



arm

Arm Pelion IoT Platform

Data-driven Insights from IoT to Empower an Intelligent Enterprise

Benefits

- + **Remove IoT complexity** with service offerings for connectivity, device, and data management
- + **Support choice and flexibility** of any device, any network, any cloud, and any data-type
- + **Infuse security** in your IoT deployments from device to data
- + **Consolidate all your data** from enterprise and IoT sources for analytics and visualization

Digital transformation starts with automation and ends in data. Despite sensors, actuators, and systems in IoT driving automation in every conceivable way, insightful IoT data remains scattered across devices, systems, geographies, and protocols. This creates significant barriers to aggregating data easily and harnessing its power.

Complexity Can Limit Value Creation from IoT Data

Before it can be transformed into business insights, IoT data must be extracted from devices, transported through network connections, and aggregated into data repositories and systems. IoT complexity can make this task challenging for the following reasons:

Proliferated device types

Arm experts predict that the number of IoT devices will reach 1 trillion by 2035, ranging from constrained devices to full-featured gateways, and they'll all require remote management.

Fragmented connectivity options

IoT devices are being deployed globally and in diverse applications. For reliable data collection, the devices must be cost-effectively connected on different types of networks.

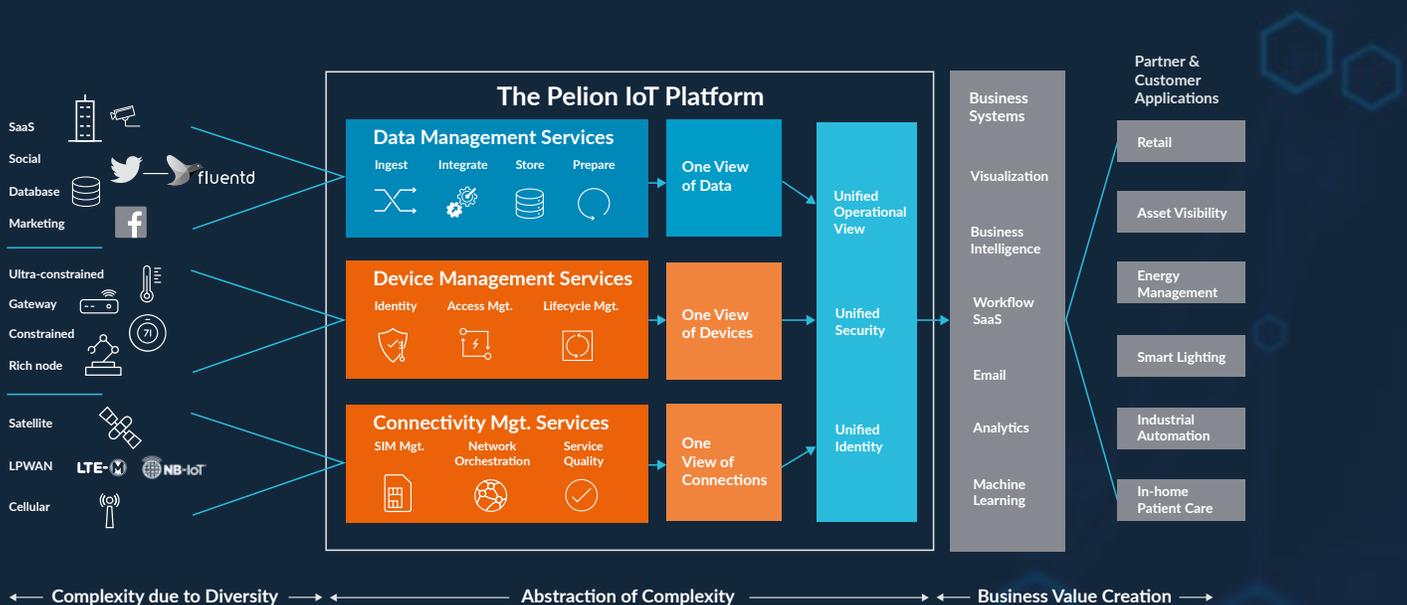
Distributed and siloed data

IoT data is often distributed across regions and systems, and siloed across organizations. To deliver value, it must be unified, analyzed, and interpreted in the context of other data—a complex task given the spread and disparity.

Security vulnerabilities

IoT data must be reliable. As it travels from devices to analytics or visualization tools, there are many opportunities for it to be compromised. IoT requires a comprehensive device-to-data approach to security.

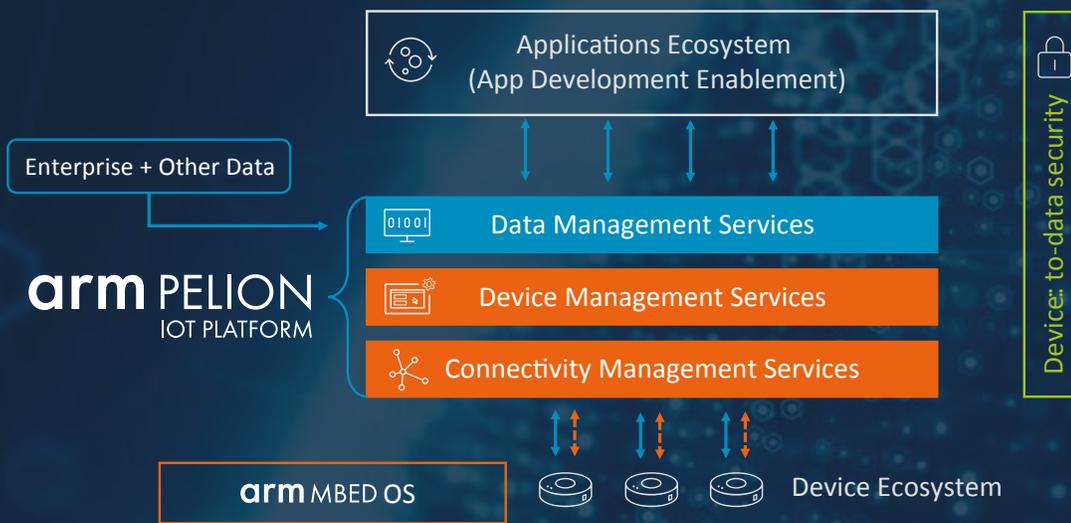
Pelion IoT Platform Removes IoT Complexity and Unifies Enterprise and IoT Data



The Pelion data platform resolves these challenges with a flexible, secure, and efficient foundation of connectivity, device, and data management services. The Pelion platform includes:

- + **Flexibility in design, deployment, and connectivity** with support for many types of devices, networks, data, and deployment options
- + **Security for device, connectivity, and data** enabled by secure device access and updates, secure protocols for connectivity, and data encryption
- + **Ease of operationalizing IoT for business** with the ability to obtain trusted devices from silicon partners, update those devices remotely, and accelerate global deployment on a single cost-effective connectivity contract across multiple regions

Secure Connectivity, Device, and Data Management



With the Pelion IoT Platform, you can focus on creating value for your organization. Services in the platform address the specific foundational aspects of IoT, namely connecting IoT devices across global deployments, managing those devices remotely, and leveraging IoT data for business use. The platform is supported by a vibrant device ecosystem, the Mbed OS operating system purpose-built for IoT, and a growing applications ecosystem.

Connect IoT Devices with Pelion Connectivity Management

Pelion Connectivity Management provides seamless global connectivity with one global mobility contract, a fully managed turnkey service, and secure IoT device connection.

Features include:

- ✦ Ability to connect any device and use any SIM form factor, including eSIM
- ✦ Connectivity across standards, including LTE, 2G, 3G, 4G, CAT-M and, NB-IoT
- ✦ Simplicity of device deployment with automatic authentication, provisioning, and connection
- ✦ Convenience of a single contract for global connectivity, with access to 600+ networks

Manage IoT Devices with Pelion Device Management

Pelion Device Management enables secure and reliable onboarding, monitoring, updates, and lifecycle management of different types of connected devices using infrastructure on premises or in cloud. Other features include:

- ✦ Freedom to select device, vendor, communication protocol, deployment option (any device, any vendor, any network, any cloud)
- ✦ Security built in from chip to cloud to mitigate device vulnerabilities and secure the pipeline from device to data
- ✦ Reduction in complexity of managing a diverse set of devices
- ✦ Cost-effective remote management of in-field device assets

Leverage IoT Data with Pelion Data Management

Pelion Data Management makes IoT device data and relevant enterprise data accessible in one place for predictive insights that drive optimization and new revenue opportunities. Features include:

- ✦ Ability to leverage data from any connected device by collecting and unifying disparate data
- ✦ Peace of mind from secure, trusted data
- ✦ Maximized business outcomes due to reduced time, cost, and complexity of data exploration

Secure IoT with Device-to-Data Security

Arm's IoT offerings infuse security in IoT devices, connections, and data. Arm's Platform Security Architecture (PSA) serves as the security framework, mandating secure IoT. This includes:

- ✦ Secure Access Point Name (APN) gateway to route connectivity
- ✦ Device management features to ensure chip-to-cloud security
- ✦ Encryption of data at rest and in motion, with control over permissions and data access

Use Cases

Pelion addresses a wide range of use cases, including the following examples:

Asset Tracking for Logistics

Global supply chains require tracking of goods that are shipped internationally. As trucks pass from one country to another, tracking devices must connect to multiple networks with different operator contracts increasing complexity and overhead costs. A single contract with pre-negotiated rates offers cost savings and convenience. Further, the IoT data from tracking both perishable and non-perishable goods supports real-time decision making.

Smart Lighting

Lighting is ubiquitous throughout cities, both indoors and outdoors. Now increasingly digital, smart lighting is sensor-augmented and the ideal conduit for important contextual data. Outdoors, this data can be used for crime detection, traffic management, or smart parking. Indoors, the data improves access control and security, space optimization, building automation, wayfinding and asset visibility.

Omnichannel Retail

While online shopping is popular, close to 90 percent of retail revenue still comes from brick-and-mortar store sales¹. Shoppers' journeys must be seamless across physical and digital domains. In-store cameras and beacons can gather data on shelf interactions, aisle traffic, and path to purchase. That IoT data can be combined with other retail data to provide deeper insights on customer behavior for tailored marketing campaigns, merchandising decisions, and store associate responsiveness.

Smart Meter Management for Utilities

Smart meters help utilities improve their billing processes, mitigate power theft, and understand power consumption patterns. Utilities can save the cost of sending staff for routine reading, updates, or enabling service. Instead, they can aggregate meter data periodically sent over cost-effective network connections and analyze it to offer dynamic pricing, real-time load control, and real-time remote connections or disconnections.



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