

Certificates and their Uses

Network Fandango Service

The following certificates are generated by the Network Fandango Service:

Root CA

- X509 Certificate
- Trust anchor for all service issued TLS certs and JWT tokens. You can optionally use your own organisation's certificate infrastructure for this certificate.
- Issued By: `ICertificateService.CreateRootCertificateAsync`
- Obtain With: `ICertificateService.TryLoadRootCa` or `ICertificateService.TryGetRootPublicKey`
- Storage Keys: `ca.x509.root.pem`, `ca.x509.root.key`

API TLS Certificate

- X509 Certificate
- HTTPS endpoint identity for nfsvc
- Issued By: `ICertificateService.IssueTlsCertificateAsync`
- Obtain With: `ICertificateService.TryLoadTlsCertificateAsync`
- Storage Keys: N/A (uses filesystem)

JWT Certificate

- X509 Certificate
- Sign server-issued JWTs (enrollment tokens, etc.).
- Issued By: `ICertificateService.IssueJwtCertificateAsync`
- Obtain With: `ICertificateService.TryLoadJwtCertificateAsync`
- Storage Keys: N/A (uses filesystem)

SSH User CA (OpenSSH CA for user certs)

- Sign user SSH certificates for ephemeral admin access.

- Issued By: `ICertificateService.IssueSshUserCertificateAsync`
- Obtain With: `ICertificateService.TryGetSshUserPublicKey`
- Storage Keys: `ssh_ca_key`, `ssh_ca_key_pub`

SSH Host CA (OpenSSH CA for host certs)

- Sign host SSH certificates for devices so admins can verify host identity without managing `known_hosts` entries.
- Issued By: `ICertificateService.IssueSshHostCertificateAsync`
- Obtain With: N/A
- Storage Keys: `ssh_host_ca_key`, `ssh_host_ca_key_pub`

Enrolled Network Fandango Hosts

Enrolled hosts download the Root CA public key and SSH public keys at the point of enrollment, in order to verify the identity of `nfsvc`, but these certificates are not generated on the enrolled hosts.

mTLS Client Certificate

- X509 Certificate
- Identify the device to `nfsvc` over mutual TLS (agent calls, jobs, facts).

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