



# JAMF PRO v10.x EMM
# SUPPLEMENTAL PROCEDURES

## Version 2, Release 1

## 26 July 2023

## Developed by Jamf and DISA for the DOD

## Trademark Information

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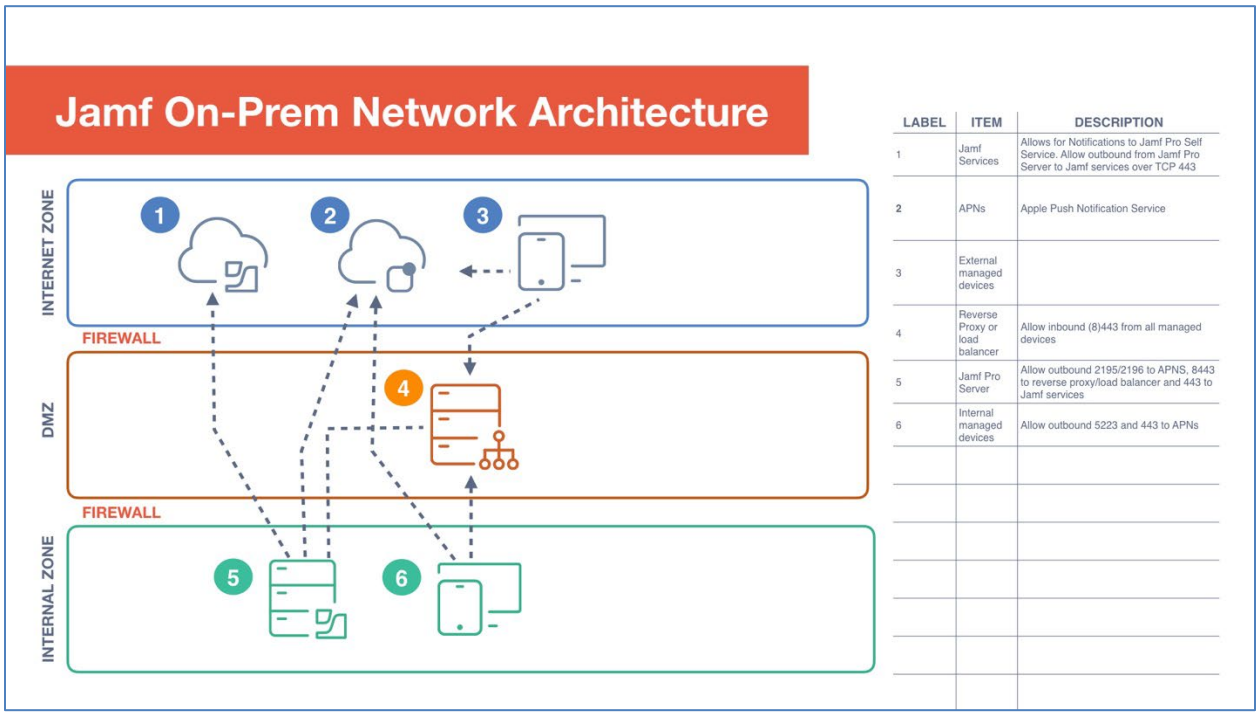
# 1. JAMF PRO EMM SOFTWARE SECURITY AND CONFIGURATION INFORMATION

## 1.1 Jamf Pro EMM Architecture

**Figure 1-1: Jamf Pro EMM Architecture**




## 1.2 Jamf Pro EMM Software Components

**Table 1-1: Jamf Pro EMM Components**

| Component | Description |
|---|---|
| Jamf Self Service | Jamf Pro iOS app |
| Jamf Pro Server | Jamf Pro MDM Server |

## 1.3 Jamf Pro Required Firewall Ports

**Table 1-2: Required Ports and Services**

| From | To | Port (TCP) | Description |
|---|---|---|---|
| Administrators | MDM Server | 22 | SSH |
| Mobile Devices | MDM Server | 80 | HTTP (for CRLs) |
| Mobile Devices | MDM Server | 443 | HTTPS |
| Administrators | MDM Server | 8443 | HTTPS-alt |
| Mobile Devices | Apple Push Notification Services | 5223 | HTTPS |
| MDM Server | Apple Push Notification Services | 2195/2195 | |

## 1.4 PKI Considerations

To implement over-the-air (OTA) provisioning of a DOD mobile device, an authenticated and encrypted tunnel can be set up between the mobile device and the mobile device management (MDM) server. The mobile device and MDM server must support the same root certificate authority to set up a mutually authenticated trusted tunnel between both endpoints.

For the mobile device to support the current DOD root Certificate Authority (CA), DOD Root CA 3, the mobile device needs to natively, out-of-the-box, trust the current DOD root Certificate Authority, or the certificate will need to be side-loaded on the mobile device, which is not scalable in an Enterprise environment. Unfortunately, few, if any, mobile devices natively trust this root CA. Alternately, since there is a path of trust between DOD Root CA 3 and the Federal Common Policy Certificate Authority (FCPCA), a mobile device that natively trusts the FCPCA can authenticate the MDM if either the MDM server or web service used by the MDM (for example IIS, Apache) pushes down a path to the FCPCA to the mobile device during the TLS handshake.

The Jamf Pro MDM's web service is provided by Apache Tomcat. A Local Admin on the MDM can manage these certificates through the Web UI's System Manager by navigating to "Devices" and selecting "Configuration Profiles". They can then use the payload "Certificate" to upload a PKCS12 file containing the server's certificate and all CA certificates in the path from the DOD PKI Issuing CA (e.g., DOD ID SW CA 37) to Federal Common Policy.

## 1.5 Provisioning Derived Credentials

The need to provision derived credentials benefits from some MDM features that are not required to support other functionality. This section describes these features for iOS.

### 1.5.1 Apple iOS

On iOS, to enable third-party apps to use derived credentials, the key sharing interface of the Purebred application should be leveraged. The key sharing interface is a use of Apple's document provider extensions to share PKCS 12 objects between a key management application and an application desired to use keys. Sample code is available at https://github.com/purebred.

For iOS 13, depending on the MDM vendor and the use of the iOS-provided mail client for work email, a managed Exchange payload with the following settings set to "True" could be leveraged to allow users to select Purebred-issued credentials for signed and encrypted email:

SMIMESigningUserOverrideable;
SMIMESigningCertificateUUIDUserOverrideable;
SMIMEEncryptByDefaultUserOverrideable;

All are configurable within Jamf Pro for distribution to managed iOS devices.