NEC SMART POSITIVE IDENTIFICATION (SPID)
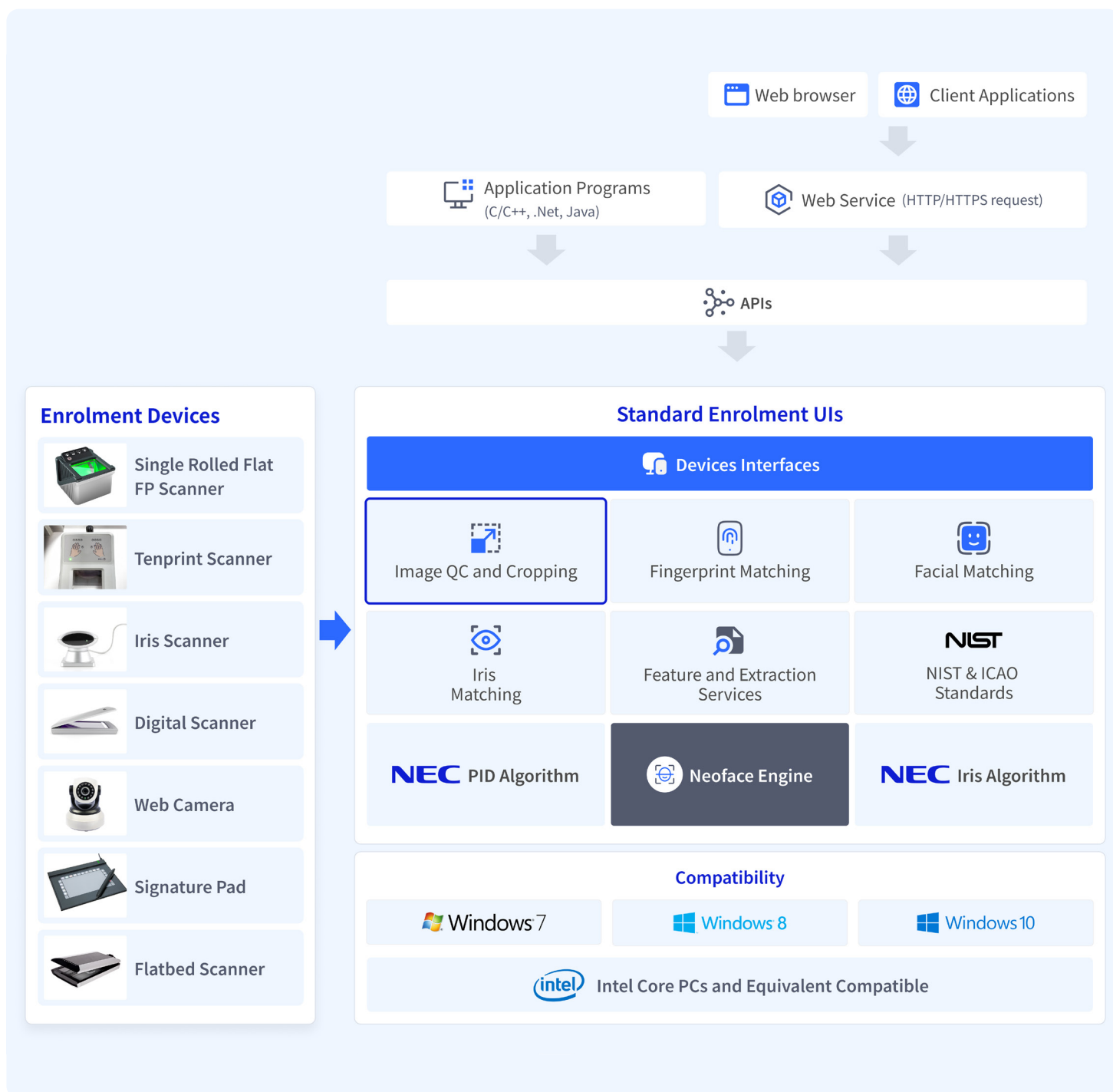
Secure, Reliable, Seamless Biometric Capture for Any Device

NEC \Orchestrating a brighter world

NEC Smart Positive Identification (SPID)

SPID is a plug-and-play biometric identity solution that supports seamless integration with various biometric capture devices, requiring only minimal coding adjustments.

Designed for cross-device compatibility and ISO compliance, SPID enhances identity verification with high-quality biometric data, ensuring accuracy and security across multiple applications.

SPID Software Architecture

Web browser   Client Applications

Application Programs (C/C++, .Net, Java)   Web Service (HTTP/HTTPS request)

APIs

Enrolment Devices

- Single Rolled Flat FP Scanner
- Tenprint Scanner
- Iris Scanner
- Digital Scanner
- Web Camera
- Signature Pad
- Flatbed Scanner

Standard Enrolment UIs

Devices Interfaces

Image QC and Cropping	Fingerprint Matching	Facial Matching
Iris Matching	Feature and Extraction Services	NIST NIST & ICAO Standards
NEC PID Algorithm	Neoface Engine	NEC Iris Algorithm

Compatibility

Windows 7   Windows 8   Windows 10

(intel) Intel Core PCs and Equivalent Compatible

Key Features

1. Plug-and-Play Device Compatibility

SPID works with a wide range of biometric devices without requiring major application changes.

Fingerprint
Crossmatch, Fotronics, Xperix, and NEC

Iris
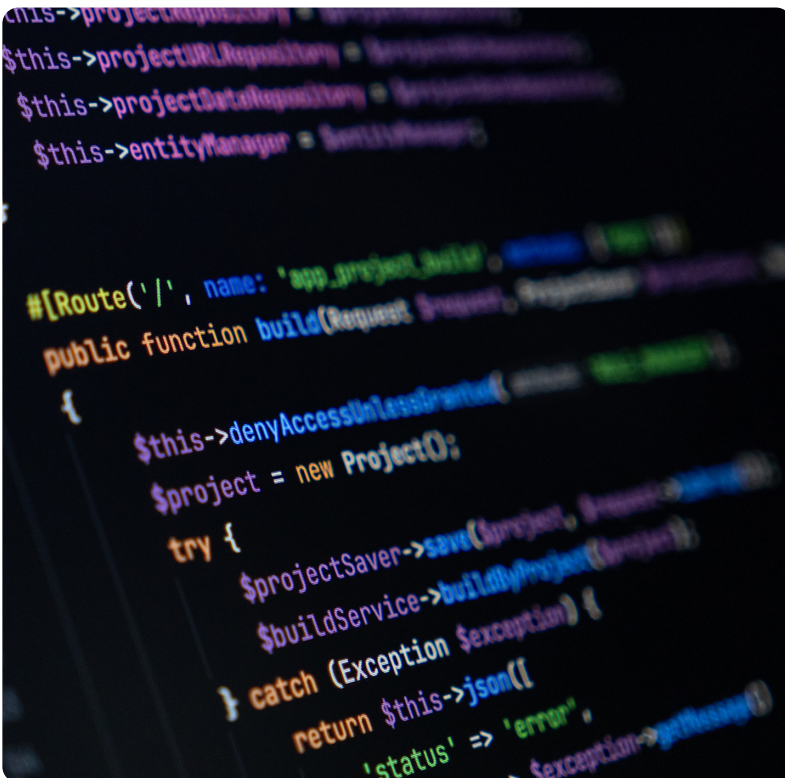CMI Tech, Tascent, NEC

Signature Pad

Face
Canon EOS, RealSense, NEC

Flatbed Scanner

2. ISO-Standard Quality and Liveness Verification

Ensures biometric data meets international security and quality standards

Supports ISO29794 for quality compliance across fingerprint, face, and iris recognition.
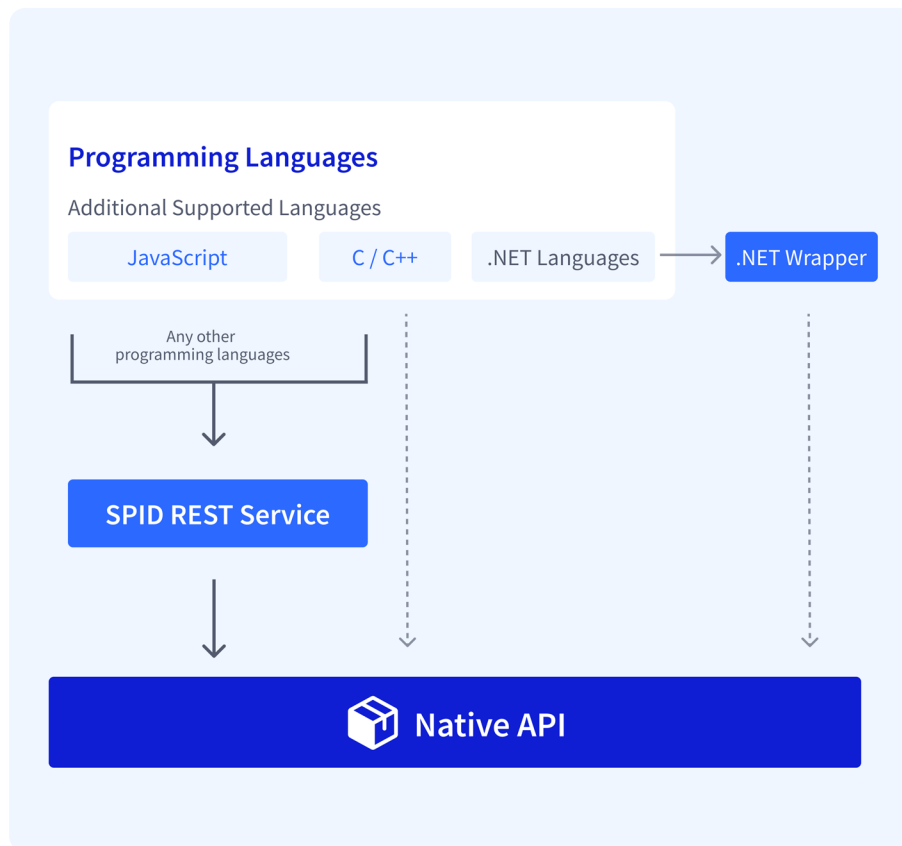
Liveness detection prevents spoofing attacks, ensuring secure identity verification.

Seamless integration with various systems using ISO19794 and ISO39794-compliant data formats.

3. Multi-Language Support for Easy Integration

SPID is designed to support multiple coding languages, making it highly adaptable for developers.

Programming Languages

Additional Supported Languages

| JavaScript | C / C++ | .NET Languages | → | .NET Wrapper |

Any other programming languages

↓

SPID REST Service

↓

 Native API

C / C++
Native supporting

.NET
Call native API through .NET wrapper

JavaScript
Call native API through SPID Rest Service

Any other programming languages
Call native API through SPID Rest Service

4. Small-Scale Biometric Matching & Edge Processing SPID Search Lite

Optimized for efficient biometric verification with minimal infrastructure.

Supports up to 10K biometric records for local matching

Duplication checks at the capture device before sending data to the backend, reducing system load

Database distribution to edge devices ensures continued operation in case of network issues.

5. Multi-Modal Biometric Capture

SPID provides high-quality biometric enrollment for various use cases.
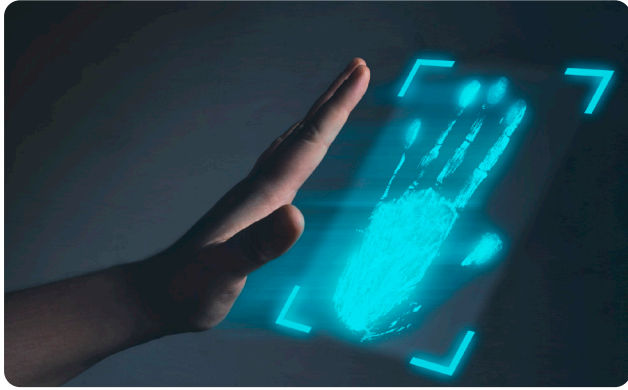
Supports fingerprint, palm, face, and iris capture.

Works with both single-image and slap fingerprint scanning

Real-time segmentation and quality assessment for accurate identity verification.

6. Secure Identity Verification & Matching

SPID ensures fast and secure biometric authentication.

Provides **1:1 and 1:N biometric matching** across multiple modalities.

Enables **blacklist screening, access control, and fraud prevention.**

Works with both **standalone and server-based authentication** environments.

7. Compliance with International Security Standards

SPID adheres to global standards, ensuring seamless system interoperability

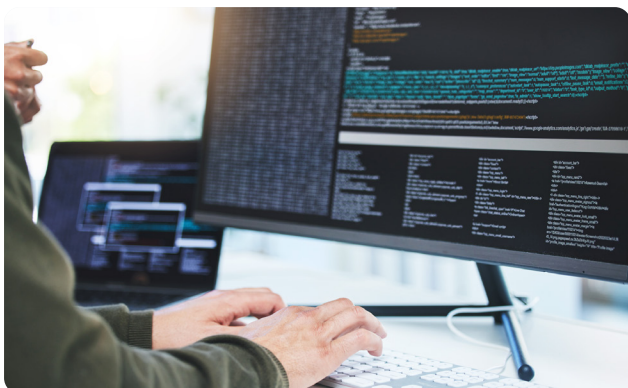Supports **ICAO, NIST, FBI, and ISO** biometric formats

Enables **high-quality image processing** for secure identity verification.

Ensures **interoperability with multiple identity management platforms.**

8. Lightweight Scalable Deployment

SPID is designed for easy deployment across various environments.

Supports **local workstations, edge devices, and cloud-based systems.**

Operates without specialized OS or hardware requirements.

Provides **low-latency, high-performance processing** for biometric verification.

Proven Use Cases

SPID is globally deployed in over 20 countries, including European and African nations, supporting various biometric security applications. It has transformed the way partners and customers develop biometric applications, offering seamless integration and enhanced efficiency.
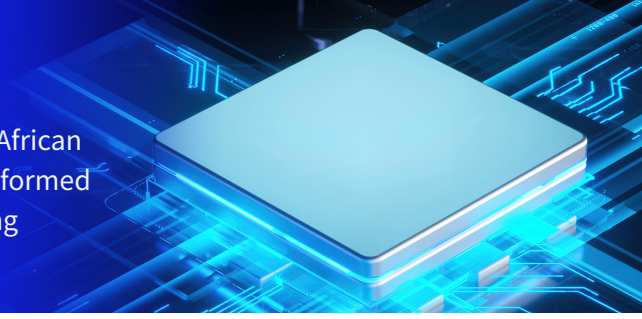
1. Border Control Solutions

Customer: Government agencies across ASEAN countries and some European countries (customer name confidential)

Challenge: Customer faced frequent device obsolescence which required application changes with each hardware upgrade.

Solution: SPID SDK's plug-and-play feature allowed easy device replacement without app modifications.

Result: New devices can be deployed withouot changing exiting applications.

2. Law Enforcement Solutions

Customer: Police forces in ASEAN countries

Challenge: Needed to digitize legacy ink fingerprint cards, upgrade investigation tools, and adopt advanced biometrics compliant with NIST benchmarks and FBI EFT/WSQ standards.

Solution: SPID SDK offers a multi-modal biometric engine—supporting fingerprint, face, iris, palm, and voice—along with versatile tools and certified, standard-compliant libraries.

Result: Significantly reduced processing time for ink cards, while enabling smooth upgrades to NEC's latest biometric technologies.

3. Access Control Solutions

Customer: Government agencies in Singapore

Challenge: Required faster response time for biometric searches

Solution: SPID SKD's "Searching Lite" feature eliminates latency and enhances speed.

Result: Improved system performance, reduced costs and no need to modify existing applications.

Social Value

SPID strengthens digital identity management, ensuring trust, security, and accessibility in modern digital ecosystems.

Fraud Prevention & Enhanced Security
Protects against identity theft and unauthorized access.

Seamless User Experience
Provides fast and reliable biometric authentication with minimal system requirements.

Scalable & Future-Proof
Built for flexible deployment, accommodating both national-scale projects and enterprise-level security.

Arrange a demo with us today. Contact us at **sg_marketing@nec.com.sg**

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