



**International
Standard**

ISO/IEC 25791-1

**Information technology — OpenID
Connect FAPI Security Profile 1.0 —**

**Part 1:
Baseline**

*Technologies de l'information — Profil de sécurité 1.0 basé sur le
protocole OpenID Connect conçu pour les API financières, FAPI —*

Partie 1: Niveau de référence

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Contents

Foreword.....	iv
Introduction	v
Notational conventions	vi
1. Scope	1
2. Normative references	1
3. Terms and definitions.....	2
4. Symbols and abbreviated terms.....	2
5. Baseline security profile	2
5.1 Introduction	2
5.2 Baseline security provisions	3
5.2.1 Introduction.....	3
5.2.2 Authorization server	3
5.2.3 Public client.....	5
5.2.4 Confidential client.....	5
6. Accessing Protected Resources	6
6.1 Introduction	6
6.2 Baseline access provisions.....	6
6.2.1 Protected resources provisions.....	6
6.2.2 Client provisions	7
7. Security considerations.....	7
7.1 TLS and DNSSEC considerations.....	7
7.2 Message source authentication failure.....	7
7.3 Message integrity protection failure	8
7.4 Message containment failure	8
7.4.1 Authorization request and response.....	8
7.4.2 Token request and response.....	8
7.4.3 Resource request and response.....	8
7.5 Native Apps	8
7.6 Incomplete or incorrect implementations of the specifications.....	9
7.7 Discovery & Multiple Brands.....	9
8. Privacy considerations	9
Annex A (Informative) Acknowledgement	11
Notices.....	12
Bibliography	13

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by the OpenID Foundation (OIDF) (as FAPI Security Profile 1.0 - Part 1: Baseline) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

A list of all parts in the ISO/IEC 25791 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

FAPI is a highly secured OAuth profile that aims to provide specific implementation guidelines for security and interoperability. The FAPI security profile can be applied to APIs in any market area that requires a higher level of security than provided by standard [OAuth](#) or [OpenID Connect](#). Among other security enhancements, this specification provides a secure alternative to screen scraping. Screen scraping accesses user's data and functions by impersonating a user through password sharing. This brittle, inefficient, and insecure practice creates security vulnerabilities which require financial institutions to allow what appears to be an automated attack against their applications.

This document is Part 1 of FAPI Security Profile 1.0. It specifies a baseline security profile of OAuth that is suitable for protecting APIs with a moderate inherent risk. Importantly, this profile does not provide non-repudiation (signing of authorization requests and responses) and sender-constrained access tokens. If such features or a higher level of security is desired, the use of [FAPI Security Profile 1.0 - Part 2: Advanced](#) is recommended.

Although it is possible to code an OpenID provider and relying party from first principles using this specification, the main audience for this specification is parties who already have a certified implementation of OpenID Connect and want to achieve a higher level of security. Implementers are encouraged to understand the security considerations contained in Section 7.6 before embarking on a 'from scratch' implementation.

Notational conventions

The key words "shall", "shall not", "should", "should not", "may", and "can" in this document are to be interpreted as described in [ISO/IEC Directives, Part 2](#). These key words are not used as dictionary terms such that any occurrence of them shall be interpreted as key words and are not to be interpreted with their natural language meanings.

Information technology — OpenID Connect FAPI Security Profile 1.0 —

Part 1: Baseline

1. Scope

This document specifies the method for an application to:

- obtain OAuth tokens in a moderately secure manner for access to protected data;
- use OpenID Connect (OIDC) to identify the customer (user); and
- use tokens to access REST APIs in a moderately secure manner.

2. Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[RFC 4122](#) - A Universally Unique Identifier (UUID) URN Namespace

[RFC 6749](#) - The OAuth 2.0 Authorization Framework

[RFC 7636](#) - Proof Key for Code Exchange by OAuth Public Clients

[RFC 6125](#) - Representation and Verification of Domain-Based Application Service Identity within Internet Public Key Infrastructure Using X.509 (PKIX) Certificates in the Context of Transport Layer Security (TLS)

[BCP212](#) - OAuth 2.0 for Native Apps

[BCP195](#) - Recommendations for Secure Use of Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)

[IANA TLSP](#) - Transport Layer Security (TLS) Parameters

[OIDC](#) - OpenID Connect Core 1.0 incorporating errata set 2

[RFC 8705](#) - OAuth 2.0 Mutual-TLS Client Authentication and Certificate-Bound Access Tokens

[OIDD](#) - OpenID Connect Discovery 1.0 incorporating errata set 2

[RFC 7231](#) - Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content

Bibliography

- [Part 2](#) FAPI Security Profile 1.0 - Part 2: Advanced
- [ISODIR2](#) ISO/IEC Directives, Part 2 – Principles and rules for the structure and drafting of ISO and IEC documents
- [ISO/IEC 29100](#) ISO/IEC 29100 Information technology – Security techniques – Privacy framework
- [ISO/IEC 29134](#) ISO/IEC 29134 Information technology — Security techniques — Guidelines for privacy impact assessment
- [RFC 4122](#) A Universally Unique IDentifier (UUID) URN Namespace
- [RFC 6750](#) The OAuth 2.0 Authorization Framework: Bearer Token Usage
- [RFC 6797](#) HTTP Strict Transport Security (HSTS)
- [RFC 7662](#) OAuth 2.0 Token Introspection

- [RFC 6819](#) OAuth 2.0 Threat Model and Security Considerations
- [RFC 8414](#) OAuth 2.0 Authorization Server Metadata
- [RFC 8659](#) DNS Certification Authority Authorization (CAA) Resource Record
- [PRELOAD](#) HSTS Preload List Submission
- [JARM](#) JWT Secured Authorization Response Mode for OAuth 2.0 (JARM)
- [CORS](#) Cross-Origin Resource Sharing