

Summary

Executive summary

IoT platforms provide developers with tools to connect and manage devices and integrate collected data into various applications and services. These platforms are intended to reduce the cost and development time for IoT solutions by providing standardised components that enterprises can build upon. The relatively new product category facilitates the growing trend away from time-consuming in-house developed and bespoke IoT solutions. Broadly speaking, most IoT platforms fall into one of the following three categories: connectivity management platforms, device management platforms and application enablement platforms.

The connectivity management platform (CMP) market is characterised by a limited number of providers, although several new players have emerged in recent time following developments in the domains of LPWA and software-defined networks. Cisco Jasper is the dominant commercial CMP for mobile network operators worldwide and had about 75 million connections at the end of 2017. Other major vendors include Ericsson, Huawei, Amdocs, Comarch, as well as Nokia that launched its Nokia WING service in Q1-2017. Start-ups such as EMnify, Flo Live and Soracom have introduced cloud-based core networks dedicated for IoT that are offered as a service. A number of major mobile operators continue to invest in the development of their proprietary platforms to differentiate from the competition. Vodafone's Managed IoT Connectivity Platform stands out as the leading proprietary connectivity management platform with about 67 million connections at the end of 2017. CMPs are also a key component in the value proposition from IoT managed service providers. Aeris and KORE have consolidated their positions as leading players in this segment, with 10 million and 9 million connections respectively at the end of 2017.

The market for device management (DMP) and application enablement platforms (AEP) is notably crowded and has in recent time experienced a new wave of investments from major cloud infrastructure providers and enterprise software vendors. Berg Insight estimates that

the total market value for commercial DMPs and AEPs was US\$ 1.1 billion in 2017. Growing at a compound annual growth rate (CAGR) of 36.2 percent, the market value is expected to reach US\$ 4.9 billion in 2022.

Chipset, module and device vendors continue to move up the stack to offer software and services. Leading providers of device management platforms include the major semiconductor IP supplier Arm, the cellular module manufacturers Sierra Wireless, Telit and Gemalto, as well as the independent software vendor Wind River. The application enablement platform market is fragmented and populated by a host of start-ups, as well as major companies from the technology and industrial sectors. These companies have developed offerings that typically have a specific focus on a set of capabilities, often related to their core business. GE and PTC spearheaded the effort of promoting IoT in the industrial sector on a broader scale. While GE has shifted focus to mainly provide solutions rather than its Predix platform alone, PTC has emerged as the leader in the space. Additional vendors with high involvement in the industrial sector include Software AG, Bosch, IBM, SAP, Oracle, Exosite, Device Insight and Altair Engineering. C3 IoT that specialises in data management and analytics has built a strong position in the utilities sector, followed by GE, Hitachi and IBM. Start-ups such as Ayla Networks, Arrayent (now part of Prodea), Greenwave Systems and Waylay have built substantial customer bases in the consumer electronics and smart home markets. Amazon, Google, Bosch and Samsung also serve large internal customers in this domain. An increasing number of companies target the transportation and smart cities markets including Bosch, Eurotech, Cisco, Davra, InterDigital, HPE and Nokia.

In 2017–2018, the major cloud infrastructure providers Amazon, Microsoft and Google continued to invest heavily in their IoT offerings to drive growth in their cloud businesses. Berg Insight expects that the higher level of involvement of the cloud infrastructure providers over time is likely to lead to further specialisation among the IoT platform vendors and more partnerships between vendors with complementing capabilities. Merger and acquisition activity has risen sharply in recent time and the market has now entered a consolidation phase. A level of fragmentation in the market is however expected to remain due to lack of standards, but also due to specific requirements in industries characterised by mission critical applications such as automotive, healthcare and manufacturing, as well as in the critical infrastructure industries.