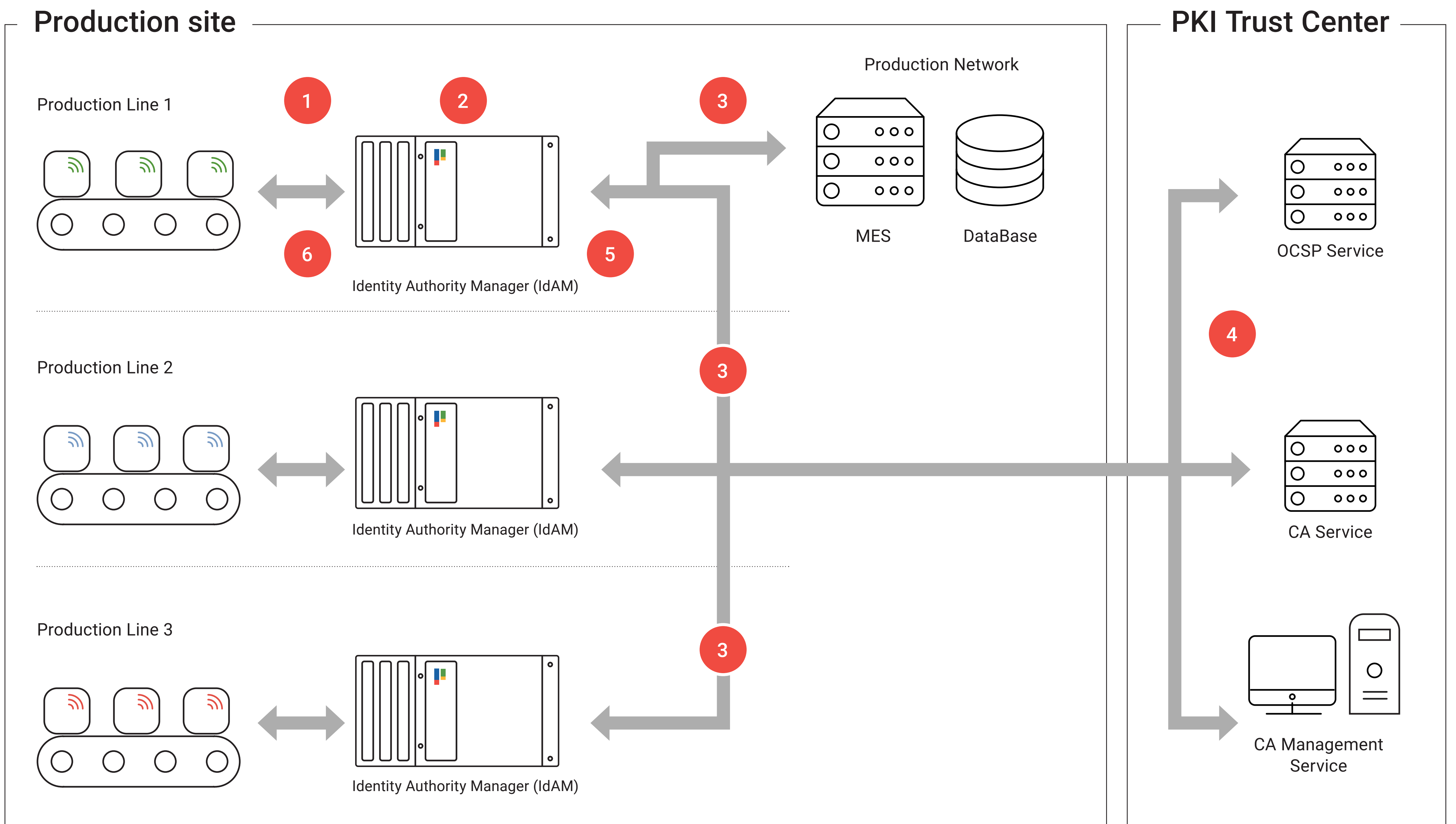


Secure certificate provisioning

in production and manufacturing sites with PrimeKey Identity Authority Manager



Working Scenario:

1.

The device initiates the certificate request with onboard key generation or external key generation.

2.

IdAM performs the CSR using standard formats. CMP is built in and custom formats can be added.

3.

IdAM pulls device information from the database, MES (Manufacturing Execution System) or other server.

4.

The CSR is sent to the CA for certificate signing via standard protocol e.g. CMP.

5.

The certificates are then sent back to the production line. Responses are validated and certificates are optionally distributed to other locations.

6.

Certificates are stored on the device.

Motivation:

- Devices are getting smarter across all industries and security is a must-have feature.
- Security and trust must be established from the birth of the smart device.
- During the production process, each device must be equipped with a birth certificate.

Considerations:

- The Registration Authority (RA) needs to be integrated into the production network.
- Where in the production cycle should the RA be integrated.

- How to connect and perform the Certificate Signature Request (CSR).

Solution(s):

- The Identity Authority Manager (IdAM) is responsible for performing CSR requests in production sites.
- The Identity Authority Manager provides an extensive integration platform to enable flexible and customizable CSR procedures including:
 - Key generation with secure elements or external elements.
 - CSR processing via CMP or other protocols.
 - Connectivity via a wide range of protocols and connections

- (e.g. ethernet, serial line, and profibus).
- Connectivity adapters to external information system (PLM, MES, SQL) to retrieve device-specific information.
- Extensive rule chain modulation to implement custom designed processes and sequences.
- Trust Anchor to provide security services and secure storage.
- Industry grade solution DIN Rail mounted IPC for extended environmental.