

Use Case: PKI Management for Construction Equipment

Situation

The next generation of connected diesel engines feature new capabilities that allow the operator to use secure connections to the cloud to increase engine efficiency, lower the cost of operation, and reduce overall lifecycle expense.

This new technology relies on the exchange of critical performance data between the engine and cloud-based systems to adjust engine parameters in real-time. Device and data trust are paramount to ensure successful operations.

To provide the highest level of security available, these diesel engines require the use of X.509 certificates from an existing PKI platform provider for identity, authentication, and encryption to the cloud.

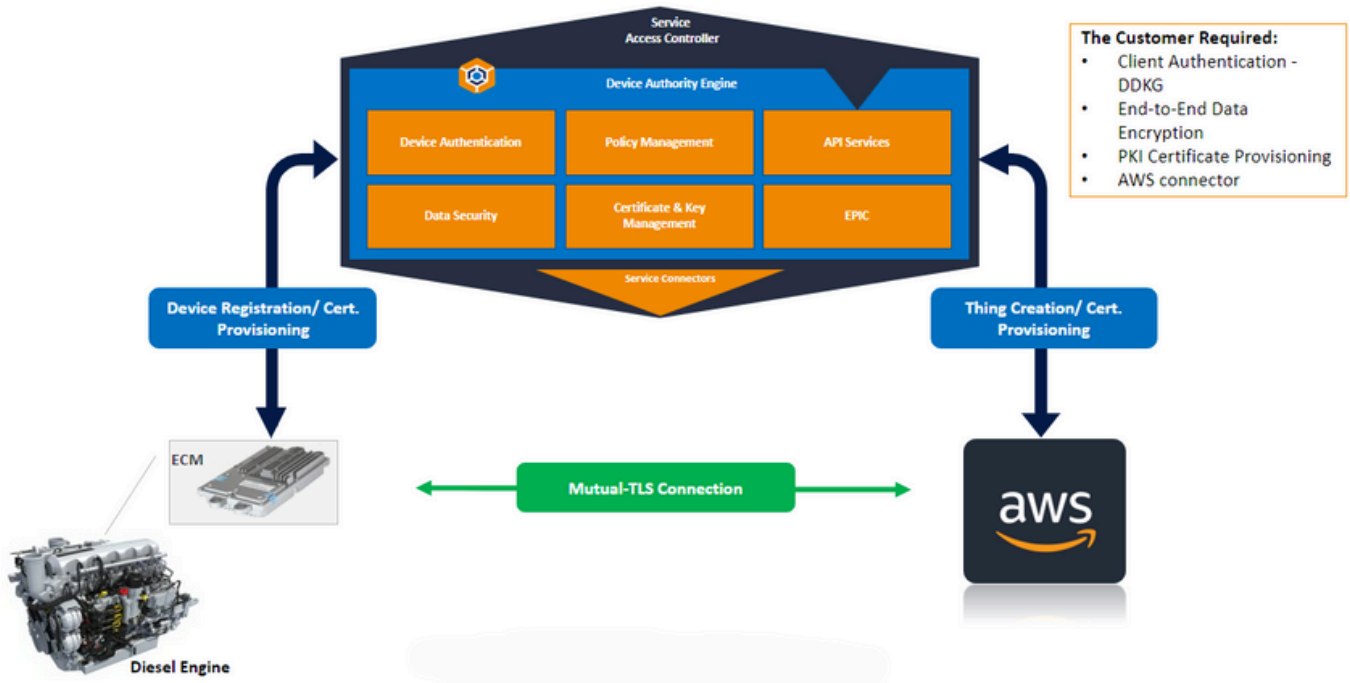
Solution

Device Authority KeyScaler is used to provide the following:

- Dynamic Device Key Generation (DDKG) trust anchor technology will be deployed on the engine ECM to provide initial hardware-based validation and integrity checks and establish a root of trust.
- Zero-touch Automated Device Provisioning to the customer's AWS IoT Core platform utilizing the devices' initial trusted credentials.
- PKI Services for IoT utilizing x.509 Certificates for operational credentials will provide diesel engines and associated data ongoing trust.
- Full Identity Lifecycle Management including automated certificate provisioning, revocation, and rotation, will ensure continual Zero Trust connections to the cloud.



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Conclusion

Overall, the organization was able to establish device and data trust by utilizing KeyScaler for fully automated Identity Lifecycle Management. This included leveraging existing PKI investments with Certificate Authority (CA) and Hardware Security Module (HSM) Vendors, and automated provisioning to the cloud using KeyScaler's prebuilt service connectors.

Complete device and data trust means that operators of these connected diesel engines can rely on the data exchanged with the cloud platform, greatly increasing supply chain integrity and agility.



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