



Enabling secure management of millions of connected IoT devices from the cloud

# EdgeScale

EdgeScale provides secure and scalable device and application management solution for edge compute platforms, empowering new IoT applications

## PRODUCT OVERVIEW

EdgeScale is a unified, secure and scalable management suite for Edge computing platforms. The suite adds a set of cloud-based tools and services for secure manufacturing and IoT device enrollment. End-users and developers can use the EdgeScale cloud dashboard to securely enroll Edge devices, monitor their health, attest and deploy container applications and firmware updates. It can also be used as a development environment to build containers and generate firmware. It also enables OEMs and developers to seamlessly integrate with popular edge compute frameworks like AWS Greengrass, Azure IoT and Aliyun and manage device and applications for an unlimited number of connected Edge devices securely from the cloud. The customers have the option of using the EdgeScale suite standalone via the Dashboard or CLI, or using the REST API to integrate with their own management framework.

NXP platforms use EdgeScale to bridge cloud frameworks to edge nodes, sensors and devices, solving challenges inherent in IoT deployments.

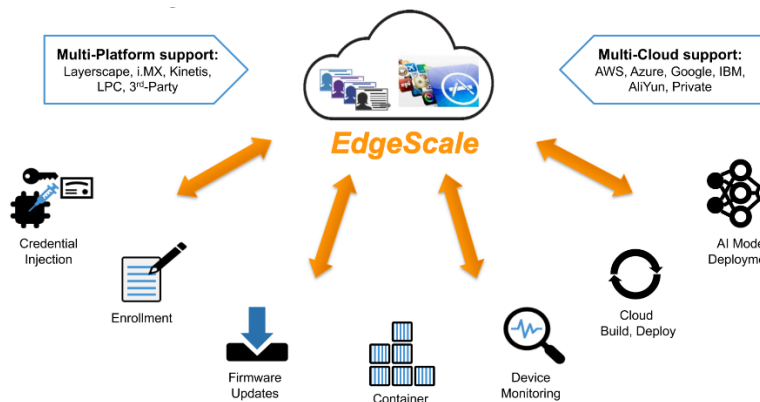
## TARGET APPLICATIONS

- Smart cities and buildings – security and automation
- Industrial equipments – performance, predictive maintenance
- Industrial safety – sensor fusion, virtual fencing, authorization with object and face recognition etc.
- Smart Retail – traffic classification, inventory management etc.
- Autonomous vehicles – traffic management, detours, safety
- Healthcare – monitoring, critical response, privacy-filtering
- Smart Agriculture – monitoring, automation, predictive analytics

## FLEXIBLE INTEGRATIONS

EdgeScale is a flexible architecture and lends itself well to integration with different Edge compute frameworks to run on the Edge compute node – including running multiple frameworks *simultaneously* on the same node. EdgeScale deploys these frameworks as containers, so switching from one to another can be done on the fly. EdgeScale even enables customers to manage their own private cloud with a closed ecosystem of applications being managed internally.

The customers have a flexibility to either license the source for integration into any customer edge-compute or management framework, or chose a subscription based service per usage. A free preview of EdgeScale is also available for trial of the services.

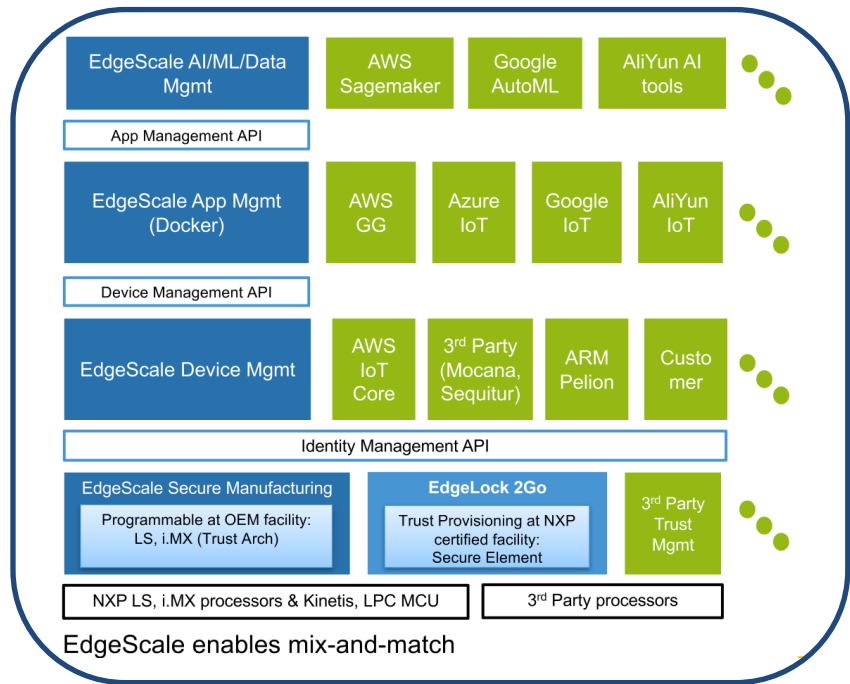


## PLATFORMS SUPPORTED

EdgeScale supports multiple devices, both NXP Layerscape and i.MX family of products, and can be used to manage non-NXP platforms as well. Customers also have a choice of deploying a mix of both Layerscape and i.MX platforms in their use-case, and manage both using EdgeScale.

NXP’s family of Arm®-based processors provides customers with the right balance of compute, connectivity, multimedia capabilities, and storage to run a wide variety of Edge compute applications. The EdgeScale suite leverages these capabilities and automates what is now a manual and often cumbersome process of provisioning equipment and software updates on to remote embedded equipment. To ensure that this is done securely, the EdgeScale suite leverages NXP’s Trust Architecture. This unique hardware architecture provides a Hardware Root of Trust including essential features like secure boot, secure key storage, manufacturing protection, hardware resource isolation, and run-time tamper detection.

## EDGESCALE ARCHITECTURE



## NXP’s COMPLETE SOLUTION FOR EDGE COMPUTING NEEDS

The NXP EdgeScale suite along with the NXP processor platforms provides complete solution to edge computing challenges. The complete offering includes:

- Secure manufacturing support – factory provisioning, OTA secure enrollment client, code-signing tool
- Device management capabilities, including device monitoring and OTA firmware upgrades
- Seamless integration with various Edge compute frameworks such as AWS GG for application management
- End-to-end security with NXP’s Trust Architecture that provides a Hardware root of trust essential for securing Edge compute node
- NXP’s scalable Layerscape and i.MX family provide best-in-class edge compute capabilities

## EDGESCALE CORE FEATURES

Secure Manufacturing	<ul style="list-style-type: none"> <li>Securely program secure credentials/keys to the device</li> <li>Secure Key/credential management with PKCS.11 API</li> </ul>
Secure Provisioning	<ul style="list-style-type: none"> <li>Download device certificates, push certificates to cloud</li> <li>Securely enroll and validate device from cloud</li> </ul>
Secure Device Management	<ul style="list-style-type: none"> <li>Monitor devices at run-time - device health, diagnostics, usage, system integrity check</li> <li>Securely download, upgrade and manage firmware</li> </ul>
Secure Application Management	<ul style="list-style-type: none"> <li>Docker application deployment, migration and clustering</li> <li>Support multiple edge frameworks – AWS, Azure, Google, Aliyun, etc.</li> <li>Manage own app-store; develop and deploy applications from cloud</li> </ul>
Secure AI & Data Management	<ul style="list-style-type: none"> <li>Optimize, convert and deploy AI/ML models from cloud to edge</li> <li>Store, stream and manage data securely</li> </ul>
Customizability	<ul style="list-style-type: none"> <li>Choice of using GUI/dashboard, CLI or REST APIs for any customer cloud integration</li> <li>Flexible edge gateway platforms support – LS, i.MX, other ARM or x86</li> <li>Choice of Ubuntu, Yocto, OpenWRT or custom Linux distribution</li> </ul>



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