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GOOGLE ANDROID 13 BYOAD SECURITY TECHNICAL IMPLEMENTATION GUIDE (STIG) SUPPLEMENTAL PROCEDURES

24 April 2024

Developed by Google and DISA for the DOD

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1. REFERENCE

- a. DOD CIO policy memorandum, “Use of Non-Government Owned Mobile Devices”, Aug 10, 2022.
- b. Draft NIST SP 1800-22, Mobile Device Security: Bring Your Own Device (BYOD), Nov 2022.

2. BYOAD DEPLOYMENT

2.1 Google Android BYOD Deployment

The Android Enterprise (AE) Bring Your Own Device (BYOD) deployment mode is called “work profile for employee-owned devices (BYOD)”. When using this deployment mode, a separate self-contained work profile will be installed on the mobile device to protect work data and apps from personal data and apps. The enterprise has complete control and visibility over the work profile but no visibility or access to the device’s personal profile.

2.2 BYOAD Requirements

Reference 1.a establishes minimum requirements for the use of nongovernment-owned mobile devices (i.e., personal- or corporate-owned; referred to as Bring Your Own Approved Device [BYOAD] in this STIG) to store, process, transmit, or display up to DOD Controlled Unclassified Information (CUI). The memorandum provides technical and policy controls that must be implemented for all BYOAD devices deployed in the DOD. Reference 1.b provides best practice requirements for deploying BYOD devices in the U.S. federal government.

This STIG provides required technical controls and key policy controls included in both references. The Authorizing Official (AO) is responsible for ensuring required policy controls are implemented before the deployment of BYOAD devices. The following list includes key policy requirements included in both references (see references for a complete list):

- Approval must be received from Component CISO, AO, and legal counsel prior to implementation of BYOAD. (Reference 1.a, paragraph 2.b.(1))
- Exception to Policy (E2P) for noncompliant systems must be requested. (Reference 1.a, paragraph 2.b.(7))
- BYOAD users must sign a User Agreement. (Reference 1.a, paragraphs 2.b.(8) and 3.c)
- BYOAD device must be National Information Assurance Partnership (NIAP) validated (e.g., listed on the DOD Approved Products List). (Reference 1.a, paragraph 3.a.(2))
- The Enterprise Mobility Management (EMM) system (i.e., mobile device management [MDM], mobile application management [MAM], or virtual mobile infrastructure [VMI]) must be NIAP-validated. (Reference 1.a, paragraph 3.a.(2))
- All apps on BYOAD devices that access, store, process, transmit, or display DOD information must comply with DOD Chief Information Officer Memorandum, “Mobile Application Security Requirements,” October 6, 2017. (Reference 1.a, paragraph 3.a.(2)i)
- Devices, carrier, and mobile service providers prohibited by law as described by the Department of Commerce Bureau of Industry and Security Entity List must not be enrolled in the program. (Reference 1.a, paragraph 3.b.(1)iii)
- Component must list what is being monitored, managed, and data collected on AMDs¹ in the user agreement. (Reference 1.a, paragraph 3.a.(3)ii)
- Participation in the DOD BYOAD program is voluntary. (Reference 1.a, paragraph 3.c.(2))

¹ Approved Mobile Device (AMD) is the term used in the DOD policy (reference 1.a) for BYOAD (AMD = BYOAD).

- Organizations must provide a series of how-to guides, step-by-step instructions covering the initial setup (installation or provisioning), and configuration for each component of the architecture to help security and privacy engineers rapidly deploy and evaluate a mobile device solution in their environment. (Reference 1.b, paragraph 1.2)
- Organization must provide users with access to protected business resources (managed or work profile apps) (e.g., SharePoint, knowledge base, internal wikis, application data). (Reference 1.b, paragraph 1.2)

2.3 Conflicting Policy Guidance

Reference 1.a contains conflicting policy requirements regarding BYOAD monitoring and protecting user privacy:

- Monitoring requirements:
 - The EMM system must be capable of collecting AMD-generated logs for the DOD-managed segment of the AMD for analysis of indicators that the AMDs native security controls might have been disabled (e.g., jailbroken/rooted); preventing installation of blocked or prohibited applications or accessing nonapproved third-party application stores by or within the DOD-managed segment of the AMD; and detecting if the AMD is running an outdated or unsupported operating system, as applicable. (Paragraph 3.a.(3)iii)
- Protect user's privacy requirements:
 - Mobile devices must be configured by the EMM to protect users' privacy. (Paragraph 3.b.(4))

It is impossible to meet all mobile device monitoring requirements listed in Reference 1.a without compromising user privacy. For example, the owner of the device may need to allow the installation of an agent or third-party monitoring app in the personal space to meet device monitoring requirements, which violates user privacy requirements.

Reference 1.a recognizes the conflict between device monitoring and user privacy:

- DOD Components will maintain an acceptable endpoint security posture...while managing risk and balancing user privacy in accordance with this guidance. (Paragraph 2.b.(2))

The STIG's position on device monitoring versus user privacy is that device monitoring controls will only be implemented to the extent possible without violating user privacy requirements unless the AO has determined, based on mission needs and operational environment risk, that device monitoring controls must take precedence.

2.4 Key BYOAD Operational Considerations

2.4.1 Operational Environment Risk

BYOAD is not appropriate for all operational environments. The DOD site and AO should evaluate the risk of BYOAD devices in their operational environment before approving BYOAD use. Key considerations include:

- Environments where microphone and camera must be disabled or where the use of personal devices is prohibited.
- Environments where location-based services cause an unacceptable operational security (OPSEC) risk.
- Sites where the EMM system cannot support all STIG-required controls.

2.4.2 Additional Considerations

- The Android Cross-profile calendar setting allows a single calendar view of the personal profile and work profile calendars without sharing calendar information between profiles. This setting is disabled by default. DOD sites may want to consider enabling this setting as a user convenience. The setting can be enabled by specifying allowed calendar apps from the personal side.
 - To enable this feature:
 - Set the Cross-profile calendar setting in the MDM. This API allows the work profile calendar to request access to the user calendar data to be displayed. It is also possible to restrict this to only specific apps in the work profile (such as the preferred calendar app, referenced by the package name).
 - Once the policy has been pushed to the device, the user will need to authorize the shared display. The Google Calendar app will automatically ask the user for this the first time it is launched after this is enabled, or it can be done later. The user can choose to set this by going to Settings >> Security & privacy >> More privacy settings >> Connected work & personal apps and selecting **Calendar**. This can be used to enable or disable the feature for the user.