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IoT platform fragmentation: where can you fit in?

IoT platforms help to solve the challenges of complexity inherent in IoT, providing features and functionality that are common across many types of applicaitons in many vertical markets like remote device onboarding, data management, and integration with ERP systems. IoT platforms reduce complexity and enable developers to focus on the differentiated intellectual property as well as reduce overall market fragmentation for IoT users and simplify ongoing operational requirements. However, there are many types of IoT platforms and hundreds of platform vendors.
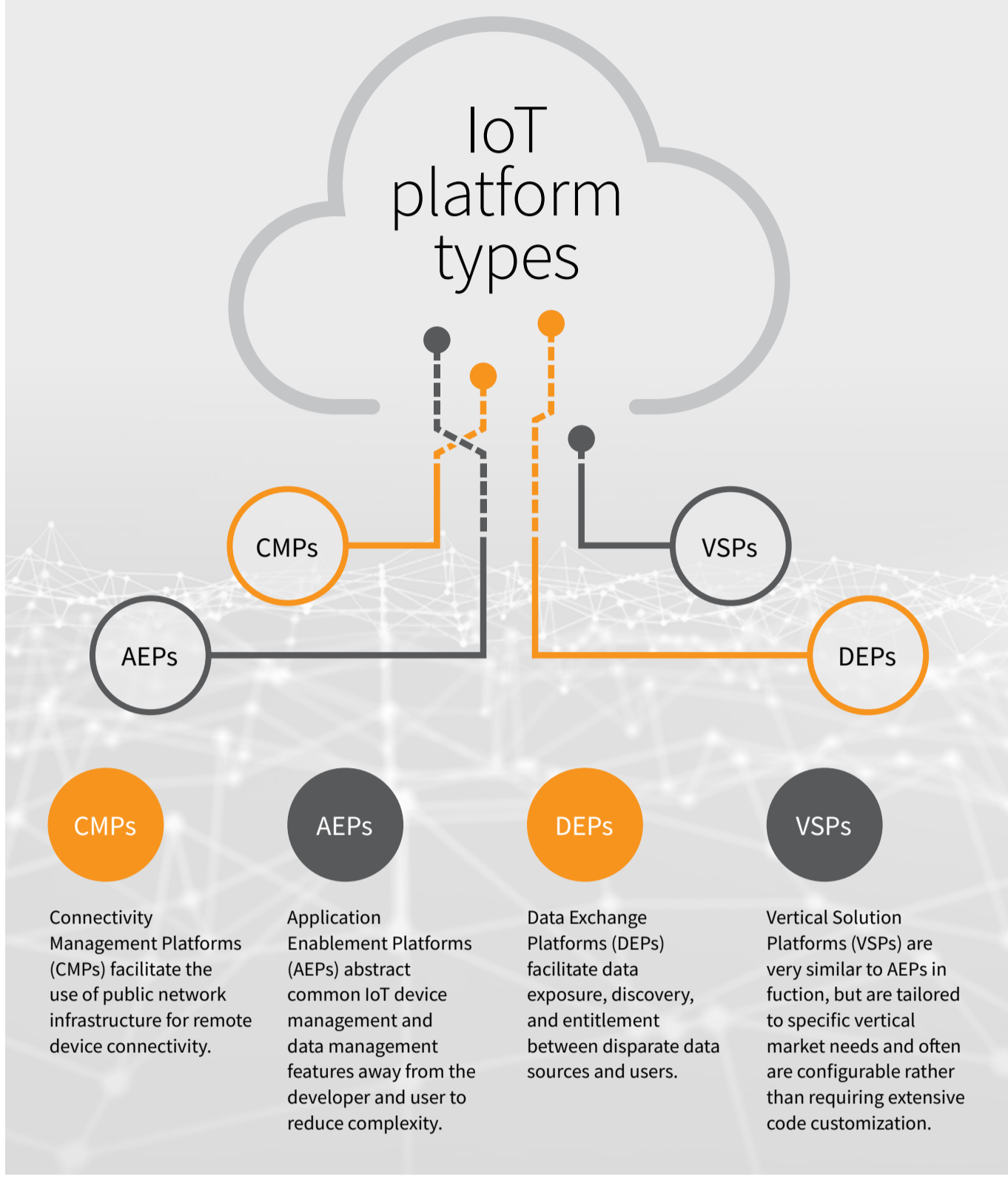
Understanding this diverse market is key to knowing how your company can best contribute.

> There is vast fragmentation in the IoT platform vendor landscape, and this is driving fundamental strategic repositioning among vendors as they seek to leverage their relative strengths and opportunities.
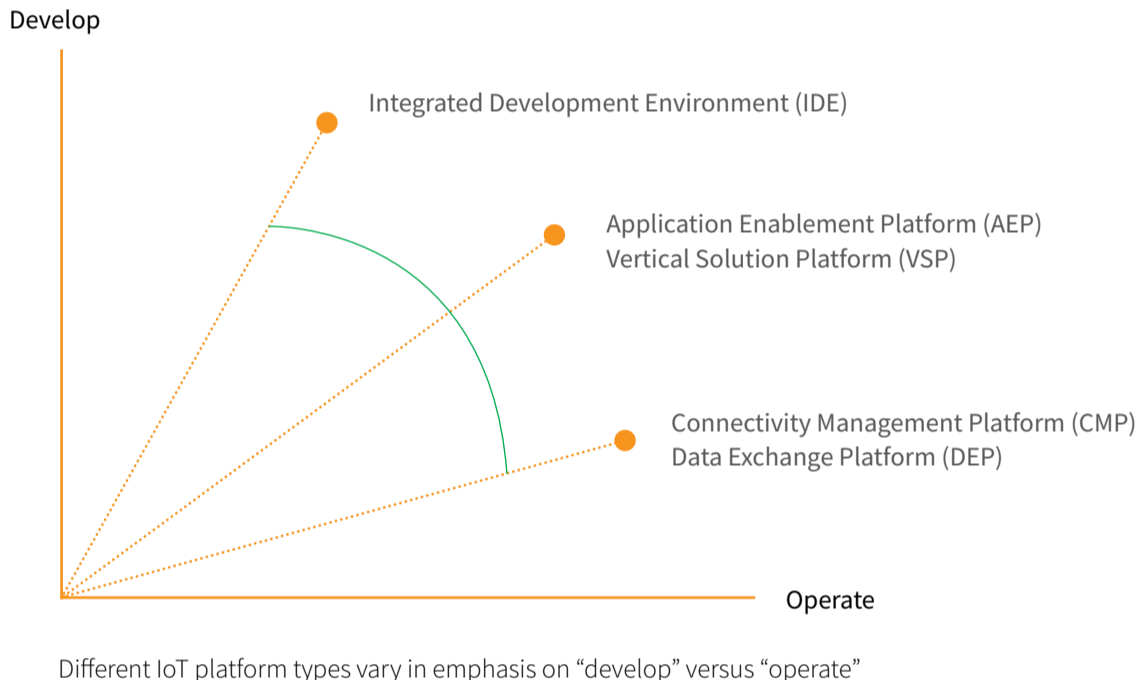>
> Sam Lucero, Sr. Principal Analyst, IoT, IHS Markit

IoT platform types

CMPs   AEPs   VSPs   DEPs

CMPs

Connectivity Management Platforms (CMPs) facilitate the use of public network infrastructure for remote device connectivity.

AEPs

Application Enablement Platforms (AEPs) abstract common IoT device management and data management features away from the developer and user to reduce complexity.

DEPs

Data Exchange Platforms (DEPs) facilitate data exposure, discovery, and entitlement between disparate data sources and users.

VSPs

Vertical Solution Platforms (VSPs) are very similar to AEPs in fuction, but are tailored to specific vertical market needs and often are configurable rather than requiring extensive code customization.
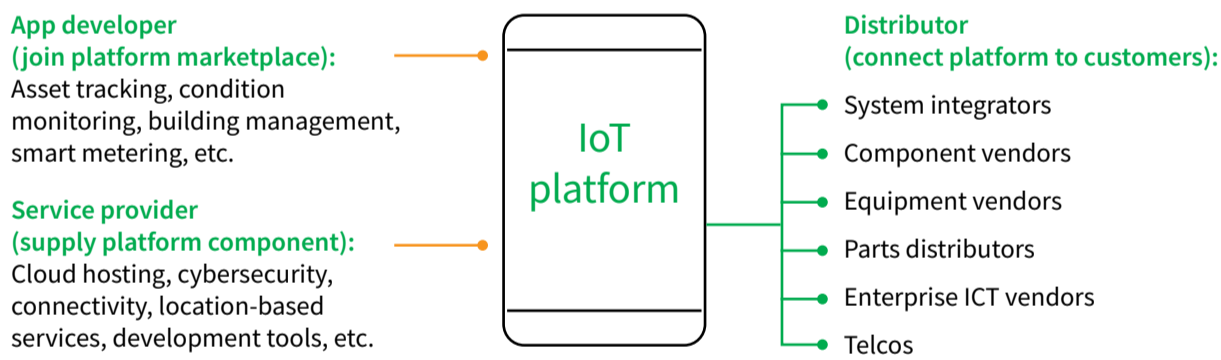
Are you an IoT platform customer?

As a customer, it's important to recognize that there are a number of different IoT platform types, and different types will be relevant to various development strategies. A customer may choose to utilize only a CMP, for instance, and develop their own application on top of this. Conversely, a customer may choose a vertically tailored IoT platform requiring relatively little additional customization.

Develop

Integrated Development Environment (IDE)

Application Enablement Platform (AEP)
Vertical Solution Platform (VSP)

Connectivity Management Platform (CMP)
Data Exchange Platform (DEP)

Operate

Different IoT platform types vary in emphasis on "develop" versus "operate"
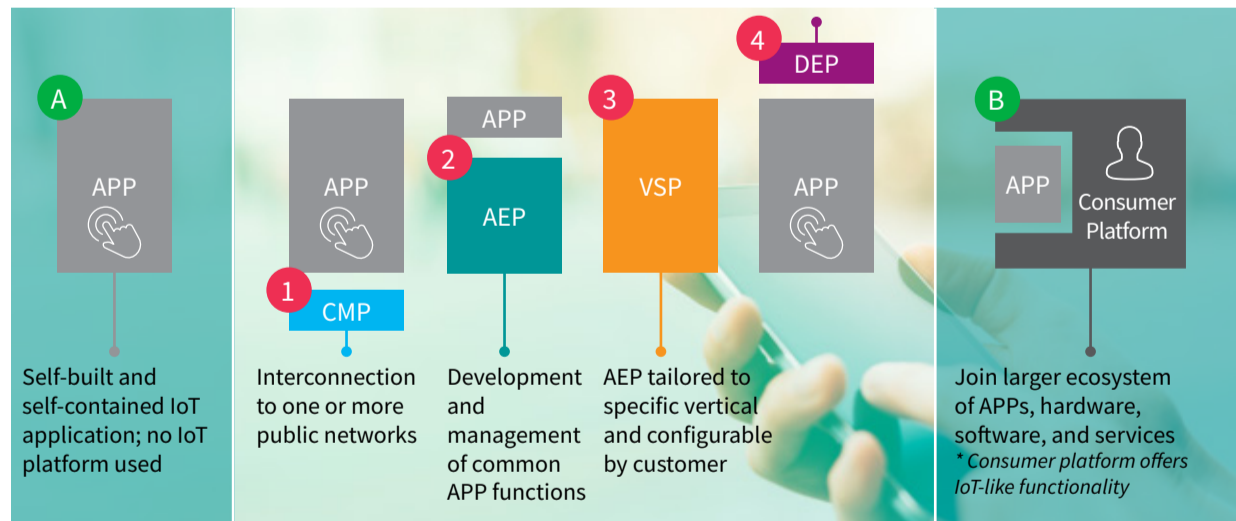
Are you a technology developer?

Companies don't need to introduce their own IoT platforms to play in this market. They can partner with IoT platform vendors and may provide technologies and services that can be useful enhancements to a platform. A number of IoT platform vendors are developing "app marketplaces" to connect application providers with end customers. Companies may also partner to help connect IoT platform vendors with end customers, whether as distributors, system integrators, enterprise ICT vendors, or telcos.

App developer (join platform marketplace): Asset tracking, condition monitoring, building management, smart metering, etc.

Service provider (supply platform component): Cloud hosting, cybersecurity, connectivity, location-based services, development tools, etc.

IoT platform

Distributor (connect platform to customers):
- System integrators
- Component vendors
- Equipment vendors
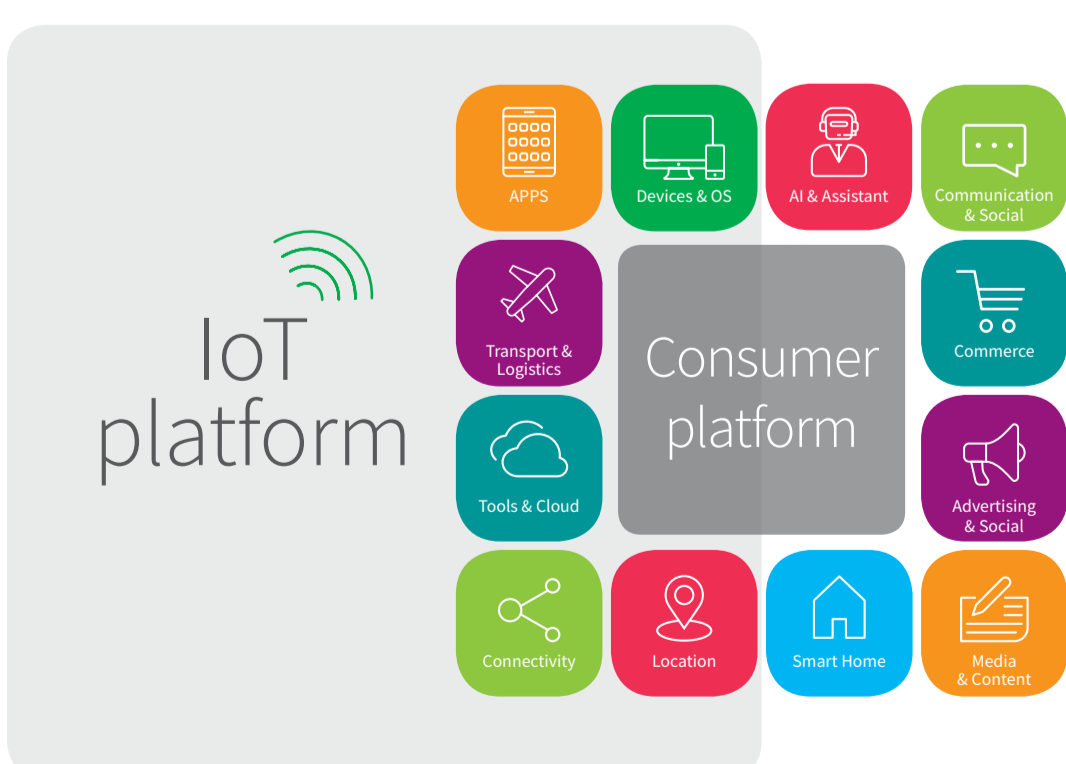- Parts distributors
- Enterprise ICT vendors
- Telcos

Developers and companies are partnering in a number of ways

Are you an app developer?

As an IoT application developer considering use of an IoT platform, it's important to recognize that there are several different types of platforms and each helps to solve different challenges. Yet there is overlap and inter-relationships between platform use cases.

A   APP
Self-built and self-contained IoT application; no IoT platform used

1   APP   CMP
Interconnection to one or more public networks

2   APP   AEP
Development and management of common APP functions

3   VSP   APP
AEP tailored to specific vertical and configurable by customer

4   DEP

B   APP   Consumer Platform
Join larger ecosystem of APPs, hardware, software, and services *Consumer platform offers IoT-like functionality

IoT platform use cases and inter-relationships

Consumer platforms, the foundations of ecosystems from companies such as Apple, Facebook, and Google, provide many of the same capabilities as IoT platforms. In addition to core IoT capabilities, however, these consumer platforms also provide a range of diverse media, payments, and communications features.

IoT platform   Consumer platform

APPs   Devices & OS   AI & Assistant   Communication & Social   Transport & Logistics   Commerce   Tools & Cloud   Advertising & Social   Connectivity   Location   Smart Home   Media & Content

IoT platform vendors are located in all three major global regions. Increasingly, the ability of these vendors to support global deployments by customers will be a key factor for selection as the IoT market continues to expand.

> The diversity of the IoT platform vendor landscape is a challenge for customers, but it is also a source of innovation as vendors bring new thinking and approaches to their offerings.
>
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