



# NEC BIOMETRIC MATCHING SYSTEM (BMS)

Next-Generation Biometric Identification for Security & Efficiency

# NEC Biometric Matching System (BMS)



NEC's Biometric Matching System (BMS) is a high-performance, multi-modal biometric solution that delivers secure and accurate identity verification at scale. Designed for fingerprint, face, and iris recognition, it ensures seamless integration across national security, immigration, law enforcement, and enterprise applications.

Built on commercial off-the-shelf (COTS) hardware, BMS provides scalability, flexibility, and high availability, making it an ideal solution for governments and enterprises seeking fast, secure, and reliable biometric matching.



## Key Features

### 1. Multi-Modal Biometric Matching for Maximum Security

NEC BMS delivers best-in-class biometric matching technology, ensuring high-speed and precise identity verification across multiple modalities.



Supports fingerprint, face, and iris recognition with NEC's top-ranked biometric algorithms in NIST evaluations.



Provides 1:1 and 1:N matching, ensuring secure authentication for large-scale national databases and enterprises.



Prevents identity fraud with precise biometric verification in border control, finance, and law enforcement.

## 2. Effortless Scalability and Adaptive Flexibility

NEC BMS is designed to scale effortlessly, whether deployed for small organizations or large national projects with millions of records.



Modular and scalable architecture enables seamless expansion based on demand.



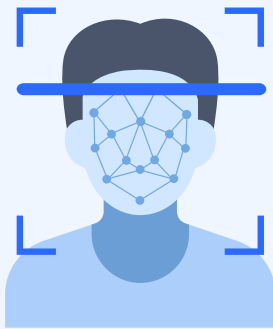
Linear scalability ensures performance remains stable as biometric databases grow from millions to billions of records.



Dynamically adjusts resources to meet evolving identity verification needs, preventing system bottlenecks.

## 3. High Availability and Optimized Performance.

NEC BMS ensures continuous biometric matching services even under high workloads.



Matched

- Advanced load balancing distributes processing efficiently, preventing bottlenecks and ensuring optimal performance.
- Automated recovery and fault detection guarantee that services remain operational, even during unexpected failures.
- Intelligent job prioritization ensures real-time processing for mission-critical applications such as border control, e-passport verification, and national ID authentication.

## 4. Seamless Integration and Interoperability with Existing Systems

BMS is built for seamless integration with third-party applications, databases, and security infrastructures.



Web Service / REST API compatibility allows for easy system integration across various platforms.



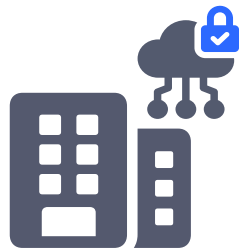
Works with NEC's SPID (biometric capture system) and BAF (biometric identity management) to provide a complete end-to-end solution.



Supports multiple data sources and advanced filtering features, making biometric identity verification more efficient.

## 5. Flexible Deployment for Any Infrastructure

NEC BMS provides organizations with the flexibility to deploy on-premise, in private clouds, or hybrid environments, ensuring security, scalability, and cost efficiency.



**Flexible On-Premise  
Deployment Options**



Docker



Kubernetes

**Containerization &  
Orchestration**

### OS Compatibility



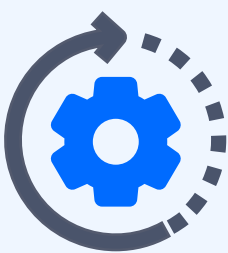
RHEL



- 1 Compatible with COTS hardware, virtualised environments, and cloud platforms, enabling organizations to deploy the solution on their preferred infrastructure.
- 2 Optimized for Docker and Kubernetes, ensuring fast deployment, auto-scaling, and resource efficiency.
- 3 Runs on Windows, RHEL, and Ubuntu, providing broad compatibility across IT infrastructures.

## 6. Continuous Evolution with Cutting-Edge Enhancements

NEC BMS is constantly evolving, integrating the latest NEC biometric technologies and libraries to ensure it remains at the forefront of biometric innovation.



**Continuous  
Enhancements**



**Advanced Biometric  
Capabilities**



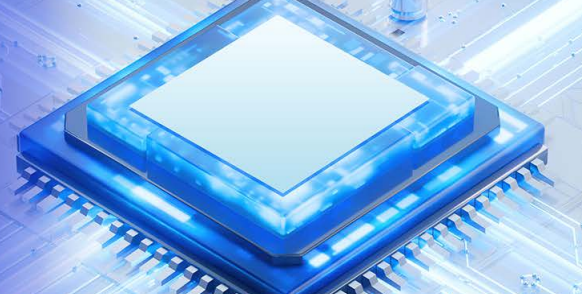
**Secure &  
Future-Ready**

- 1 Regular updates enhance performance, security, and scalability, keeping BMS aligned with global security standards.
- 2 New features are continuously integrated, leveraging NEC's cutting-edge biometric algorithms to improve accuracy and speed.
- 3 Future-proof deployment, ensuring compliance with evolving industry regulations and technology advancements.



# Proven Use Cases

NEC BMS has a strong track record of deployment worldwide, with over 30 successful implementations across 8 countries, processing more than 450 million biometric records to date.



## Enhancing Border Security & Immigration Control

A national border control agency needed a **high-speed biometric solution** to efficiently process millions of passengers while preventing identity fraud.

**Solution:** e-Passport verification

**Impact:** Reduced immigration processing time by **60%** while strengthening fraud detection.



## Securing Financial Transactions & Fraud Prevention

A leading bank in Southeast Asia sought to modernize its **KYC (Know Your Customer) process** and strengthen **biometric authentication** for secure transactions.

**Solution:** real-time biometric verification

**Impact:** Reduced unauthorized access by **over 90%**, enhancing security and customer trust.



## Improving Law Enforcement & Public Safety

A national **police force** leveraged NEC BMS for criminal investigations and forensic biometric matching.

**Solution:** Rapid fingerprint and facial recognition matching against national criminal databases.

**Impact:** Accelerated suspect identification, reducing investigation time by up to **70%**.

## Social Value

NEC BMS plays a critical role in national security, fraud prevention, and efficient identity verification, benefiting governments, businesses, and communities worldwide.



### Fraud Prevention & Secure Authentication

Reduces identity fraud in banking, immigration, and public services.



### Operational Efficiency

Automates identity verification, significantly reducing manual processing time.



### Scalability & Future-Proof

Designed to adapt to evolving security requirements, ensuring long-term digital transformation



Arrange a demo with us today. Contact us at [sg\\_marketing@nec.com.sg](mailto:sg_marketing@nec.com.sg)

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