely new market growing in front of us.

Coiote IoT Data Orchestration on the other hand is a killer solution letting you do the most complex integration with your other systems directly from the graphical user interface (GUI) of the product without the need for additional development or customisation. You can easily design the logic, data storage representation, the way in which data should be presented and you are ready to go. With full data security, dedicated portals for your customers with customised dashboards and alerts, it provides all the tools needed to quickly prototype and deliver your project. These platforms are well complemented by our product on the embedded side – Anjay LwM2M SDK, which is an open-sourced library for implementing LightweightM2M on any kind of device.

We are very strong in the telecoms sector, providing various carrier-grade solutions specifically dedicated to this sector. UMP is our comprehensive device management platform that enables management and monitoring of devices with telco-specific protocols – TR-069, SNMP and Telnet. The platform is used by major tier 1 telecoms operators worldwide. UMP Cloud is a separate product specifically tailored to the needs of small and mid-sized ISPs wanting to scale easily and host their device management service in the cloud.

AVSystem also has a very comprehensive offering as far as classic networking solutions are concerned. We offer a carrier-grade DHCP server as well as case-specific solutions such as IPv4/IPv6 translation.

An interesting area of our portfolio used by enterprises from various verticals is our Wi-Fi Value Added Services. Linkyfi is a Wi-Fi marketing platform and Wi-Fi access management solution in one, chosen by such companies as Telefónica to be its Wi-Fi value-added services (VAS) solution of choice for enterprise customers. What makes our Wi-Fi VAS offering really unique is the Linkyfi Location Engine – an advanced solution for location-based marketing.

**RD-W: What types of IoT applications and market verticals do you address?**

**SW:** Telecoms because historically we are strong there. We work with enterprises interested in secure and reliable device management and telemetry solutions in transportation, medical, retail and the energy sector. We are not limited to these, but they are key markets with very large potential.

**RD-W: What level of maturity have your customers reached now in IoT, compared with one year ago?**

**SW:** They know what they are doing and have started experimenting. They have gained real experience, but the market is still in a trial stage where solutions are being tested and verified before full-speed launches. Also, it is true to say that in different markets, let alone different verticals, we have a different pace of adoption. It is not just related to advancement in any particular country. IoT is all about real devices, things that are manufactured, so it is mostly related to design and production centres around the world, and costs associated with the workforce. The higher your payroll is, the more motivated you are to invest in an IoT solution.

**RD-W: What is the role of partnerships in IoT in general and in AVSystem’s business in particular? Can you refer to a few examples and tell us how these have helped AVSystem evolve and in what way?**

**SW:** The market is too broad to be covered by one player. It doesn’t matter if you are Google or Amazon, or even AT&T. You need to have partners to propose real value to your customer. In our case, we have partnerships with hardware vendors, like for example ST Microelectronics to whom we are delivering the full end-to-end LwM2M stack for secure device management, such as FOTA functionality. We also partner with Thingworx whom we are assisting by delivering all aspects of device management. These are just examples, but the principle of what we do with partners is that working as part of an ecosystem, you can achieve much more.

**RD-W: What are the next steps for AVSystem regarding the development of the technology offering and the business?**

**SW:** There are several concurrent directions we are developing right now and these include forming partnerships with hardware manufacturers and the popularisation of the LwM2M technology. This is well recognised in the telecoms market but there is a lot to do still on the enterprise side. At the same time, we are building a partner network of system integration companies which locally may help their customers to build end-to-end IoT solutions. As we are a technology and engineering oriented company, we build and want to build technology. Software components and products which can be used later not only directly by enterprise customers, but also by software companies as an incorporated part of their products. ■



**Slawomir Wolf,**  
AVSystem

# About AVSystem

AVSystem is a provider of software solutions for various industries. The company is especially known for its expertise in the area of large-scale IoT device management, multi-protocol device management for the telecommunications industry as well as Wi-Fi value added services. AVSystem is also an evangelist of open-standards such as LwM2M and TR-069 and provides embedded client solutions for hardware manufacturers. AVSystem's solutions have more than 100 customers.

## About the Coiote IoT

Coiote IoT is a portfolio of IoT solutions provided by AVSystem that answers the needs of device management and data orchestration in Internet of Things environments.

The Coiote IoT Device Management Platform offers complex device management features and telemetry data handling using the LwM2M device management protocol. The product allows for automatic detection of new devices and enables, among others: remote configuration, monitoring, user management, firmware over the air/software over the air (FOTA/SOTA) upgrades, provisioning devices - with the option to group them to enable easy mass task execution.

Apart from flexible workflow mechanisms, user-friendly graphical user interface (GUI) and representational state transfer (REST) application programming interface (API), Coiote IoT Device Management offers the ability to be integrated with other platforms and systems, such as the Coiote IoT Data Orchestration platform.

Coiote IoT Data Orchestration is an integration platform that enables the collection and orchestration of data received from various sources - devices and platforms. The end goal is to use existing infrastructure to create new supplementary services for various IoT verticals with simple and automated workflows. The platform can be used to provide advanced workflow mechanisms, monitoring and alerting, business intelligence, map visualisation and customisable dashboards. The solutions that are based on Coiote IoT Data Orchestration enable connectivity management, asset tracking and service activation.

AVSystem's Coiote IoT portfolio is complemented by the Anjay LwM2M SDK, an open-source solution for enabling Lightweight M2M on any kind of device.

## Key differentiators

- 1 Complete IoT portfolio - including complete, productised platforms for device management, data orchestration as well as SDKs for device manufacturers
- 2 Expertise in carrier-grade device management, supported by over a decade of experience in managing devices for tier 1 service providers worldwide
- 3 Proven best support for LwM2M - the industry standard protocol for IoT device management
- 4 Flexibility and openness of the solutions - ability to integrate with other platforms and create complete IoT ecosystems
- 5 Fully developed interfaces providing the ability to rapidly deploy any IoT service without investing additional resources into front-end interface development.

## Coiote Heat Map of platform services

Coiote IoT		
<b>Connectivity management</b> (coverage, protocol, support, QoS, eSIM)	<b>Application development</b> (APIs management, developers community, documentation)	<b>Device management</b> (device orientated analytics, monitoring, updates, configuration, scalability)
<b>Data management</b> (data integration & orchestration, analytics algorithms)	<b>Innovation &amp; Partnerships</b> (patented technologies, innovation partnerships)	<b>Support services</b> (training & consulting services, system integration, 24/7 support)
Extensive set of services	Standard set of services	Limited set of services



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HEATMAP



# Build your IoT ecosystem with a solid foundation

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Start with device management  
and data orchestration

To learn more about AVSystem's solutions visit  
[www.avsystem.com](http://www.avsystem.com) • [sales@avsystem.com](mailto:sales@avsystem.com)