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# **SAMSUNG ANDROID OS 8 WITH KNOX 3.X SECURITY TECHNICAL IMPLEMENTATION GUIDE (STIG) OVERVIEW**

**Version 1, Release 4**

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**Developed by Samsung and DISA for the DoD**

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## 1. INTRODUCTION

### 1.1 Executive Summary

The Samsung Android OS 8 with Knox 3.x Security Technical Implementation Guide (STIG) provides the technical security policies, requirements, and implementation details for applying security concepts to Samsung Android 8 with Knox devices.

The scope of this STIG covers only the Corporate Owned Personally Enabled (COPE) and Corporate Owned Business Only (COBO)<sup>1</sup> use cases. The Bring Your Own Device (BYOD) and Choose Your Own Device (CYOD)<sup>2</sup> use cases are not in scope for this STIG. This STIG is published as two documents, one covering the COPE use case and the other covering the COBO use case.

**Note:** The COBO use case where two work containers or environments are set up on the device is out of scope for this version of the STIG but is expected to be added in a STIG update before the end of 2018.

This STIG assumes that the COPE mobile device work-only container is implemented using a technology or application that has been certified by the National Information Assurance Partnership (NIAP) as compliant with the data separation requirements of the Protection Profile for Mobile Device Fundamentals (MDF)<sup>3</sup>. As of the publication date of this STIG, the Samsung Knox container is the only container technology or application that is NIAP certified for Samsung mobile devices.

The configuration requirements and controls implemented by this STIG allow unrestricted activity by the user in downloading and installing personal apps and data (music, photos, etc.) with Authorizing Official (AO) approval and within any restrictions imposed by the AO for the COPE use case. See the STIG Supplemental document, Section 3, Configuration of the Personal Space, for more information. This STIG assumes that if a DoD Wi-Fi network allows a Samsung mobile device to connect to the network, the Wi-Fi network complies with the Network Infrastructure STIG (for example, wireless access points and bridges must not be directly connected to the enclave network, and the network must separate wireless access from other elements of the enclave network).

With AO approval, this STIG allows two forms of biometric authentication for device unlock and work environment/container unlock: fingerprint and iris scan. Both fingerprint and iris scan biometric methods have successfully passed a Common Criteria evaluation using the Protection Profile for Mobile Device Fundamentals, v3.1, for the previous version of the Samsung platform (Android 7) and will be reviewed again during the Samsung Android 8 Common Criteria evaluation. Other Samsung supported biometric methods are not approved, including facial recognition, intelligent scanning, and trust agents.

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<sup>1</sup> Work data/apps only – no personal data/apps

<sup>2</sup> Similar to BYOD, only a select number of personal devices are allowed.

<sup>3</sup> The primary Protection Profile requirement is FDP\_ACF\_EXT.1.2.

## 1.2 Authority

DoD Instruction (DoDI) 8500.01 requires that “all IT that receives, processes, stores, displays, or transmits DoD information will be [...] configured [...] consistent with applicable DoD cybersecurity policies, standards, and architectures” and tasks that Defense Information Systems Agency (DISA) “develops and maintains control correlation identifiers (CCIs), security requirements guides (SRGs), security technical implementation guides (STIGs), and mobile code risk categories and usage guides that implement and are consistent with DoD cybersecurity policies, standards, architectures, security controls, and validation procedures, with the support of the NSA/CSS, using input from stakeholders, and using automation whenever possible.” This document is provided under the authority of DoDI 8500.01.

Although the use of the principles and guidelines in these SRGs/STIGs provides an environment that contributes to the security requirements of DoD systems, applicable NIST SP 800-53 cybersecurity controls need to be applied to all systems and architectures based on the Committee on National Security Systems (CNSS) Instruction (CNSSI) 1253.

## 1.3 Vulnerability Severity Category Code Definitions

Severity Category Codes (referred to as CAT) are a measure of vulnerabilities used to assess a facility or system security posture. Each security policy specified in this document is assigned a Severity Category Code of CAT I, II, or III.

**Table 1-1: Vulnerability Severity Category Code Definitions**

	<b>DISA Category Code Guidelines</b>
CAT I	Any vulnerability, the exploitation of which will <b>directly and immediately</b> result in loss of Confidentiality, Availability, or Integrity.
CAT II	Any vulnerability, the exploitation of which <b>has a potential</b> to result in loss of Confidentiality, Availability, or Integrity.
CAT III	Any vulnerability, the existence of which <b>degrades measures</b> to protect against loss of Confidentiality, Availability, or Integrity.

## 1.4 STIG Distribution

Parties within the DoD and Federal Government’s computing environments can obtain the applicable STIG from the Cyber Exchange website at <https://cyber.mil/>. This site contains the latest copies of STIGs, SRGs, and other related security information. Those without a Common Access Card (CAC) that has DoD Certificates can obtain the STIG from <https://public.cyber.mil/>.

## 1.5 MDFPP Compliance Reporting

All Mobile Device Fundamentals Protection Profile (MDFPP) and DoD Annex security functional requirements (SFRs) were considered while developing this STIG. In DoD environments, devices must implement SFRs as specified in the DoD Annex to the MDFPP.

Requirements that are applicable and configurable are included in this STIG.

## 1.6 Document Revisions

Comments or proposed revisions to this document should be sent via email to the following address: [disa.stig\\_spt@mail.mil](mailto:disa.stig_spt@mail.mil). DISA will coordinate all change requests with the relevant DoD organizations before inclusion in this document. Approved changes will be made in accordance with the DISA maintenance release schedule.

## 1.7 Other Considerations

DISA accepts no liability for the consequences of applying specific configuration settings made on the basis of the SRGs/STIGs. It must be noted that the configuration settings specified should be evaluated in a local, representative test environment before implementation in a production environment, especially within large user populations. The extensive variety of environments makes it impossible to test these configuration settings for all potential software configurations.

For some production environments, failure to test before implementation may lead to a loss of required functionality. Evaluating the risks and benefits to a system's particular circumstances and requirements is the system owner's responsibility. The evaluated risks resulting from not applying specified configuration settings must be approved by the responsible Authorizing Official. Furthermore, DISA implies no warranty that the application of all specified configurations will make a system 100 percent secure.

Security guidance is provided for the Department of Defense. While other agencies and organizations are free to use it, care must be given to ensure that all applicable security guidance is applied both at the device hardening level as well as the architectural level due to the fact that some of the settings may not be able to be configured in environments outside the DoD architecture.

## 1.8 Product Approval Disclaimer

The existence of a STIG does not equate to DoD approval for the procurement or use of a product.

STIGs provide configurable operational security guidance for products being used by the DoD. STIGs, along with vendor confidential documentation, also provide a basis for assessing compliance with Cybersecurity controls/control enhancements, which supports system Assessment and Authorization (A&A) under the DoD Risk Management Framework (RMF). DoD Authorizing Officials (AOs) may request available vendor confidential documentation for a product that has a STIG for product evaluation and RMF purposes from [disa.stig\\_spt@mail.mil](mailto:disa.stig_spt@mail.mil). This documentation is not published for general access to protect the vendor's proprietary information.

AOs have the purview to determine product use/approval IAW DoD policy and through RMF risk acceptance. Inputs into acquisition or pre-acquisition product selection include such processes as:

- National Information Assurance Partnership (NIAP) evaluation for National Security Systems (NSS) (<http://www.niap-ccevs.org/>) IAW CNSSP #11
- National Institute of Standards and Technology (NIST) Cryptographic Module Validation Program (CMVP) (<http://csrc.nist.gov/groups/STM/cmvp/>) IAW Federal/DoD mandated standards
- DoD Unified Capabilities (UC) Approved Products List (APL) (<http://www.disa.mil/network-services/ucco>) IAW DoDI 8100.04



## 2. MOBILE DEVICE MANAGEMENT (MDM) CONFIGURATION

To implement the Samsung Android OS 8 with Knox 3.x STIG, a security policy created on an MDM administration console must be assigned to the target devices. For the purposes of interpreting this STIG, it is assumed that all devices in a specific group are assigned the same policy. To implement a STIG policy on Samsung Android devices, use an appropriate MDM administration tool to:

- Create a “Knox STIG” policy and configure policy rules as specified in the Samsung Android 8 (with Knox 3.x) STIG.
- Create a new device group named “Knox STIG Devices” and assign it the “Knox STIG” policy.

References to “Knox STIG Devices” and “Knox Policy” appear in the STIG and are provided to facilitate comprehension of the implementation guidance. Some organizations may have multiple device groups and policies depending on the organization’s concept of operations. For example, some devices may need additional restrictions placed on them for specialized use cases. For similar reasons, multiple policies may be assigned to a single device group.

Note that the STIG package includes two STIG files (xml files): one for the COPE use case and one for the COBO use case. In addition, in the STIG Configuration Tables document, MDM controls are separated based on use case: COPE (Tables 1 and 2) and COBO (Table 3).

### 2.1 Android Operating System Updates

It is recommended that Android operating system updates and updates of all approved applications be installed as soon as they are available. Mobile device users should contact their local DoD mobile service provider to determine local procedures for obtaining both operating system and application updates.