GLOBALPLATFORM®
THE STANDARD FOR SECURE DIGITAL SERVICES AND DEVICES

GlobalPlatform Technology
TEE Certification Process
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Contents

Figures

Tables

1 Introduction

1.1 Scope

This document describes the processes and requirements associated with the GlobalPlatform TEE Security Scheme for the certification of TEE security evaluations and the accreditation of TEE evaluation laboratories. GlobalPlatform Certification Body is the entity that operates the scheme and is responsible for enforcing the GlobalPlatform **TEE Certification Process**, as defined in this document.

The GlobalPlatform website (today at https://globalplatform.org/certifications/) provides the latest requirements documents including Protection Profiles, Operation Bulletins, the list of accredited laboratories, and the certification fee policy. In case of differences, the versions of the documents published on the website apply and supersede the information that is provided in this document.

This document is organized as follows:

- Chapter 1 defines the terminology and provides the list of applicable references.
- Chapter 2 presents the principles of the scheme.
- Chapter 3 presents the TEE evaluation and certification processes.
- Chapter 4 presents the laboratory accreditation requirements and related processes.
- Annex A presents the extension of the TEE Security Scheme to TEE-parts.

1.2 Audience

This document is intended primarily for TEE developers and manufacturers, collectively referred to as Product Vendors; Product Users; and laboratories that intend to perform TEE security evaluations.

1.3 IPR Disclaimer

Attention is drawn to the possibility that some of the elements of this GlobalPlatform specification or other work product may be the subject of intellectual property rights (IPR) held by GlobalPlatform members or others. For additional information regarding any such IPR that have been brought to the attention of GlobalPlatform, please visit https://globalplatform.org/specifications/ip-disclaimers/. GlobalPlatform shall not be held responsible for identifying any or all such IPR, and takes no position concerning the possible existence or the evidence, validity, or scope of any such IPR.

1.4 References

The following references are relevant to the TEE Certification Process. Unless stated otherwise, the last official release applies. GlobalPlatform documents listed below are accessible from either the public or the member GlobalPlatform website portal.

Table 1-1: Normative References

Standard / Specification	Description	Ref
GPD_SPE_009	GlobalPlatform TEE System Architecture Public	[TEE SA]
GPD_SPE_010	GlobalPlatform TEE Internal API Specification Public	[TEE IAPI]
GPD_SPE_007	GlobalPlatform TEE Client API Specification Public	[TEE CAPI]
GPD_SPE_021	GlobalPlatform TEE Protection Profile Public *In this document, the reference [TEE PP] stands for the TEE PP and all applicable PP-Modules for a given Product.*	[TEE PP]
GPT_SPE_140	GlobalPlatform TEE Debug PP-Module	
GPT_SPE_141	GlobalPlatform Time and Rollback PP-Module	
GPD_SPE_091	GlobalPlatform TEE Biometric System PP-Module	
GPD_SPE_142	GlobalPlatform Trusted User Interface PP-Module	
GPD_SPE_090	GlobalPlatform Secure Media Path PP-Module	
GPD_GUI_064	Application of Attack Potential to Trusted Execution Environment – Confidential version (Attack Catalog)	[TEE AP]
GPD_GUI_044	GlobalPlatform TEE Evaluation Methodology Member document *Available under request to non-member Product Vendors.*	[TEE EM]
GPD_TEN_045	GlobalPlatform TEE Security Target Template Public	[TEE ST]
GPD_SPE_050	GlobalPlatform TEE Common Automated Tests as amended by: GlobalPlatform TEE Security Test Suite Member document *Available under request to non-member Product Vendors.*	[TEE CAT]
GP_GUI_028	GlobalPlatform Accreditation Guidelines and Audit Plan Member document	[TEE LAG]

Standard / Specification	Description	Ref
GP_AGR_200	GlobalPlatform TEE Security Evaluation Agreement Public	
	Exhibit B – GlobalPlatform TEE Product Evaluation Request Form Public	
GP_AGR_203	GlobalPlatform TEE Security Laboratory Relationship Agreement Public	
	GlobalPlatform Laboratory Accreditation Request Form Public	
ISO/IEC 17025:2017	General requirements for the competence of testing and calibration laboratories	[ISO 17025]
Common Criteria	Common Criteria for Information Technology Security Evaluation: – Part 1: Introduction and general model, April 2017, version 3.1, revision 5, reference CCMB-2017-04-001 – Part 2: Security functional components, April 2017, version 3.1, revision 5, reference CCMB-2017-04-002 – Part 3: Security assurance components, April 2017, version 3.1, revision 5, reference CCMB-2017-04-003	[CC]
Common Evaluation Methodology	Common Methodology for Information Technology Security Evaluation: Evaluation Methodology, April 2017, version 3.1, revision 5, reference CCMB-2017-04-004	[CEM]

1.5 Terminology and Definitions

Selected terms used in this document are included in Table 1-2.

Table 1-2: Terminology and Definitions

Term	Definition
Application Form	See *Product Evaluation Request Form*.
Certificate	A written statement that documents the decision of GlobalPlatform CB that a specified Product has demonstrated sufficient conformance to the GlobalPlatform security requirement as of its evaluation date.
Certificate Number	A unique reference number that applies exclusively to the exact Product configuration described in the GlobalPlatform Certificate.
Certification Body (CB)	See *GlobalPlatform Certification Body*.

Term	Definition
Certification Report	A document issued by GlobalPlatform CB that summarizes the results of a Product evaluation and confirms the overall results, i.e. that the evaluation has been properly carried out, that the GlobalPlatform Evaluation Methodology has been correctly applied, and that the conclusions of the *Evaluation Technical Report* are consistent with evidence adduced.
GlobalPlatform Accredited Security Laboratory	A laboratory or test facility that has been accredited by GlobalPlatform to perform TEE security evaluations.
GlobalPlatform Auditor	Personnel of GlobalPlatform CB performing accreditation audits of security evaluation laboratories.
GlobalPlatform Certification Body (GlobalPlatform CB)	The GlobalPlatform entity that manages all GlobalPlatform certification schemes.
GlobalPlatform Security Laboratory Relationship Agreement	Agreement between GlobalPlatform and the accredited laboratory.
Product	A TEE Product, that is, a Final Device or System-on-Chip (SoC) embedding a TEE, submitted for security evaluation and certification.
Product Evaluation Request Form	A completed written request for security evaluation of a Product by a Product Vendor.
Product Registration Number	A unique number identifying the Product, assigned by GlobalPlatform CB at the start of the certification process.
Product User	Any actor that relies on TEE security features as stated in the TEE Protection Profile and PP-Modules [TEE PP]
Product Vendor	An entity submitting a Product for assessment under the Certification Process, which acts as sponsor of the evaluation and certification.
Restricted Certificate	The written recognition and acknowledgement of restricted certification of a Product, provided by GlobalPlatform CB to a Product Vendor for a Product that is found to have some residual vulnerabilities under the evaluation and certification process.
Restricted Certification Report	A *Certification Report* based on an *Evaluation Technical Report* that identifies residual vulnerabilities.
Risk Analysis Report	The report, prepared jointly by GlobalPlatform CB and the Product Vendor in the event the Product Vendor decides not to remedy the Product vulnerabilities identified as part of the evaluation and certification process, and containing information for third parties intending to use the Product.
TEE Security Requirements	Collectively, the most recent version (unless GlobalPlatform specifies an earlier version) of the TEE PP and PP-Modules, TEE Evaluation Methodology, and TEE Attack Catalog, and all amendments, modifications, and upgrades as adopted by GlobalPlatform from time to time.

1.6 Abbreviations and Notations

The abbreviations and notations listed in Table 1-3 apply.

Table 1-3: Abbreviations and Notations

Abbreviation / Notation	Meaning
CB	Certification Body
EAL	Evaluation Assurance Level
ETR	Evaluation Technical Report
IAR	Impact Analysis Report
PP	Protection Profile
REE	Regular Execution Environment
SFR	Security Functional Requirement
SoC	System-on-Chip
ST	Security Target
TA	Trusted Application
TEE	Trusted Execution Environment
TOE	Target Of Evaluation

1.7 Revision History

Table 1-4: Revision History

Date	Version	Description
July 2015	1.0	Initial Public Release
September 2017	1.1	Public Release Editorial changes and harmonization of contents with regards to current processes (all sections). New structure of the document that gathers evaluation and certification topics in two consecutive chapters (2 and 3) instead of 2, 3, and 5: o Previous Chapter 3 becomes section 2.2. o Previous Chapter 5 becomes Chapter 3. Clarification of residual vulnerabilities (sections 3.1.4 and 3.1.6). Labelling of laboratory accreditation requirements (section 4.3). New sections: o 2.2.4 Security Functional Test Suite o 3.1.8 Product Identification o 4.1.4 Incremental Audit o Annex A for the certification of TEE-parts Delta and Fast-Track evaluation sections completed.
January 2021	2.0	Public Release Alignment with GlobalPlatform CB Quality Manual and current versions of TEE Protection Profile and Evaluation Methodology.

2 Principles of TEE Security Scheme

2.1 Processes and Actors

2.1.1 General

The GlobalPlatform TEE Security Scheme embodies the following four main processes:

- Definition and maintenance of **TEE Security Requirements**, performed by GlobalPlatform Certification Body and GlobalPlatform technical working groups
- Laboratory accreditation, performed by GlobalPlatform Certification Body and GlobalPlatform Qualified Auditors
- Evaluation of Products, performed by GlobalPlatform Accredited Security Laboratories with the support of Product Vendors, monitored by GlobalPlatform Certification Body
- Certification of Products' evaluation, performed by GlobalPlatform Certification Body

The following sections describe the role of the actors involved in the TEE Security Scheme.

2.1.2 GlobalPlatform Certification Body

GlobalPlatform is the owner of the GlobalPlatform TEE Security Scheme for the certification of security evaluations of Products and the accreditation of TEE evaluation laboratories.

GlobalPlatform Certification Body (CB) is the entity that operates the scheme and is responsible for enforcing the GlobalPlatform **TEE Certification Process**.

GlobalPlatform CB is in charge of:

- Definition and maintenance of the **TEE Certification Process** (this document)
- Definition and maintenance of **TEE Security Requirements** (see section 2.2)
- Laboratory accreditation and management (see Chapter 4)
- Product Vendor evaluation request validation and evaluation monitoring (see Chapter 3)
- Certificate issuance, publication, and management (see section 3.4)

More precisely, the role of GlobalPlatform CB in the evaluation and certification process (see Chapter 3) consists of the following activities:

- Provide the **Security Evaluation Agreement** to the Vendor.
- Review and validate the **Product Evaluation Request Form** (also called **Application Form**) and companion documentation.
- Review and validate the **Test Plan**.
- Review and validate the **Evaluation Technical Reports** (ETR and ETR-Lite).
- Establish the **Risk Analysis Report** with the Product Vendor (if applicable).
- Write a **(Restricted) Certificate**.
- Issue the **(Restricted) Certification Report** upon successful evaluation of the Product.
- Publish Certificates on the TEE Security Scheme webpage unless otherwise decided by the Product Vendor.

Vendors can contact GlobalPlatform CB at certification@globalplatform.org or any other contact address provided on GlobalPlatform's website.

2.1.3 GlobalPlatform Auditors

GlobalPlatform Auditors are personnel of the Certification Body performing the accreditation audits of security evaluation laboratories.

More precisely, the role of GlobalPlatform Auditors consists of the following activities (see section 4.3):

- Define the Accreditation Audit plan.
- Perform the audit of the documentation provided by the laboratory to demonstrate the compliance with the Laboratory Accreditation Requirements defined in section 4.4.
- Perform the visit of the laboratory's premises.
- Write the **Preliminary Audit Report** and analyze the laboratory's **Corrective Actions Plan** (if applicable).
- Write the **Final Audit Report** and provide the recommendation about the accreditation of the laboratory.

2.1.4 GlobalPlatform Accredited Security Laboratories

GlobalPlatform Accredited Security Laboratories are allowed to perform TEE Security Evaluations.

GlobalPlatform Accredited Security Laboratories must be members of GlobalPlatform and must contribute to the definition and maintenance of the scheme requirements and processes through their participation in the scheme's technical working groups.

The relationship between GlobalPlatform and its Accredited Laboratories is enforced by the **GlobalPlatform Security Laboratory Relationship Agreement**, which describes the obligations of the laboratory in terms of structure, skills, and management of the evaluations during the accreditation period.

GlobalPlatform Accredited Security Laboratories are responsible for:

- Renewing their accreditation every two years;
- Informing GlobalPlatform CB in case of change of accreditation conditions, e.g. changes to the expert staff, ownership or management structure, legal status, locations, third-party accreditations;
- Evaluating Products against the **TEE Security Requirements** using the TEE Evaluation Methodology [TEE EM];
- Writing the **Evaluation Technical Report (ETR)** and extracting the **Evaluation Technical Report Lite (ETR-Lite)** if required.

2.1.5 Product Vendors

Product Vendors request the security evaluation of their Products to GlobalPlatform CB and provide all the necessary materials to the laboratory. Product Vendors are responsible for:

- Contracting with a GlobalPlatform Accredited Security Laboratory;
- Providing a complete **Product Evaluation Request Form** and selecting the evaluation type (Full, Delta, or Fast-track);
- Providing the **Security Target** of their Product, compliant with the GlobalPlatform TEE Protection Profile and possibly PP-Modules [TEE PP];
- Providing the **Impact Analysis Report** of their Product, if applicable;

- Providing the information and material listed in the TEE Evaluation Methodology [TEE EM] to the GlobalPlatform Accredited Security Laboratory;
- Communicating about any previous evaluation or certification of the Product.

The relationship between GlobalPlatform and Product Vendors is enforced by the Security Evaluation Agreement that describes the mutual obligations. The selection of the GlobalPlatform Accredited Security Laboratory and the contractual terms of the evaluation are out of scope of GlobalPlatform TEE Security Scheme.

2.1.6 Product Users

Product User (or User) refers to any actor that relies on TEE security features as stated in the TEE Protection Profile and PP-Modules [TEE PP]; for instance, a digital service provider or a device integrator (OEM).

When relying on a certified Product, the User is responsible for checking the **Certificate** and **Certification Report**:

- The type of the Certificate (unrestricted or restricted)
- The scope of the certification, i.e. the security features of the Product that have been evaluated and are covered by the Certificate
- The assumptions about the operational environment in which the Product is to be used or integrated
- The limitations in case of a **Restricted Certificate**

2.2 TEE Security Requirements

2.2.1 General

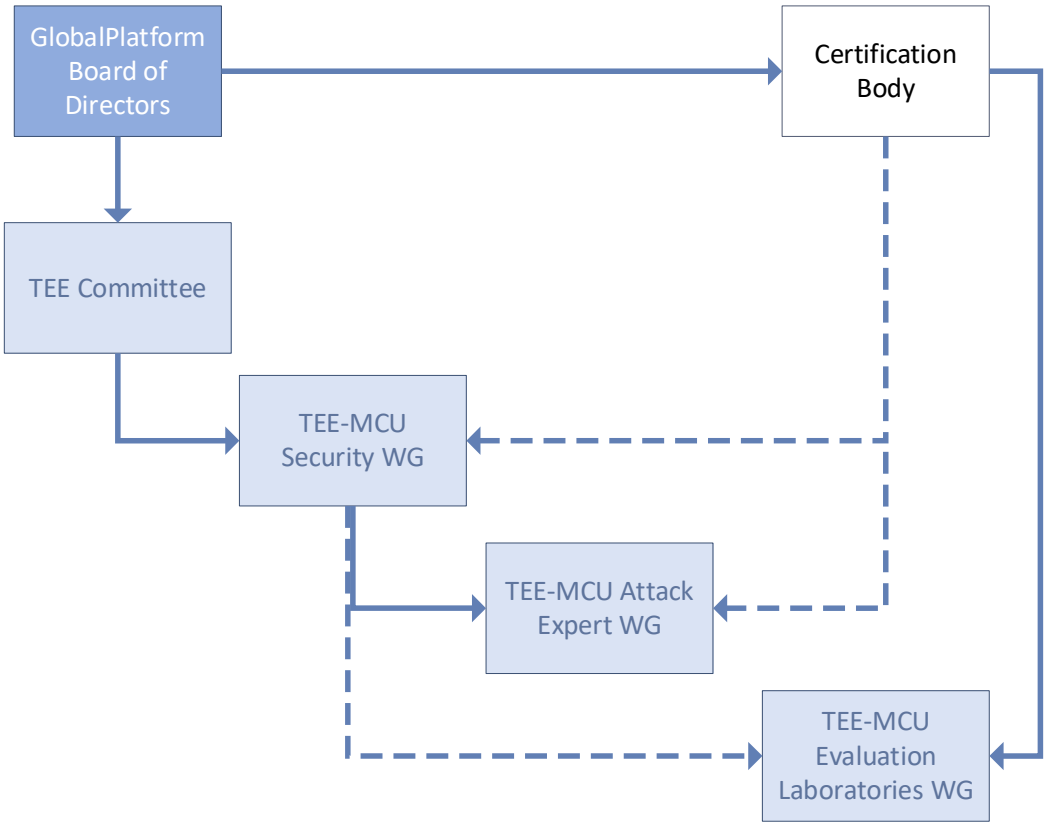
GlobalPlatform defines the set of specifications, called **TEE Security Requirements**, which is the basis of the TEE Security Scheme and contains this document, the TEE Protection Profile and related PP-Modules [TEE PP], the TEE Evaluation Methodology [TEE EM], the Security Functional Test Plan (as described in TEE Common Automated Tests [TEE CAT]), and some supporting documents referenced therein.

These documents are managed by GlobalPlatform CB and three technical working groups composed of TEE and security experts, which ensure high standard developments that meet both market requirements and the state-of-the-art. Such collaboration between all the stakeholders is key to the acceptance and recognition of the TEE Certification Process.

The Certification Body manages all questions regarding the application of **TEE Security Requirements** through the address certification@globalplatform.org.

Figure 2-1 presents the relationships between GlobalPlatform working groups involved in the definition of the **TEE Security Requirements**.

Figure 2-1: GlobalPlatform Organization for TEE Certification



The following sections describe the owner, content, audience, and distribution of the **TEE Security Requirements**.

2.2.2 Certification Process Document

Owner: GlobalPlatform CB.

Content: TEE Security Certification process and Laboratory Accreditation Requirements and process.

Audience: Laboratories, Product Vendors, Product Users.

Distribution: The latest document is available on the public website www.globalplatform.org.

2.2.3 Protection Profile

Owner: GlobalPlatform TEE-MCU Security Working Group.

Content: The TEE Protection Profile (TEE PP) [TEE PP] consists of a core PP and a collection of optional PP-Modules defined as per of the Common Criteria (CC) standard [CC]. The TEE PP defines the Target of Evaluation (TOE) and its assets, the threat model, the assumptions, the security objectives, the Security Functional Requirements (SFRs), and the evaluation assurance level EAL2+, which consists of EAL2 as defined in [CEM] augmented with a specific vulnerability analysis assurance component AVA_VAN_AP.3. The TEE PP also contains an extract of the Attack Catalog ([TEE AP]).

Updates may be triggered by:

- Additional features in the TEE specifications
- Specification update that has an impact on security
- New attacks or attack techniques identified by the TEE-MCU Attack Expert Working Group

The update can give rise to the modification of the PP or PP-Modules or to new PP-Modules.

Protection Profile Certification: The TEE Protection Profile has been certified by the French CC scheme (ANSSI) and is recognized under CCRA and SOG-IS MRA.

Audience: Laboratories, Product Vendors, Product Users.

Distribution: The applicable Protection Profile(s) and PP-Modules are available on the public website www.globalplatform.org.

2.2.4 Evaluation Methodology

Owner: GlobalPlatform TEE-MCU Evaluation Laboratories Working Group.

Content: The document [TEE EM] describes the process and requirements for Vendors and GlobalPlatform Accredited Security Laboratories to perform TEE evaluations conformant with the Security Functional Requirements and evaluation assurance level defined in the TEE Protection Profile [TEE PP]. The TEE evaluation methodology [TEE EM] is based on EAL2+ evaluation methodology as defined in [CEM].

Updates of the Evaluation Methodology may be triggered by:

- Feedback from the field
- Modification of the scope, acceptable form-factors, automated test list, etc.
- Reuse of results from other evaluation schemes
- TEE specification update
- Attack Catalog [TEE AP] update
- TEE Protection Profile [TEE PP] update

Audience: Laboratories and Product Vendors.

Distribution: The applicable Evaluation Methodology is available to GlobalPlatform Members through the member website https://members.globalplatform.org and to interested Product Vendors upon request to the CB.

2.2.5 Security Functional Test Suite

Owner: GlobalPlatform TEE-MCU Evaluation Laboratories Working Group.

Content: The document [TEE CAT] defines the set of security functional test cases that must be run on Products during the vulnerability analysis phase of the evaluation. Updates of the TEE security test suite may be triggered by:

- Updates to the TEE specifications
- TEE Protection Profile [TEE PP] evolution

Audience: Laboratories and Product Vendors.

Distribution: The TEE security test suite is freely available for GlobalPlatform members from the website. It is also available under commercial conditions to non-members.

2.2.6 Attack Catalog

Owner: GlobalPlatform TEE-MCU Attack Expert Working Group.

Content: The document [TEE AP] illustrates the set of attacks that must be considered in a TEE evaluation.

Updates of the Attack Catalog may be triggered by:

- New attacks in the field or new attack techniques
- TEE Protection Profile [TEE PP] scope evolution

Audience: Laboratories and Product Vendors.

Distribution: The distribution of the Attack Catalog is restricted to GlobalPlatform TEE-MCU Attack Expert Working Group members. GlobalPlatform manages the communication between the TEE-MCU Attack Expert Working Group and external entities.

2.3 Target of Evaluation

The TOE is the Trusted Execution Environment as defined by GlobalPlatform[1] (see the GlobalPlatform TEE System Architecture [TEE SA] and the TEE API specifications, including [TEE CAPI] and [TEE IAPI]); that is, an execution environment that provides secure initialization, isolation from the Regular Execution Environment (REE), isolation between Trusted Applications (TAs), Trusted Storage, Random Number Generation (RNG), cryptographic operations, etc.

The TOE comprises the hardware, firmware, and software components and mechanisms that provide such security features: the System-on-Chip (SoC), the boot firmware, the Trusted OS and drivers, the communication agent with the REE, and the APIs exported to the TAs running on top of the Trusted OS.

The TOE does not comprise the TAs, the REE and its applications.

The guidance for the secure configuration and usage of the TOE is an integral part of the evaluation.

In GlobalPlatform TEE Security Scheme, the TOE's form-factor is either a SoC or a final device. At GlobalPlatform's discretion, a product family can be evaluated once. The variations within a family that may be evaluated at once rests with GlobalPlatform.

The TOE is the part of the Product that is in the scope of the vulnerability analysis and testing as defined in the Evaluation Methodology.

[1] Functional compliance with GlobalPlatform TEE API specifications is not mandatory. Nevertheless, compliance has a positive impact on the evaluation and certification workplans.

2.4 Security Evaluation

2.4.1 General

The GlobalPlatform TEE Certification Process requires an independent evaluation of the Product against the [TEE PP] requirements and the support of the Product Vendor to provide accurate and up-to-date information and materials to the GlobalPlatform Accredited Laboratory in charge of the evaluation.

The Evaluation Methodology seeks to optimize the cost and time of the evaluation activities. By leveraging full, delta and fast-track evaluations, families of Products can be evaluated and certified in an incremental approach where the design is evaluated once and the paperwork overhead is reduced. The document [TEE EM] defines the inputs required from the Product Vendor and the analysis and testing steps that the laboratory must perform to assess the security mechanisms of the Product. The Evaluation Methodology achieves a balance between automated black-box testing and white-box testing. The laboratory carries out an independent vulnerability analysis that allows to derive a specific set of relevant penetration tests based on the Product characteristics.

2.4.2 Types of Evaluations

GlobalPlatform TEE security certification scheme relies on three types of evaluations:

- Full evaluation: It applies to Products that have not been evaluated before or that have been significantly changed since the previous evaluation. A Full evaluation includes all the security requirements stated in [TEE PP] and the selected PP-Modules. The Evaluation Methodology has been designed to enable GlobalPlatform Accredited Security Laboratories to perform evaluation of Products in three (3) months provided the TEE complies with GlobalPlatform APIs and the Vendor grants access to the source code of the TEE firmware and software and to a sufficient number of boards and/or devices.
- Delta evaluation: It applies to a TOE that is an updated version of a certified TOE (original TOE) with valid Certificate. The Vendor must provide an **Impact Analysis Report** (IAR) describing all the product changes and their security impact to the laboratory, which then issues a recommendation with regard to the type of evaluation that should be performed. The Vendor then submits the IAR and the recommendation statement to GlobalPlatform CB, which decides about the possibility to apply a Delta evaluation process.
- Fast-track evaluation: It can be used for changes to a certified TOE (original TOE) with valid Certificate that do not impact its security. The Vendor must provide an **IAR** describing all the product changes and a rationale demonstrating the absence of security impact to GlobalPlatform CB, which decides on the application of the Fast-track evaluation process. The principle is that any security change shall give rise to a Full or a Delta evaluation.

The Product Vendor shall refer to the TEE Evaluation Methodology [TEE EM] for a complete description of the evaluation types.

2.4.3 Reuse of Evaluation Work

GlobalPlatform allows reusing evaluation results through Delta and Fast-track evaluation processes. Moreover, GlobalPlatform may allow reusing certification or evaluation results completed prior to the application for certification in the GlobalPlatform TEE scheme upon vendor request. GlobalPlatform reserves the right to accept or deny such reuse. The decision is performed on a case-by-case basis.

Examples of results that can be considered for reuse include:

- CC security evaluation compliant with [TEE PP] performed by a GlobalPlatform Accredited Laboratory
- Audits of development and manufacturing sites performed by recognized organizations against international standards, e.g. ISO 27001 and PCI DSS

The prior certification and/or evaluation results must be unambiguously identified in the **Product Evaluation Request Form**.

2.5 Security Certification

2.5.1 General

The output of a successful evaluation in the GlobalPlatform TEE Security Scheme is a GlobalPlatform **Certificate**.

In case potential vulnerabilities are found during the evaluation, GlobalPlatform may either deny to certify the Product or issue a **Restricted Certificate**. If this happens, the Product Vendor is informed of the details and GlobalPlatform works with the Vendor to ensure that:

- The vulnerabilities are adequately communicated by the Product Vendor to the Users to enable appropriate risk management.
- A plan is put in place by the Product Vendor to release a revised Product that reduces or removes the vulnerabilities.

GlobalPlatform reserves the right to withdraw or not issue a **(Restricted) Certificate** when there is no sufficient evidence that the Product can resist to the attack potential as defined in [TEE PP] or when potentially exploitable vulnerabilities have been identified.

Each **Certificate** has a unique **Certificate Number** that applies to the exact Product configuration described in the Certificate.

Certified Products are listed in the GlobalPlatform Certified Products List. A Product is removed from the list upon expiration or withdrawing of the Certificate.

2.5.2 Recognition of Common Criteria Certificates

GlobalPlatform has defined the conditions under which CC certificates of Products issued by a CC certification body could be recognized:

- The CC certification body has signed an MOU with GlobalPlatform, which includes participation in the TEE-MCU Attack Expert Working Group.
- The Security Target of the CC certified product claims conformance with a valid version of GlobalPlatform TEE Protection Profile at the date of certification.
- The Security Target claims conformance with the assurance components of the Evaluation Assurance Level EAL2+ defined in GlobalPlatform TEE Protection Profile.
- The evaluation of the Product against the EAL2+ defined in the [TEE PP] relies on a valid version of GlobalPlatform Attack Catalog [TEE AP].
- The CC evaluation of the TEE has been performed by a GlobalPlatform Accredited Laboratory.
- GlobalPlatform CB is informed of the issuance of the TEE CC Certificate within ten (10) days from the issuance of the Certificate.
- GlobalPlatform CB receives the Security Target and CC Certification Report within ten (10) days from the issuance of the CC Certificate.
- The CC certification body supports GlobalPlatform CB risk management activities related to potential vulnerabilities of the CC-certified Product, in the event of new attacks in the field or new attack methods.

2.5.3 Risk Management

Many Product Users are in a risk management business that requires constant monitoring of vulnerabilities and threats. The Vendor that sells a certified Product should be able to explain the testing that has been carried out in order to verify the conformance with GlobalPlatform **TEE Security Requirements**.

The level of testing reflects the attacks' state-of-the-art at the time of certification. However, testing cannot anticipate all future attacks. Consequently, the introduction of new products should offer enhanced protection against the latest threats.

Product Users should constantly bear in mind that there is no perfect security and that the security level of a given Product is likely to decrease over time. An attack made with sufficient resources in terms of skills, equipment, and time is likely to succeed in compromising the Product's assets. A secure system must implement defenses at all levels, and Product Users should develop strategies of attack prevention, detection, and recovery. Incident management procedures should be in place and appropriate measures should be taken to limit the likely benefits that an attacker may achieve. The GlobalPlatform TEE Certification Process aims at providing an independent statement about the resistance level and the potential vulnerabilities of the Product, which can be integrated into the User's risk analysis.

In the event that a Product only receives a GlobalPlatform **Restricted Certificate**, the Product Vendor should be in a position to explain the reasons, and to offer guidance about the potential risks to the implementation plans of Product Users. Product Users may mitigate these risks – to a level that is acceptable to them – by using complementary security measures.

2.6 Language

The official language of the TEE Security Scheme is English. The use of any other language is subject to GlobalPlatform approval.

3 Product Evaluation and Certification

3.1 Full Evaluation

3.1.1 Application

3.1.1.1 Product Evaluation Request

In the framework of a Full evaluation, the Product Vendor shall submit to GlobalPlatform CB the **Product Evaluation Request Form** (or **Application Form**), containing the product identification details and the laboratory name, together with the Product Security Target[2] and the list of evidences of previous independent security evaluations/certifications carried out on the product.

The Product Vendor shall declare in the **Product Evaluation Request Form** whether the Product and the project are confidential, and whether the Certificate is expected to be published on GlobalPlatform's website or not. The publication choice may be modified at the end of the certification process.

GlobalPlatform CB provides its public key to protect the product-related documentation that is required from the vendor and from the lab during the entire certification project.

3.1.1.2 Application Review

GlobalPlatform CB examines the request and the related documents and notifies the vendor about the decision: acceptance, denial, or request for complementary information or update of the documents.

Upon acceptance, GlobalPlatform and the Product Vendor sign the GlobalPlatform **Security Evaluation Agreement**. GlobalPlatform CB then registers the certification request and provides a unique registration number for use in all communications up to the certification decision.

3.1.2 Evaluation

3.1.2.1 Evaluation Start

The Product Vendor shall contract with a GlobalPlatform Accredited Security Laboratory to perform the evaluation of its Product. The contractual phase and the terms of the contract are out of scope of the GlobalPlatform TEE scheme.

In order to start the evaluation, the laboratory must provide the evaluation workplan to GlobalPlatform CB with the identification of the evaluation team, the effort expected for each evaluation activity as defined in TEE Evaluation Methodology [TEE EM], and the schedule. The evaluation can officially start only if the following conditions are met:

- **GlobalPlatform Security Evaluation Agreement** has been signed by both parties, which requires the approval of the **Product Evaluation Request Form** and the **Security Target**.
- GlobalPlatform CB has approved the evaluation workplan.
- The laboratory has received from the Vendor all the inputs that are necessary to perform the evaluation as defined in the TEE Evaluation Methodology [TEE EM].

GlobalPlatform CB organizes a kick-off meeting with the laboratory and the vendor and approves the actual evaluation workplan including the project schedule.

[2] GlobalPlatform provides the ST template [TEE ST] based on the [TEE PP].

3.1.2.2 Product Assessment

The laboratory shall perform the Product evaluation against the requirements covered by the scope of certification in compliance with the TEE Evaluation Methodology [TEE EM], i.e. the evaluation consists of a vulnerability analysis phase (documentation review, source code inspection and possibly some manual and/or automated testing) which gives rise to a Test Plan submitted to GlobalPlatform CB, and a functional and penetration testing phase of the security functionality that addresses the behavior of the security functionality and covers the attack methods described in the Attack Catalog [TEE AP].

The typical duration of a GlobalPlatform TEE evaluation is three (3) months, provided the Product complies with GlobalPlatform specifications and all the necessary evaluation inputs are available as required in the TEE Evaluation Methodology [TEE EM], e.g. Security Target, source code, test boards. Such a duration applies for one product version.

Nevertheless, there is no formal obligation in general to perform the evaluation in three (3) months. More time might be necessary where, for instance, the product requires security updates or either the laboratory or GlobalPlatform CB considers that additional analysis and/or testing is necessary. However, vendor and laboratory are expected not to delay the evaluation project unduly and to make their best efforts to perform the Product assessment in a reasonable timeframe. The default maximum duration of a certification project is one (1) year from the registration date. GlobalPlatform CB, at its own discretion and under special circumstances, may extend such period.

GlobalPlatform CB monitors the evaluation progress as defined the TEE Evaluation Methodology [TEE EM], including the review and validation of the Test Plan. The laboratory informs GlobalPlatform CB of all identified nonconformities at least at every monitoring point.

GlobalPlatform CB informs the vendor of all nonconformities raised by the laboratory or identified by the CB.

GlobalPlatform CB, in coordination with the laboratory, provides information regarding the additional evaluation tasks needed to verify that nonconformities have been corrected. If the Vendor agrees to continue with the certification process, the additional evaluation tasks are integrated into the evaluation plan and the evaluation resumes under an updated evaluation workplan subject to approval by GlobalPlatform CB.

3.1.2.3 Evaluation Reports

After evaluation, the GlobalPlatform Accredited Security Laboratory issues the **Evaluation Technical Report (ETR)** and optionally the **Evaluation Technical Report Lite (ETR-Lite)** as defined in [TEE EM]. ETR and ETR-Lite shall contain the description and outcomes of the vulnerability analysis and testing as well as:

- The laboratory's verdict with regard to the Product's resistance to attackers with attack potential as defined in the [TEE PP], provided the use of the Product complies with its security guidance.
- All the vulnerabilities that have been identified and might be exploitable within the operational environment and attack potential defined in the [TEE PP] that are covered by dedicated recommendations given in the Product's security user guidance.
- All the residual vulnerabilities that have been discovered and might be exploitable outside the conditions of the evaluation, i.e. either in an operational environment that does not comply with the [TEE PP] or with an attack potential that goes beyond the requirements and does not comply with the threshold defined in the [TEE PP].

The ETR and ETR-Lite are transmitted to the Vendor and to GlobalPlatform CB. The ETR-Lite contains a subset of the information presented in the ETR and is expected to be shared with third parties on a need-by-need basis.

3.1.2.4 Evaluation Review

GlobalPlatform CB reviews the Test Plan and the **ETR** and determines if the evaluation results provide sufficient assurance that the Product and the evaluation work comply with the **TEE Security Requirements**. Based on all the information gathered from the evaluation, the reviewer makes a recommendation for a certification decision. The evaluation review may give rise to the request of additional information and /or complementary evaluation activities.

3.1.3 Certification

3.1.3.1 Certification Decision

GlobalPlatform CB makes the certification decision based on all the information related to the evaluation and the recommendation of the reviewer(s).

In case of a decision to certify the product, GlobalPlatform CB writes the **Certification Report**.

In case of a decision not to certify the product, GlobalPlatform CB notifies the vendor and identifies the reasons for the decision. Should GlobalPlatform CB consider that the evaluation process can be resumed and the Vendor expresses interest in continuing the certification process, this is dealt with as described in section 3.1.2.2.

3.1.3.2 Certification Report and Certificate

In case of a decision to certify the product, GlobalPlatform CB writes the following two documents as defined in section 3.4.1:

- **Certification Report** – Shall be communicated to the vendor and the laboratory for review prior to official release.
- **Certificate** – Shall be signed by a GlobalPlatform authorized representative.

The Certificate shall contain the unique Certificate Number.

The issuance of the certification documentation requires that the Vendor Agreement is signed and all administrative and financial conditions are fulfilled.

3.1.4 Risk Analysis Report

Under some circumstances, based on the evaluation results and the reviewer(s) recommendation, the Product Vendor and GlobalPlatform CB may decide together to perform an assessment of the risks resulting from nonconformities or residual vulnerabilities that have been identified and that are considered significant by GlobalPlatform or by the Vendor. Following such analysis, two situations may arise:

1. GlobalPlatform proposes to issue a **Restricted Certificate**, which requires the agreement of the Vendor to prepare a joint **Risk Analysis Report** containing information for Product Users;
2. GlobalPlatform declines to certify the product "as is". The Product Vendor may decide to remedy such residual vulnerabilities and re-start the certification process.

Where the decision is to prepare a **Risk Analysis Report**, GlobalPlatform reserves its final authority over its content to ensure that Product Users receive reliable information derived from the TEE evaluation, which is meaningful to the risk assessment of their TEE services or deployments.

GlobalPlatform CB then writes the following documents:

- a **Restricted Certification Report**, including a reference to the **Risk Analysis Report**
  - GlobalPlatform CB transmits the **Restricted Certification Report** to the laboratory and to the Vendor for review prior to official release.
- a **Restricted Certificate**, which shall be signed by a GlobalPlatform authorized representative

The issuance of the restricted certification documentation requires that the Vendor Agreement is signed and all administrative and financial conditions are fulfilled.

3.1.5 Product Identification

The following requirements apply to the identification of the Product from the initial request up to the certification. Product code-name is allowed temporarily; real Product version and TOE components identification data are required.

Upon evaluation request:

- Product name and version are required in the **Product Evaluation Request Form** for registering a TEE evaluation.

  Product code-name can be used at request time.

  The Product version must match the real version in Vendor's systems.

- Product name and version as well as identification of TOE components are required in the Security Target (see GlobalPlatform TEE Security Target Template [TEE ST]).

  The same name and version used in the request form can be used in the Security Target for application review.

  The identification of the TOE and TOE components must match the real unique identification data (e.g. name and version) in Vendor's systems. This applies to the identification of the device (if applicable), the SoC, the firmware (ROM code), the boot code, the Trusted OS, the drivers, the pre-loaded TA, etc.

During evaluation:

- The laboratory must be able to identify the TOE and TOE components and must keep track of all the versions used in the security assessment.
- The laboratory must be able to identify the testing material, e.g. test boards, devices, and must keep track of all the versions used in the security assessment.
- The Vendor must be able to recover from their configuration management system the initial version(s) of the TOE and TOE components and all the versions transmitted or made accessible to the laboratory.
- The Vendor must be able to recover from their systems the configuration of all the versions of the testing material that have been provided or made accessible to the laboratory.

At evaluation reporting time:

- The final Security Target must include the real Product name and version.
- The final Security Target must include the identification of the TOE and TOE's components, as evaluated by the laboratory.
- The ETR and ETR-Lite must provide the real Product name and version, as per the final Security Target.
- The ETR and ETR-Lite must identify all the versions of the TOE and TOE's components that have been audited/tested during the evaluation.
- The ETR and ETR-Lite must identify the final versions of the TOE and TOE components upon which the evaluation verdict has been made, as per the final Security Target.

At certification time:

- The **(Restricted) Certification Report** and corresponding **(Restricted) Certificate** includes the real Product and TOE components identification, as per the final Security Target, ETR and ETR-Lite.
- The **(Restricted) Certification Report** and corresponding **(Restricted) Certificate** may include the commercial Product name upon Vendor's request.

3.2 Delta Evaluation

In order to apply for a Delta evaluation of a new Product, the Vendor prepares an **Impact Analysis Report** (IAR) describing all the hardware and software changes to the original certified Product and their security impact and submits the IAR to the selected laboratory for review. The laboratory assesses the feasibility of the Delta evaluation and issues a recommendation. Both the IAR and the laboratory's recommendation are provided to GlobalPlatform CB together with the Exhibit B and Service Agreement as described in section 3.1.1.

GlobalPlatform CB then examines the Delta evaluation request and notifies the vendor about the decision: acceptance, denial, or request for complementary information.

The Delta evaluation steps are the same as in a Full evaluation. Upon successful evaluation, GlobalPlatform issues a **Derived Certificate** for the new Product, which shall reference the original Certificate.

3.3 Fast-track Evaluation

In order to apply for a Fast-track evaluation of a new Product, the Vendor prepares an **Impact Analysis Report** (IAR) describing all the hardware and software changes to the original certified Product and containing a rationale that shows that the changes do not impact the security of the Product. The IAR is provided to GlobalPlatform CB together with the Exhibit B and Service Agreement as described in section 3.1.1.

GlobalPlatform CB then examines the Fast-track evaluation request and notifies the vendor about the decision: acceptance, denial, or request for complementary information.

Upon acceptance of Fast-track evaluation, GlobalPlatform performs all the technical and administrative steps to issue the **Derived Certificate** of the new Product, which shall reference the original Certificate.

Fast-track evaluation does not involve testing activities by a laboratory.

3.4 Certificate Management

3.4.1 Certificate

A GlobalPlatform **Certificate** confirms that the Product identified in the Certificate has undergone security evaluation by an Accredited Laboratory against a TEE PP-conformant ST as defined in the Evaluation Methodology, and that no significant residual vulnerability has been identified. It includes:

- Certificate Number
- Issuance date
- Identification of the TOE
- TOE type (TEE on SoC, TEE on Final Device, or TEE-parts)
- Identification of the Sponsor (the Vendor)
- Identification of the developer(s)
- [TEE PP] conformance claim
- Identification of the Accredited Laboratory that performed the evaluation
- Evaluation type (full, delta, or fast-track)
- Certification type (full or restricted)
- Reference of the **Certification Report**

For a Delta or Fast-track evaluation, the reference to the original Certificate is included.

A GlobalPlatform **Certification Report** includes:

- Certification Report number
- Certification Report issuance date
- Product Registration Number
- All the information contained in the **Certificate**
- Identification of the TOE documentation including the Security Target and the User Guidance
- Identification of the Evaluation Methodology and Attack Catalog used during the evaluation
- Evaluation scope (description of the TOE functionalities that have been tested)
- Summary of the evaluation activities
- Assumptions and usage restrictions (if applicable)
- Conclusion

For a Delta or a Fast-track evaluation, the reference to the original Certificate and Certification Report are included.

For a Fast-track evaluation, the chapters about evaluation scope and activities are empty.

3.4.2 Restricted Certificate

A GlobalPlatform **Restricted Certificate** confirms that the product identified in the Certificate has undergone security evaluation by an Accredited Laboratory against the TEE Protection Profile requirements as defined in the Evaluation Methodology, and that the laboratory has discovered some significant residual vulnerabilities which have been addressed in a specific **Risk Analysis Report**.

A GlobalPlatform **Restricted Certificate** includes all information contained in an unrestricted Certificate as defined in section 3.4.1 and the reference of the correspondent **Restricted Certification Report**.

A GlobalPlatform **Restricted Certification Report** includes all information contained in an unrestricted certification report as defined in section 3.4.1 and the reference of the correspondent **Risk Analysis Report**.

3.4.3 Certification Validity

By default, a GlobalPlatform **(Restricted) Certificate** issued from a Full evaluation is valid for three (3) years from the certification date.

A successful Delta or Fast-track Evaluation gives rise to a **Derived Certificate** with the same validity date of the original Certificate.

Nevertheless, GlobalPlatform reserves the right to withdraw a Certificate upon certain circumstances, such as a significant change in the Attack Catalog.

3.4.4 Publication

The decision about the confidentiality of the certification project rests with the Vendor.

Upon release of the **(Restricted) Certification Report** and **(Restricted) Certificate**, GlobalPlatform CB confirms with the Vendor whether the certification can be made public, in which case GlobalPlatform publishes them on GlobalPlatform's website.

3.4.5 Security Monitoring

GlobalPlatform CB through the TEE-MCU Attack Expert Working Group continuously monitors threats and security developments in TEE domain and update the Attack Catalog [TEE AP] to reflect the state-of-the-art.

Where necessary and provided no non-disclosure agreement is compromised, GlobalPlatform CB may inform Product Vendors about newly discovered (residual) vulnerabilities of their certified products, thus enabling and supporting the Product Vendor to minimize subsequent risks, and to support their customers' risk management.

Under specific circumstances, GlobalPlatform CB may decide to withdraw or revoke, i.e. to shorten the validity period, a GlobalPlatform **(Restricted) Certificate**.

4 Laboratory Accreditation

4.1 General

To perform TEE security evaluations under the GlobalPlatform TEE Security Scheme, a laboratory must obtain and maintain GlobalPlatform accreditation. To do so, the laboratory shall apply for accreditation and successfully pass the corresponding audit. The audit tasks are undertaken by GlobalPlatform Auditors. Accreditation fees are due by the laboratory; payment shall be performed as stipulated by GlobalPlatform's policy.

Several types of audits may be required during a laboratory's relationship agreement with GlobalPlatform:

- Initial Accreditation Audit: This is the first audit that is required to become a GlobalPlatform Accredited Security Laboratory.
- Accreditation Renewal Audit: This audit is done before the expiration of an accreditation to extend the validity date.
- Interim Proficiency Audit: This audit is done upon GlobalPlatform request.
- Incremental Audit: This audit is done when the accredited laboratory moves to new premises.

GlobalPlatform reserves the right to suspend or revoke the accreditation status of a laboratory upon unsatisfactory renewal, incremental or interim audit. A laboratory whose accreditation has been suspended can recover the accreditation status upon a new successful audit of the type decided by GlobalPlatform.

4.2 Accreditation Types

4.2.1 Initial Accreditation Audit

When a laboratory initially requests GlobalPlatform accreditation, the laboratory provides documentation about the legal entity and an overview of its ability to meet GlobalPlatform accreditation requirements. GlobalPlatform reviews the documents supplied and, if the accreditation request is accepted, an accreditation audit is organized. Initial accreditation can only be granted upon successful audit.

The initial accreditation has a validity of two years provided the laboratory starts the first TEE evaluation within one year from the initial accreditation date.

4.2.2 Accreditation Renewal Audit

A GlobalPlatform Accredited Security Laboratory must be audited every two years to renew its GlobalPlatform accreditation. GlobalPlatform CB determines the requirements for the Accreditation Renewal Audit at the time of renewal. GlobalPlatform CB may select specific items for the auditor to cover. The audit must be completed before the expiration date of the laboratory's accreditation.

It is the responsibility of the laboratory to renew its accreditation before it expires. If a laboratory does not renew its accreditation, GlobalPlatform shall revoke its accreditation.

4.2.3 Interim Proficiency Audit

Under special circumstances, e.g. due to changes in the credentials, in the stakeholders or in the technical staff of the laboratory, or to comply with the decisions made upon the previous accreditation audit, GlobalPlatform may require an Interim Proficiency Audit. GlobalPlatform informs the GlobalPlatform Accredited Security Laboratory about such decision, the date by which the audit must be completed, and the requirements that are in the scope of the audit (for instance, the scope of the audit upon a significant change in the technical staff should primarily include laboratory's testing capabilities).

If a laboratory does not complete the audit or if the audit is not successful by the required date, GlobalPlatform may suspend or revoke the laboratory's accreditation.

4.2.4 Incremental Accreditation Audit

When a laboratory moves to new premises, an Incremental Accreditation Audit is required. The existing renewal date for the laboratory's accreditation does not change.

The requirements for an Incremental Accreditation Audit are determined by GlobalPlatform CB at the time of the audit.

If a laboratory does not complete the audit or if the audit is not successful by the required date, GlobalPlatform may suspend or revoke the laboratory's accreditation.

4.3 Accreditation Process

The accreditation process is described in the following table. Note that all the agreements, forms, letters, and reports are in bold characters. In this process, the information that is provided by the laboratory is protected by a confidentiality agreement signed with GlobalPlatform.

Table 4-1: Accreditation Process

Entering the process	Laboratory	• Sends an accreditation request to GlobalPlatform CB including the following information (see GlobalPlatform **Laboratory Accreditation Request Form**): o Executive and financial summary o Laboratory's facilities, background, and experience o Main contacts • If the accreditation request is accepted: o Signs the GlobalPlatform **Security Laboratory Relationship Agreement**; o Formally accepts the audit proposal and proceeds with the payment of the accreditation fees as per GlobalPlatform financial conditions.
	GlobalPlatform Certification Body	• Examines the accreditation request and, if necessary, requires additional information to the laboratory. • Decides to accept or reject the accreditation request[3] and informs the laboratory about the decision. • If the accreditation request is accepted, GlobalPlatform provides: o A **Letter of Registration** including the Registration Number to be used in all the communications with GlobalPlatform o The GlobalPlatform **Security Laboratory Relationship Agreement** for signature o The audit proposal including the scope, the auditor(s) names and the initial audit plan
Audit	Laboratory	• Provides the auditors with information required in section 4.5 prior the audit (see GlobalPlatform Accreditation Guidelines and Audit Plan [TEE LAG]). • Hosts the on-site audit if required, presents technical topics and performs demonstrations as agreed in the audit plan. • Reviews the **Preliminary Audit Report** issued by GlobalPlatform Auditors after the audit. • If necessary, defines a **Corrective Action Plan** with deliverables and due dates to meet all GlobalPlatform requirements.
	GlobalPlatform Auditor	• Performs the audit against the accreditation requirements defined in section 4.4. • Writes the **Preliminary Audit Report** and provides it to the laboratory and GlobalPlatform CB.

[3] GlobalPlatform reserves the right, at its own discretion and without providing a detailed explanation, to deny a laboratory the right to proceed through the accreditation process.

		• Reviews the **Corrective Action Plan** defined by the laboratory, if applicable. • Writes the **Final Audit Report**, which includes the **Corrective Action Plan**, if applicable, and the accreditation recommendation, and provides it to GlobalPlatform CB.
	GlobalPlatform CB	• Monitors the accreditation audit.
Approval	GlobalPlatform CB	• Reviews the **Preliminary Audit Report** and provides feedback to the Auditor. • Reviews the **Final Audit Report** and determines whether the laboratory can be accredited and whether follow-up actions are required[4]. • Issues the **Final Audit Report** agreed with the Auditor(s). • If the decision is to grant accreditation without reserves: o Signs the GlobalPlatform **Security Laboratory Relationship Agreement**; o Issues an **Initial Letter of Accreditation** with a validity of one year; o Adds the laboratory to the list of Accredited Laboratories on the GlobalPlatform website. • If the decision is to grant provisional accreditation: o Signs the GlobalPlatform **Security Laboratory Relationship Agreement** with the laboratory; o Issues a provisional **Letter of Accreditation with conditions**, including the requirements for an **Interim Proficiency Audit** and a date by which it must be completed; o Adds the laboratory to the list of Accredited Laboratories on the GlobalPlatform website. • If the decision is to deny accreditation: o Notifies the laboratory about the decision.
	Laboratory	• Performs a TEE evaluation during the validity period of the **Initial Letter of Accreditation** or the **Initial Letter of Accreditation with conditions**.

The **Preliminary** and **Final Audit Reports** and any of its intermediate versions shall be protected against disclosure and unauthorized modification by their authors and recipients.

Nevertheless, GlobalPlatform may decide to communicate the **Final Audit Report** to partner organizations under MOU, upon authorization by the laboratory.

At any time, the **Security Laboratory Relationship Agreement** between GlobalPlatform and an Accredited Laboratory may be:

- terminated upon laboratory's decision;
- suspended or revoked upon GlobalPlatform's decision.

[4] GlobalPlatform reserves the right to deny accreditation at its own discretion and without detailed explanation.

4.4 Accreditation Requirements

4.4.1 Purpose

This section identifies the set of general, business, organizational, capability, and security requirements that a laboratory must meet in order to obtain and maintain GlobalPlatform accreditation for TEE security evaluations.

4.4.2 General Requirements

4.4.2.1 GlobalPlatform Membership

[GR-01] The laboratory shall be either a GlobalPlatform Full Member or a GlobalPlatform Participating Member to the TEE Committee, or it shall inherit such membership level from its parent organization.

[GR-02] The laboratory shall be a registered member of the GlobalPlatform TEE-MCU Evaluation Laboratories and TEE-MCU Attack Expert Working Groups and shall comply with their participation rules.

4.4.2.2 Third-party Security Accreditations

[GR-03] The laboratory shall hold an ISO/IEC 17025 certificate issued by its national accreditation body that is valid at the date of audit.

a. Whether or not the technical scope of the ISO accreditation includes the TEE evaluation methodology as defined by GlobalPlatform, the laboratory shall perform such evaluations within the framework of processes and procedures under ISO accreditation.

[GR-04] The laboratory shall be accredited by at least one recognized security certification scheme such as Common Criteria, EMVCo or PCI.

4.4.3 Business Requirements

4.4.3.1 Financial

[BR-01] The laboratory shall conduct business in a manner that is consistent with the highest ethical standards and with practices that minimize risk.

[BR-02] The laboratory shall have a sound financial basis and be a part of a stable business organization.

[BR-03] The laboratory shall not have financial dependencies on any Product Vendor for which evaluation is being performed other than the Product Vendor's payment for the service provided.

[BR-04] The laboratory shall not have financial dependencies on any GlobalPlatform member with regards to performance of any GlobalPlatform TEE evaluation activity unless permitted in writing by GlobalPlatform.

[BR-05] The laboratory shall be free of any past fraudulent or criminal activity.

4.4.3.2 Insurance

[BR-06] The laboratory shall maintain in effect, at its own expense, a general liability and professional liability insurance coverage that covers its responsibility up to $1M USD per occurrence or $2M USD aggregate. The laboratory is also meant to maintain all the insurances required by the applicable laws and regulations in the jurisdictions where the laboratory's services are performed.

4.4.3.3 Legal

[BR-07] The laboratory or the organization of which it is part shall be recognized as a legal entity and registered as a tax-paying business or as having a tax-exempt status or as a legal entity in some form with a national body.

[BR-08] The laboratory or the organization of which it is part shall be able to sign and abide by all applicable GlobalPlatform legal agreements, including the GlobalPlatform **Security Laboratory Relationship Agreement**.

4.4.3.4 Public Communications

[BR-09] The laboratory shall agree to abide by GlobalPlatform's policy that testing performed at any GlobalPlatform Accredited Security Laboratory is acceptable for TEE approval, and shall make no claims to the contrary in its communication and/or marketing material.

[BR-10] The laboratory shall not, under any circumstances, communicate or disclose to any third party, including to a Product Vendor, that a Product has or has not been certified by GlobalPlatform. GlobalPlatform CB, not the laboratory, shall be the final party to determine whether a particular Product satisfies the **TEE Security Requirements**.

4.4.3.5 Independence

[BR-11] The laboratory shall be able to demonstrate its impartiality and its independence from the parties involved in the design or manufacturing of the Products under evaluation.

[BR-12] The laboratory shall immediately notify GlobalPlatform CB in writing about any change to ownership or legal or management structure, in particular with regard to organizations involved in the design or manufacturing of Products, and the laboratory shall continuously fulfill all the obligations stipulated in the GlobalPlatform **Security Laboratory Relationship Agreement**.

[BR-13] The laboratory shall disclose to GlobalPlatform in writing when an individual Product Vendor represents more than 25% of the laboratory's total annual revenue for the laboratory's evaluation activities regardless of the scheme or evaluation methodology used.

[BR-14] The laboratory shall not evaluate a Product on which the laboratory or laboratory's staff has been involved in from design or manufacturing point of view, with the exception of functional or security quality assurance testing or debug sessions performed prior to the start of an official GlobalPlatform TEE Security Evaluation.

[BR-15] The laboratory shall receive communication related to GlobalPlatform TEE Security Evaluation only from GlobalPlatform CB.

4.4.3.6 Consistent Business Practices

[BR-16] The laboratory shall recognize the test results obtained by any other GlobalPlatform Accredited Security Laboratories during the evaluation of a GlobalPlatform certified Product, without any further investigation and without any discrimination regarding pricing for complementary testing.

4.4.4 Organizational Requirements

4.4.4.1 Quality Assurance

[OR-01] The laboratory shall have a quality system based upon ISO/IEC 17025 requirements, which includes documented procedures and processes to ensure a high quality of testing and test reproducibility.

[OR-02] The laboratory shall maintain an up-to-date library of reference material (guidance, procedures, books, papers, articles, etc.) on methods, standards, techniques, and equipment that are resident in the laboratory and that provide the information required for laboratory test performance.

[OR-03] The laboratory shall maintain up-to-date records of equipment maintenance.

4.4.4.2 Personnel

[OR-04] The laboratory shall maintain a list of their qualified test personnel consisting of a description of their role in the organization, their qualifications, and their experience.

[OR-05] The laboratory shall have procedures to ensure a match between staff training and roles in the performance of GlobalPlatform TEE evaluation activities.

[OR-06] The laboratory shall maintain a file for each employee, which documents the employment history as permitted by law. For instance:

- Name and national identification number
- Current photograph, updated at least every three years
- Resume and job application
- Level and title of formal education
- Date of entry
- Up-to-date track of:

  Signed document indicating that the employee has read and received a copy of the laboratory's policies and procedures

  Trainings, especially those involving any GlobalPlatform testing process or GlobalPlatform-qualified test tools

  Verification of aliases (if applicable)
- Check-out statement including the following items:

  Recovery of the employee's photo ID badge or access card, access keys, or passes and immediate deactivation of any access means;

  Ensure that the employee surrenders all property and documentation regarding GlobalPlatform security evaluations;

  Ensure that all computer and local area network access passwords are revoked.

4.4.4.3 Evaluation Facilities

[OR-07] The laboratory shall conduct all activities related to Product evaluation and reporting within the audited laboratory's premises unless GlobalPlatform CB has granted written authorization to perform some well-identified activities at Vendor premises. In such a case, the laboratory shall register GlobalPlatform's authorization in the evaluation file.

4.4.5 Capability Requirements

4.4.5.1 Laboratory Experience and Expertise

[CR-01] The laboratory shall be able to demonstrate experience of at least three (3) years in security evaluation of IT products, which is relevant to the software and hardware testing of Products as defined by GlobalPlatform.

[CR-02] The laboratory shall be able to demonstrate expertise in the areas that are relevant to Products' evaluation as defined by GlobalPlatform, including TEE specifications, System-on-Chip architectures, (micro-)kernels, as well as related software and hardware attack techniques.

[CR-03] The laboratory shall define and implement a process for monitoring the public TEE-related vulnerabilities.

[CR-04] The laboratory shall define and regularly update a training program about TEE technology and related testing techniques aimed at all the personnel that is involved in TEE evaluations.

[CR-05] The laboratory shall notify to GlobalPlatform CB in writing and without delay the departure of lead evaluator(s) or any change in the organization that may impact the global level of expertise of the laboratory.

4.4.5.2 Personnel Experience and Expertise

[CR-06] The laboratory shall ensure that the personnel performing GlobalPlatform TEE evaluations has appropriate academic background, e.g. in areas such as Computer Science, Mathematics, Cryptography, Microelectronics, sufficient TEE knowledge and skills to apply the TEE evaluation methodology and to operate the equipment of the laboratory.

[CR-07] The laboratory shall appoint one or several TEE lead evaluator(s), with at least three (3) years of experience in TEE or similar security evaluations, to support the laboratory's technical manager with regards to GlobalPlatform TEE evaluations and to the maintenance of the laboratory's TEE expertise.

[CR-08] The laboratory shall ensure that the TEE lead evaluator(s) have received the latest GlobalPlatform TEE training and that processes are in place to share such knowledge with the entire TEE technical personnel.

4.4.5.3 Test Methodology and Equipment

[CR-09] The laboratory shall define operational methods and procedures to apply GlobalPlatform TEE evaluation methodology in a reproducible and harmonized way across evaluations and evaluators.

[CR-10] The laboratory shall own or have access to the hardware and software equipment that is necessary to perform the TEE evaluations, including source code review, security functional testing and penetration testing, as defined by GlobalPlatform.

[CR-11] The laboratory shall demonstrate the capability to perform automated security functional testing of GlobalPlatform compliant Products, compliant with latest versions of GlobalPlatform security test suites.

[CR-12] The laboratory shall ensure that maintenance of hardware test equipment is authorized before the effective maintenance activities begin. The maintenance activities shall be performed under the control and authorization of the laboratory's management, following a documented procedure which includes signing the equipment over to maintenance and signing the equipment back to production.

[CR-13] The laboratory shall ensure that software test equipment is protected from unauthorized modification. The update of such equipment shall be performed under continuous supervision of the laboratory's management, following a documented procedure which includes signing the equipment over to maintenance and signing the equipment back to production.

4.4.6 Security Requirements

4.4.6.1 Physical Security Policy

[SR-01] The laboratory shall maintain and comply with a physical security policy that addresses, at a minimum, the following aspects:

a. Physical security layer (e.g. fence, alarm system, CCTV)
b. Security controls (e.g. guards, badge access control)
c. Reaction upon incident detection
d. Equipment used to enforce security (e.g. safe, safety lock, network physical security)
e. Delivery procedures (physical goods)
f. Access policy to laboratory's premises, including employees, contractors, trainees and visitors

4.4.6.2 Logical Security Policy

[SR-02] The laboratory shall maintain and comply with a logical security policy that addresses, at a minimum, the following aspects:

a. Network segregation (firewalls and servers)
b. Network access control (local and remote)
c. Network intrusion detection and reaction policy
d. Information management and protection policy
e. Desktop policy
f. Backup systems

4.4.6.3 Physical Layout

[SR-03] The laboratory shall demonstrate the sufficiency of the access policy and security controls to prevent unauthorized people from entering the laboratory's premises.

4.4.6.4 Evaluation Areas

[SR-04] The laboratory shall restrict the access to the evaluation area to authorized personnel. Areas in the laboratory facilities in which products, components, or data are tested or stored are called *evaluation areas* for the purpose of this document.

[SR-05] The laboratory shall restrict the access to test equipment to authorized personnel. This includes physical or network access.

4.4.6.5 Networks

[SR-06] The laboratory shall ensure that all the systems that are used to handle test data or constituent parts of test data are accessible from internal network(s) that are isolated from the outside and exclusively accessible to authorized personnel from authorized terminals.

[SR-07] The laboratory shall ensure that computers and servers used to store sensitive information (evaluation reports, Product data, etc.) are disconnected from any network – external or internal - which does not enforce exclusive access by authorized personnel and terminals.

[SR-08] The laboratory shall ensure that whenever non-dedicated networks are used then sufficient controls are in place to protect the integrity and the confidentiality of the sensitive data. These controls include, for instance, the use of appropriate firewalls and routers.

[SR-09] The laboratory shall ensure that networks linking the laboratory to third parties for the transfer of customer and laboratory information are separate and isolated from the test system.

[SR-10] The laboratory shall ensure that networks that link different laboratory premises implement suitable and sufficient controls to protect sensitive data, e.g. systematic encryption, to achieve the same security level as within a single site.

[SR-11] The laboratory shall define and comply with a secure method of transferring customer data to test equipment that does not introduce security risks or vulnerabilities.

4.4.6.6 Storage and Backup

[SR-12] The laboratory shall demonstrate that it has sufficient secure storage space to provide adequate protection for all on-going work. Additional secure storage shall be provided for all materials retained by the laboratory after evaluation has been completed.

[SR-13] The laboratory shall ensure that all back-up processes and storage means are managed according to industry standards for recovery purposes.

4.4.6.7 Classified Materials and Information

[SR-14] The laboratory shall handle classified test samples, documents, and specifications with particular care and keep them within the audited premises such that they are accessible only to authorized personnel.

[SR-15] The laboratory shall control and store securely all classified test materials and information, e.g. samples, documents, and specifications, received from GlobalPlatform CB or a Product Vendor, whether in physical or electronic format.

[SR-16] The laboratory shall store classified test material in secure containers, where unauthorized access is prevented by appropriate measures (e.g. alarms, surveillance, and sufficient physical protection).

[SR-17] The laboratory shall ensure that disclosure of GlobalPlatform CB or Product Vendor classified materials, data or documents to third parties is authorized in writing by an officer of the company that owns the materials, data or documents to be delivered. Receipt of these kinds of items must be acknowledged by signature of the company's official representative.

a. In the context of a GlobalPlatform evaluation, when a Product Vendor grants permission to the laboratory to disclose classified product information to GlobalPlatform CB, this information shall be transmitted to GlobalPlatform CB exclusively.

4.4.6.8 Evaluation Materials and Reports

[SR-18] The laboratory shall store all evaluation reports and related materials securely. If reports are stored electronically, they must be in an industry-recognized protected form.

[SR-19] The laboratory shall store evaluation materials including test samples and all reports and logs from the evaluations in paper or electronic form for a period of six (6) years following the expiration date of the Certificate.

[SR-20] The laboratory shall deliver physical goods related to the evaluation, i.e. evaluation reports and related classified documents that are issued in paper or evaluation samples, in a tamper-evident package identified by a unique number.

[SR-21] The laboratory shall deliver to GlobalPlatform CB and Product Vendor electronic evaluation reports and related classified documents in encrypted format using asymmetric cryptography or using an equivalent protection method that is agreed with the recipient(s).

4.5 Audit Requirements

4.5.1 General

The initial accreditation audit consists of a preliminary documentation audit, based on written evidences, and site visit. GlobalPlatform CB reserves the right to choose the most appropriate methods to perform the renewal, interim proficiency and incremental audits case-by-case.

4.5.2 Documentation Audit

Prior the visit to the laboratory's premises, the laboratory shall provide to the GlobalPlatform Auditor(s) the following:

- Written information that supports the laboratory requirements defined in section 4.4
- List of relevant documents that will be available on-site

The information consists of, for instance:

- Official documents with unique reference, version number and date of issuance, in pdf format
- Dated samples of log books and files, in pdf or image format
- Dated screen shoots of tools, in pdf or image format

The accreditation guidelines [TEE LAG] define the minimum information that is required from the laboratory.

The laboratory may provide to the GlobalPlatform Auditor(s) copies of the Audit Reports issued by third-parties organizations, to allow some reuse of results at the discretion of GlobalPlatform Auditor(s).

GlobalPlatform Auditor(s) have the right to require complementary information anytime from the start of the accreditation process until the end of the reporting phase. In particular, the Auditor(s) may require access to specific documentation during the site visit.

4.5.3 Site Visit

GlobalPlatform requires the Auditor(s) to conduct a visit at each site for which the laboratory is seeking an accreditation. The main objectives of the site visit are to:

- Observe the physical environment of the laboratory and the security measures that are implemented.
- Verify the laboratory's quality assurance procedures related to the ISO/IEC 17025 certificate and their validity and application in the framework of GlobalPlatform TEE security evaluations.
- Verify that laboratory documentation and actual laboratory implementation are consistent.
- Verify the laboratory's technical expertise related to TEE, through technical presentations, demonstrations and discussions with the evaluators.
- Observe the test equipment that is available within the laboratory.

Special attention is paid to the laboratory's methodology and procedures for TEE-related testing, which provides the cornerstone of the laboratory role, and to the evidence of the laboratory experience in the field.

The agenda of the site visit(s) shall be agreed between GlobalPlatform Auditor(s) and the laboratory during the documentation audit phase, in particular the technical presentations and demonstrations.

4.5.4 Demonstration of Testing Capabilities

GlobalPlatform may require a demonstration of the laboratory's actual testing capabilities through witnessing the laboratory's testing of a Product or through pilot testing.

Pilot testing is defined as the laboratory's performing evaluation on a previously certified Product or on a simulation product and providing an evaluation report to the GlobalPlatform Auditor(s) for review. The choice of the subject of such pilot testing and the extent of the witnessing, either full or partial, rests with GlobalPlatform CB.

The format and presentation of assurance evidence should be an essential part of this exercise, in addition to the demonstration of the testing capabilities. Results are expected to be prepared in accordance with ISO standards and GlobalPlatform requirements.

4.6 Termination Process

4.6.1 Termination by the Laboratory

An Accredited Laboratory has the right to terminate the GlobalPlatform **Security Laboratory Relationship Agreement** at any time.

In order to terminate the **Security Laboratory Relationship Agreement** with GlobalPlatform, an accredited laboratory must notify GlobalPlatform CB in writing, present a termination plan with regard to current projects and ensure business continuity until the termination date.

Upon receipt of such a request, GlobalPlatform CB engages the termination procedures as defined in the Agreement and removes the laboratory's name from the list of Accredited Laboratories on GlobalPlatform's website.

Upon termination of its accreditation, the laboratory shall make available to GlobalPlatform CB all the test reports, test logs, and samples of the products evaluated within the GlobalPlatform scheme. The laboratory shall also promptly return to GlobalPlatform all GlobalPlatform property and all confidential information. Alternatively, if so directed by GlobalPlatform, the laboratory shall destroy all confidential information, and all copies thereof, in the laboratory's possession or control, and shall provide a certificate signed by an officer of the laboratory that certifies such destruction in details acceptable to GlobalPlatform.

4.6.2 Suspension by GlobalPlatform

GlobalPlatform has the right to suspend at any time a laboratory's accreditation:

- Based on the results of an **Audit Report**;
- Due to the non-conformance with GlobalPlatform's requirements;
- If a laboratory fails to complete an **Incremental Audit** or **Interim Proficiency Audit** to the satisfaction of GlobalPlatform by the required date.

Upon suspension, GlobalPlatform removes the name of the laboratory from the list of Accredited Laboratories on GlobalPlatform's website and sets the requirements and the date by which an **Interim Proficiency Audit** must be completed.

4.6.3 Revocation by GlobalPlatform

GlobalPlatform has the right to revoke at any time a laboratory's accreditation:

- Based upon the results of an **Audit Report**;
- Due to non-conformance with GlobalPlatform's requirements;
- If a laboratory has not performed evaluation of Products within the past two years;
- If a laboratory fails to renew its accreditation before it expires.

Revocation of accreditation automatically terminates the GlobalPlatform **Security Laboratory Relationship Agreement**. GlobalPlatform removes the laboratory's name from the list of Accredited Laboratories on GlobalPlatform's website.

Upon revocation of its accreditation, the laboratory shall make available to GlobalPlatform CB all the test reports, test logs, and samples of products evaluated within GlobalPlatform scheme. The laboratory shall also promptly return to GlobalPlatform all GlobalPlatform property and all confidential information. Alternatively, if so directed by GlobalPlatform, the laboratory shall destroy all confidential information, and all copies thereof, in the laboratory's possession or control, and shall provide a certificate signed by an officer of the laboratory that certifies such destruction in details acceptable to GlobalPlatform.

Annex A TEE-parts Certification

This annex introduces the extension of GlobalPlatform TEE Security Scheme to TEE-parts. The goal is to facilitate the certification of full TEEs through the reuse of the intermediate Certificates obtained for some TEE-parts by their own Vendors.

A TEE-part stands for a set of hardware, firmware and/or software which provides TEE-related security functionality and has well-defined physical and logical boundary (interfaces). Typical examples of TEE-parts are:

- SoC with ROM code
- Trusted OS

The main advantage of certification by-parts is indeed the possibility to run hardware-only and software-only security evaluations in parallel, on behalf of their respective Vendors. In the end, their integration must be evaluated to achieve full TEE certification. Although nothing prevents such reuse when the same laboratory evaluates both the TEE-parts and the complete TEE, the GlobalPlatform TEE certification by-parts allows to reuse certified TEE-parts, which have been evaluated by different laboratories, within a TEE evaluation by any other laboratory.

However, a software-only or hardware-only Protection Profile is not required nor suitable since there are multiple ways of implementing a TEE. As a counterpart, the Vendor must provide a Security Target that is specific to the TEE-part, i.e. for which there is no predefined content: The ST shall describe the TEE-part, its security functionality and interfaces and shall provide a rationale against the [TEE PP]. By definition, compliance with the [TEE PP] is not achievable since the TEE-part is strictly included in a complete TEE; such rationale is necessary to confirm the relevance of the certification in the GlobalPlatform TEE Security Scheme and to provide guidance for the reuse of the certified TEE-part in a TEE evaluation. A successful evaluation implies the validation of the TEE-part Security Target by the laboratory.

The principles of a TEE-part evaluation are the same as for TEEs. The laboratory:

- Performs vulnerability analysis of the TEE-part through documentation and source code review, runs automated functional tests if applicable;
- Defines a test plan to cover the security claims of the Security Target and the relevant attack methods defined in the Attack Catalog for that kind of TEE-part;
- Reports the evaluation results in ETR/ETR-Lite, which contains a specific chapter about the usage of the results in a full TEE evaluation.

The principles of a TEE-part certification are the same as for TEEs. GlobalPlatform CB:

- Reviews and pre-approves the TEE-part Security Target upon evaluation request;
- Reviews the ETR (and ETR-Lite if applicable) together with the final Security Target;
- Writes the **Certification Report**;
- Issues the **Certificate**, with 3-year default validity.

GlobalPlatform publishes TEE-parts Certificates and corresponding Certification Reports following the same rules as for complete TEE (see section 3.4.4).

A TEE evaluation may reuse certified TEE-parts, as defined in section 2.4.3. The Vendor of the TEE must provide to the laboratory the TEE Security Target, as usual, and a TEE Integration document which explains how the different TEE-parts are assembled together and to other parts to build the TEE. Moreover, the laboratory must have access to the Certification Report(s) of the TEE-parts and may require the corresponding Security Target(s) and the ETRs/ETR-Lites. The disclosure of such evidences by the Vendor(s) of the TEE-part(s) to their partners is out of scope of the GlobalPlatform scheme.

GlobalPlatform CB validates the reuse of certified TEE-part(s) upon the registration of the TEE evaluation. In such case, the **(Restricted) Certification Report** of the TEE shall reference all the underlying TEE-part(s) Certificates.

The revocation of a TEE-part **Certificate** entails the analysis of all the relying TEE **Certificates**, which may lead to their confirmation or revocation in a case-by-case basis. GlobalPlatform CB reserves the right to make such decision at its own discretion.