ioXt Android Profile

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Abstract: The ioXt Android profile may be used by any device which runs the Android Operating System.
Keywords

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2 Document Version Information

Version	Date	Author	Description
0.1	4/10/2020	Matt Reyes (ioXt)	Initial Draft
0.2	4/11/2020	Subin Shrestha (ioXt)	Removed ioXt baseline test cases covered by GMS certification
0.3	4/15/2020	Subin Shrestha (ioXt)	Simplified some tests by replacing with baseline tests, and add informative notes
0.4	4/16/2020	Subin Shrestha (ioXt)	Corrected Participant Name
0.41	4/21/2020	Brad Ree (ioXt)	Updated the device definition section Changed AA4 to AA104
0.42	4/21/2020	Brad Ree (ioXt)	Changed to UP101, adding reference to application ISO 15408 certification
1.00	5/1/2020	Brad Ree (ioXt)	Released version

3 Participants

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4 Introduction

4.1 Purpose

This document provides the specifications required to certify a device such that the manufacturer may use the ioXt Compliance mark. This specification defines which devices may be certified under the profile, along with the test plan which must be met. The test cases are defined in the ioXt Test Case Library document.

In general, a profile shall define the devices which may be certified using the profile, a threat model, and test plan. The ioXt 2020 base profile shall cover all device which are not covered under another profile. Thus, the device definition is significantly different than other profiles. Further, there is not a threat model provided.

ioXt approved labs must be explicitly approved to execute this profile and shall be governed with the ioXt Lab Agreement.

4.2 Acronyms and Abbreviations

Acronym	Definition
VDP	Vulnerability Disclosure Program or Vulnerability Reporting Pledge
AA	Automatically Applied Update Pledge
SE	Security Expiration Date Pledge
VS	Verified Software Pledge
UP	No Universal Password Pledge
PC	Proven Cryptography Pledge
SI	Secured Interface Pledge
GMS	Google Mobile Services

4.3 Definitions

Term	Definition

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Anti-rollback	Preventing a device from accepting a software update which is older than the current version.
Manufacturer	The entity which is certifying the device. This may be the company which produces the device, or the company which is marketing the device to the end consumer.
ioXt Pledge	A single security principal which a manufacturer agrees to fulfil.
ioXt Yardstick	The definition of the core elements for each Pledge item which must be met to achieve a specific level for each pledge item.
ioXt Test Case Library	This document describes all test cases which are recognized by the ioXt Alliance.
Profile	A device specific test plan which must be met in order to be certified by the ioXt Alliance.

4.4 References

5 Profile Overview

The ioXt Android profile shall be used for any device which runs the Android Operating System and qualify under the GMS or equivalent certification program. The profile includes a base level which must be met in order to use the ioXt Compliance Mark, but also includes high levels which the manufacturer may certify their product under.

6 Device Definition

6.1 Devices which are in scope

6.1.1 Device MUST include the following:

1. The device MUST run the Android operating system.
2. The device MUST qualify under the GMS certification process, or equivalent.

6.1.2 Device MAY include the following:

There are no optional requirements for this profile.

6.2 Devices which are out of scope

1. The device MUST not be defined by another profile. Device specific profiles may supersede this profile.

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7 Test Plan

7.1 Automatically Applied Updates

7.1.1 Test Cases

7.1.1.1 AA104 Security updates are automatically deployed to the device.

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
AA104	Security updates are automatically deployed to the device.			

7.1.1.2 AA100 Device is GMS Certified (or equivalent)

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
AA100	Device is GMS certified (or equivalent)			

7.1.1.3 AA101 Demonstrated Install rate of at least 20%

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
AA101	Demonstrated Install rate of at least 20%			

7.1.1.4 AA102 Demonstrated Install rate of at least 50%

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
AA102	Demonstrated Install rate of at least 50%			

7.1.1.5 AA103 Demonstrated Install rate of at least 70%

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
AA103	Demonstrated Install rate of at least 70%			

7.1.2 Security Levels

Security Level	Test cases required to pass	Notes
1	AA100	Certification minimum level
2	AA100 and AA104	
3	AA100, AA104 and AA101	

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4	AA100, AA104 and AA102	
5	AA100, AA104 and AA103	

7.2 Security Expiration Date

7.2.1 Test Cases

7.2.1.1 SE1.1 End of life notification policy is published

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SE1.1	Public Documentation of security support period	SE1.1	Public Documentation of security support period	

7.2.1.2 SE1.2 Expiration Date is published

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SE1.2	Expiration Date is published	SE1.2	Expiration Date is published	

7.2.1.3 SE102 Expiration Policy provides 2 years security updates from product launch

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SE1.2	Expiration Policy provides 2 years security updates from product launch			

7.2.1.4 SE103 Expiration Policy provides 3 years security updates from product launch

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SE103	Expiration Policy provides 3 years security updates from product launch			

7.2.1.5 SE104 Expiration Policy provides 4 years security updates from product launch

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SE104	Expiration Policy provides 4 years security updates from product launch			

7.2.2 Security Levels

Security Level	Test cases required to pass	Notes
1	SE1.1 OR SE1.2	Certification minimum level

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2	(SE1.1 OR SE1.2) and SE102	
3	(SE1.1 OR SE1.2) and SE103	
4	(SE1.1 OR SE1.2) and SE104	

7.3 Vulnerability Reporting Program

7.3.1 Test Cases

7.3.1.1 VDP1 VDP in place

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VDP1	VDP in place	VDP1	VDP in place	

7.3.1.2 VDP2 Accept external submissions

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VDP2	Accept external submissions	VDP2	Accept external submissions	

7.3.1.3 VDP3 Monitoring security relevant components

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VDP3	Monitoring Security Relevant Components	VDP3	Monitoring Security Relevant Components	

7.3.1.4 VDP4 Responsible disclosure of defects to impacted parties who must take action

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VDP4	Responsible disclosure of defects to impacted parties who must take action	VDP4	Responsible disclosure of defects to impacted parties who must take action	This disclosure must be transparent in a public bulletin (or a similar format)

7.3.1.5 VDP103 Offers public rewards program with payments meeting or exceeding Google-specified minimum thresholds

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VDP103	Offers public rewards program with payments meeting or exceeding Google-specified minimum thresholds			

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7.3.2 Security Levels

Security Level	Test cases required to pass	Notes
1	VDP1 and VDP2	Certification minimum level
2	VDP1, VDP2 and VDP3	
3	VDP1, VDP2, VDP3 and VDP4	
4	VDP1, VDP2, VDP3, VDP4 and VDP103	

7.4 Verified Software

7.4.1 Test Cases

7.4.1.1 VS100 Device is GMS certified (or equivalent) and has published security update frequency policy

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VS100	Device is GMS certified (or equivalent) and has published security update frequency policy			

7.4.1.2 VS101 Published average time between <= 95 days

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VS101	Published average time between updates <= 95 days			

7.4.1.3 VS102 Published average time between updates <= 65 days

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VS102	Published average time between updates <= 65 days			

7.4.1.4 VS103 Published average time between updates <= 35 days

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
VS103	Published average time between updates <= 35 days			

7.4.2 Security Levels

Security Level	Test cases required to pass	Notes

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1		VS100 compliance escalates security level directly to Level 3
2		VS100 compliance escalates security level directly to Level 3
3	VS100	Certification minimum level
4	VS100 and VS101	
5	VS100 and VS102	
6	VS100 and VS103	

7.5 No Universal Passwords

7.5.1 Test Cases

7.5.1.1 UP100 Device is GMS certified (or equivalent)

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
UP100	Device is GMS certified (or equivalent)			

7.5.1.2 UP101 Biometric is FIDO certified or ISO 15408 certified with an ST selecting FAR no worse than 1:10000

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
UP101	Biometric is FIDO certified or ISO 15408 certified with an ST selecting FAR no worse than 1:10000			

7.5.1.3 UP102 Google approved Biometric Compliance Report asserting CDD level 3 strength

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
UP102	Google approved Biometric Compliance Report asserting CDD level 3 strength			

7.5.2 Security Levels

Security Level	Test cases required to pass	Notes
1		UP100 compliance escalates security Level directly to Level 2
2	UP100	Certification minimum level
3	UP100 and UP101	
4	UP100 and UP102	

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7.6 Proven Cryptography

7.6.1 Test Cases

7.6.1.1 PC100 Device is GMS certified (or equivalent)

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
PC100	Device is GMS certified (or equivalent)			

7.6.1.2 PC101 Device has FIPS CAVP algorithm certifications (or equivalent) for core system crypto

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
PC101	Device has FIPS CAVP algorithm certifications (or equivalent) for core system crypto			

7.6.1.3 PC102 Device is listed as under evaluation or on the NIAP approved list for Common Criteria MDFPP

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
PC102	Device is listed as under evaluation or on the NIAP approved list for Common Criteria MDFPP			

7.6.2 Security Levels

Security Level	Test cases required to pass	Notes
1	PC100	Certification minimum level
2	PC100 and PC101	
3	PC100 and PC102	

7.7 Secured Interfaces

7.7.1 Test Cases

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7.7.1.1 SI100 Device is GMS certified (or equivalent)

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SI100	Device is GMS certified (or equivalent)			

7.7.2 Security Levels

Security Level	Test cases required to pass	Notes
1		SI100 escalates security level directly to Level 3
2		SI100 escalates security level directly to Level 3
3	SI100	Certification minimum level

7.8 Security by Default

7.8.1 Test Cases

7.8.1.1 SD101 Device is GMS certified and has no history of confirmed preloaded malware

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SD101	Device is GMS certified and has no history of confirmed preloaded malware			

7.8.1.2 SD102 Preloads risk score is no higher than "medium"

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SD102	Preloads risk score is no higher than "medium"			

7.8.1.3 SD103 Preloads risk score is no higher than "low"

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SD103	Preloads risk score is no higher than "low"			

7.8.1.4 SD104 Preloads risk score is no higher than "very low"

Test Case #	Test Case Name	Yardstick ID	Yardstick Name	Notes
SD103	Preloads risk score is no higher than "very low"			

7.8.2 Security Levels

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Security Level	Test cases required to pass	Notes
1	SD101	Certification minimum level
2	SD101 and SD102	
3	SD101 and SD103	
4	SD101 and SD104	

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