

Summary

Executive summary

The world of machine-to-machine (M2M) communication is gradually moving from vertical, single purpose solutions to multi-purpose and collaborative applications interacting across industry verticals, organisations and people – a world of Internet of Things (IoT). It is difficult to make a clear and practical distinction between M2M and IoT. However, the growing use of the new term IoT suggests a transition in the evolution of connected devices, with accelerating scale and scope, as well as higher focus on interoperability. M2M often represents highly customised solutions deployed within single industry verticals or companies to improve existing business operations. IoT puts more emphasis on integration of sensors, devices and information systems across industry verticals and organisations to transform operations and enable creation of new business models. IoT focuses on gaining new insights from analytics based on data from diverse sources to support decision making, and improve products and services. As companies, organisations, governments and individuals adopt IoT, the number of connected “things” is forecasted to grow from 1.7 billion at the end of 2014 to 6.6 billion in 2020. This phenomenal growth is enabled by continuously declining costs of sensors and hardware, communication, data processing and system integration.

Increasingly complex IoT solutions require more advanced communication platforms and middleware that facilitate seamless integration of devices, networks and applications. There is a wide range of software platforms developed for the purpose of supporting and enabling IoT solutions. The intention is to enable rapid development and lower costs by offering standardised components that can be shared across multiple solutions in many industry verticals. Third party IoT platforms are relatively new in the market and display a great diversity in terms of functionality and application areas. Broadly speaking, most IoT platforms fall into one of the following three categories: connectivity management platforms, device management platforms and application enablement platforms. Berg Insight estimates that total revenues for third party IoT platforms will grow at a compound annual growth rate (CAGR) of 32.2 percent from € 450 million in 2014 to € 2.4 billion in 2020.

Connectivity management platforms facilitate the delivery of data communication services on mobile networks and other communication networks. Features like private APNs, fixed IP addressing and secure VPN communication offer more flexibility and better reliability. Device and subscription management features including automated provisioning, activation and deactivation, as well as activity reporting provide improved visibility and control. Many leading mobile operators still use proprietary connectivity platforms developed in-house, while other operators have adopted third-party solutions from vendors such as Jasper, Ericsson, Amdocs and Comarch. Several M2M managed service providers also provide connectivity management platforms as an integral part of their offerings.

Device management platforms enable remote management of IoT devices. Purpose-built device platforms enable a rich set of functionalities for remote management, diagnostics, OTA software updates and application lifecycle management. It is often difficult to make a clear distinction between the most fully featured device management platforms and application enablement platforms, although the latter category is intended to be truly network and device agnostic. Many platforms from device vendors including Digi International, Eurotech, Gemalto, Sierra Wireless and Telit, as well as platforms from companies like BlackBerry, Bosch, Cumulocity and M2Mi could be described as device clouds or IoT integration platforms that provide both device management and application enablement functionality.

Application enablement platforms (AEPs) are designed to accelerate and simplify the development of IoT solutions, providing common horizontal solution components that can be re-used across industries and market segments. AEPs enable companies to focus on differentiation created by unique capabilities and insights from data rather than duplicating non-differentiating functionality such as connectivity integration, device management, data collection, data storage and analytics. Application enablement platforms also provide integration frameworks adapted for common enterprise IT systems such as ERP, CRM and analytics. In order to protect data and enable data exchange across multiple applications and data sources, AEPs need strong security architectures and user authorisation management systems. The market for AEP services is in an early phase with a limited number of specialised providers like PLAT.ONE, PTC, SeeControl, Xively and 2lemetry (acquired by Amazon). These companies primarily face competition from system integrators and companies that develop similar functionality in-house.