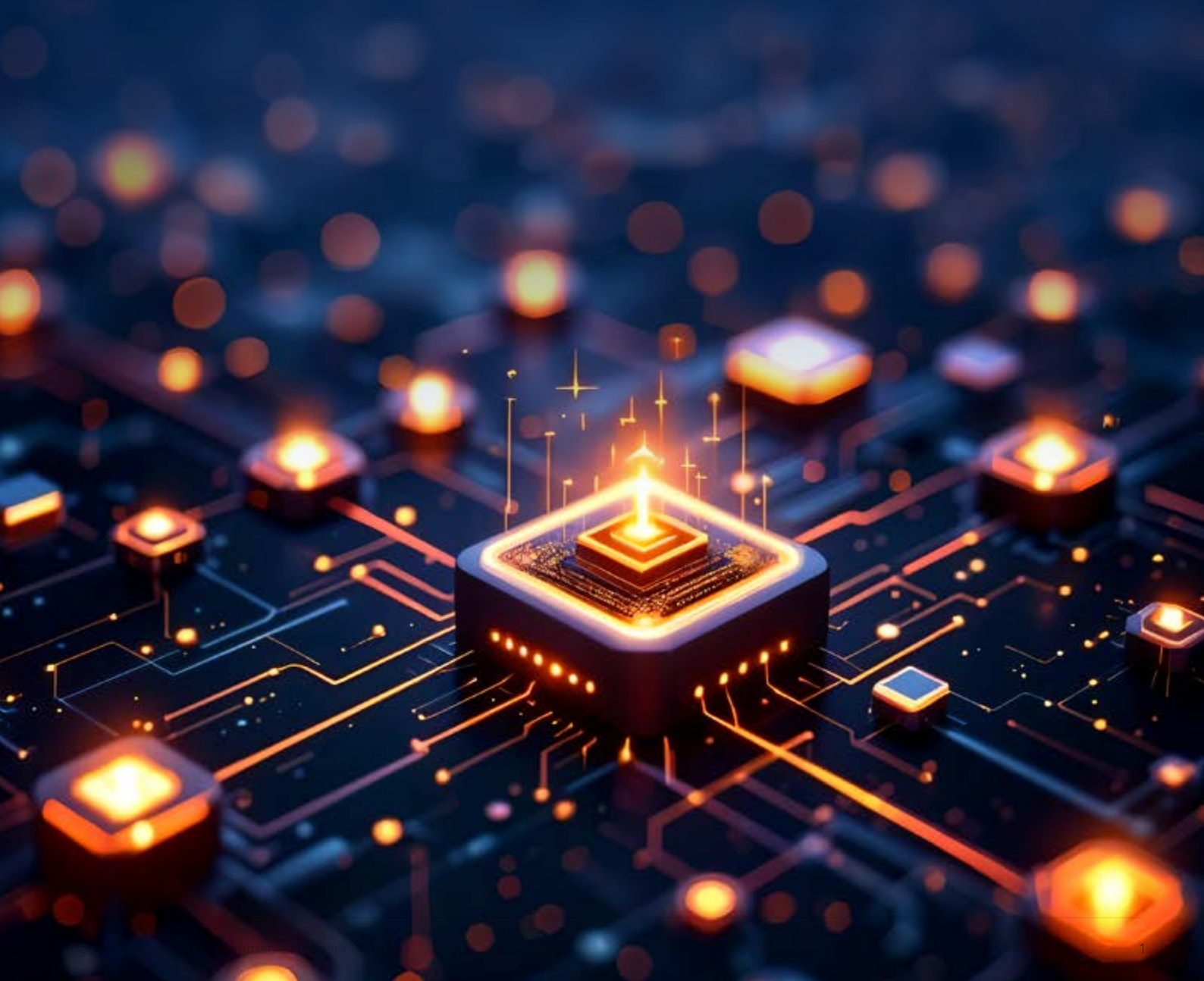
shabodi

Product Brief

Shabodi NetAware Aggregator Platform Product Brief



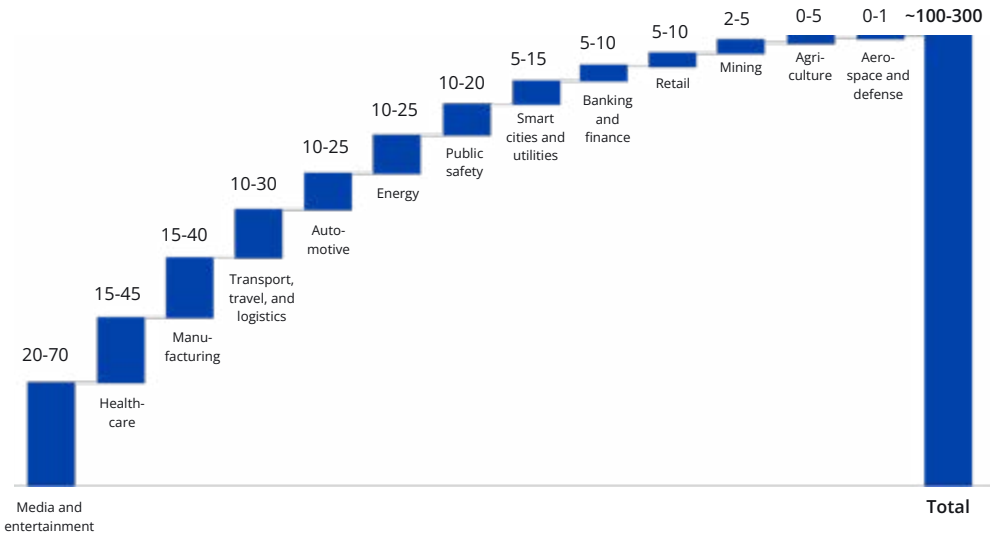
"The network API market could unlock around $100 billion to $300 billion in connectivity- and edge-computing-related revenue for operators while generating an additional $10 billion to $30 billion from APIs themselves."

The widespread adoption of 5G has fundamentally changed what's possible with network APIs. While network APIs have existed for years, 5G introduces unprecedented opportunities for deeper application and network interaction and telco network capability exposure.

We're not talking simply about standardized interfaces - it's about combining both standardized CAMARA APIs with customized, purpose-built solutions that address specific industry needs beyond what standardization alone can provide.

McKinsey estimates "the network API market could unlock around $100 billion to $300 billion in connectivity- and edge-computing-related revenue for operators while generating an additional $10 billion to $30 billion from APIs themselves."

New potential revenues enabled by network APIs in the next 5-7 years, by industry vertical, $ billion



Source: McKinsey analysis, GSMA intelligence

As telecommunications networks evolve worldwide, API aggregators stand at a pivotal intersection between operators and application developers. While individual Mobile Network Operators (MNOs) struggle with limited geographic reach and fragmented implementations, aggregators can capture significant value by bridging these gaps. According to industry experts, aggregators may ultimately control as much as two-thirds of the API value creation by establishing themselves as essential intermediaries in the network API ecosystem. Forward-thinking aggregators will establish powerful competitive advantages and create sustainable market leadership.

Shabodi's NetAware Aggregator Platform positions your business at the center of this expanding opportunity, providing the foundation to build, scale, and monetize multi-operator API solutions with exceptional speed and flexibility.

The Network API Opportunity: Beyond Connectivity

Our experience shows that while traditional telecommunications services have typically focused on connectivity, network APIs represent a fundamental shift toward capability-based business models. This evolution enables operators to monetize specific network functions beyond basic data transport. Financial institutions now use SIM Swap APIs to prevent fraud, healthcare providers leverage Quality on Demand APIs for reliable telemedicine, manufacturers employ Location Verification APIs for asset tracking, and gaming companies implement Edge Discovery APIs to reduce latency—all transforming connectivity into valuable vertical industry solutions.

Financial institutions now use SIM Swap APIs to prevent fraud, healthcare providers leverage Quality on Demand APIs for reliable telemedicine

The Three-Tiered API Ecosystem

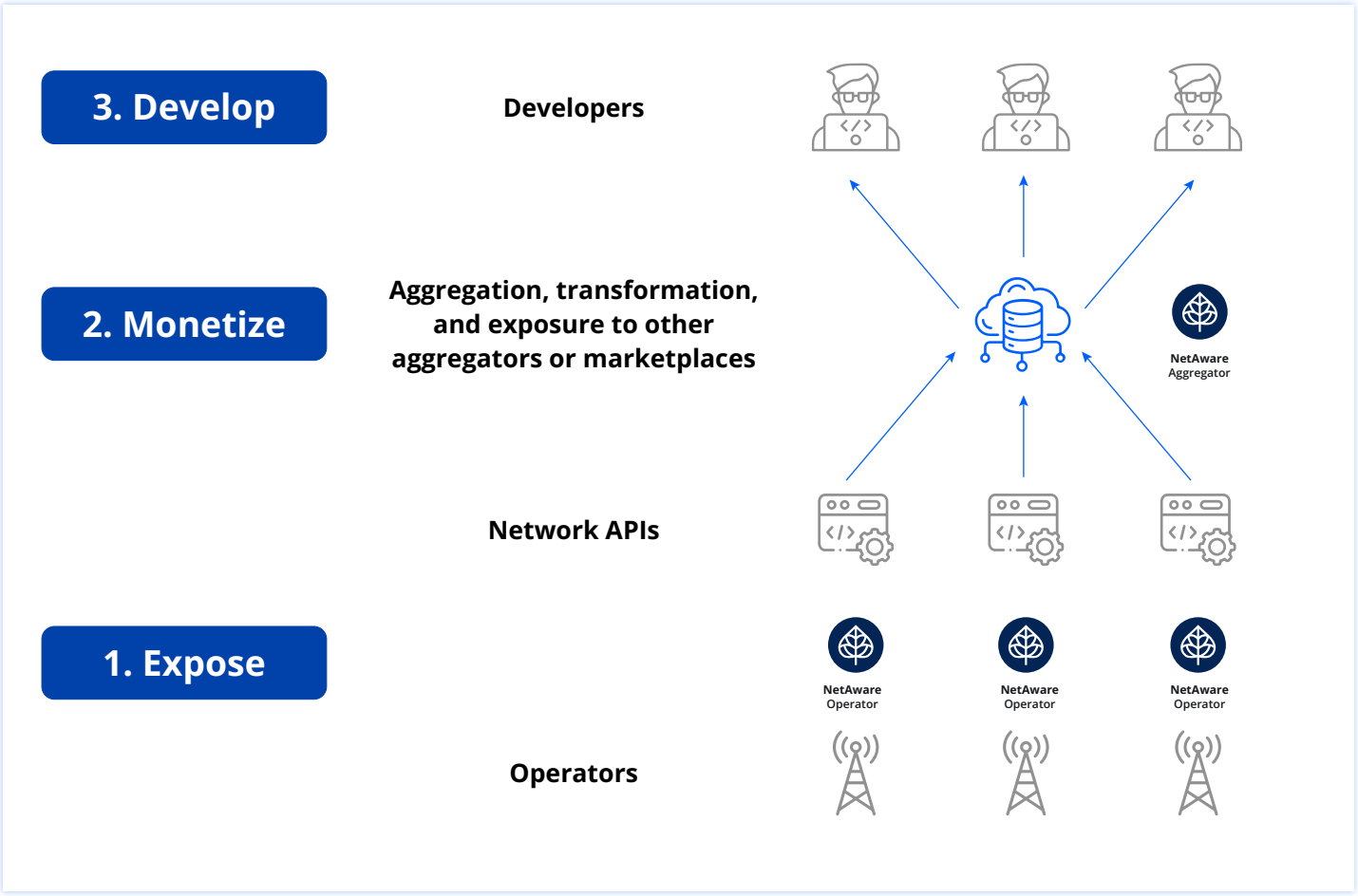
The network API landscape functions as a sophisticated ecosystem with three distinct but interdependent layers:

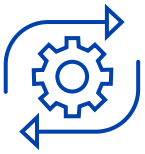
Network Operators (MNOs): Forming the foundation, these entities own and operate the physical infrastructure that provides connectivity. They expose 5G network capabilities through standardized interfaces like CAMARA APIs and custom-developed interfaces. However, their reach is typically limited to their own network and regional footprint.

API Aggregators: Serving as the crucial middle layer, aggregators consolidate APIs from multiple operators, creating a single access point for developers. They add significant value by:

- Simplifying access across operator boundaries
- Providing consistent interfaces to developers regardless of the underlying network service exposure interfaces from MNOs
- Offering enhanced features like consolidated metering, service consent, insights, advanced telco routing, and a multi-tenant environment
- Creating specialized API packages for specific industries or use cases

Application Developers: At the consumption layer, developers build network-aware applications that leverage 5G and other advanced network capabilities exposed via Network APIs capabilities to deliver enhanced experiences. These applications span industries from manufacturing and healthcare to finance and entertainment.





Networks are highly complex, highly heterogenous with multiple vendors and technologies present increasing the complexity to expose network capabilities.

Current Challenges in Network Environments

Despite the potential, we've observed several significant challenges that prevent enterprises from fully capitalizing on 5G network capabilities:

1. Most enterprise environments include a mix of Wi-Fi, private & public cellular, and IoT networks from multiple vendors, creating integration nightmares.
2. Proprietary interfaces from network equipment providers often create dependencies that limit flexibility and increase costs.
3. The consolidation of network exposures from multiple mobile network operators (MNOs) presents substantial complexity. Aggregators must navigate diverse technical implementations from underlying providers, varying API maturity levels, different authentication mechanisms, and geographic coverage.

By connecting operators with developers and enabling new use cases, aggregators serve as catalysts for innovation throughout the ecosystem.

The Aggregation Opportunity

Global mobile operator groups with multiple regional entities and API aggregators are uniquely positioned to address these challenges, creating value for both operators and enterprises.

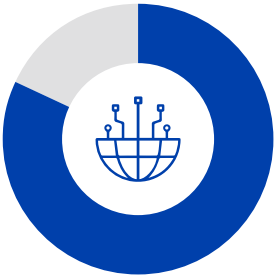
Operators: Operators can aggregate their internal subsidiary network services in a unified, published front. This enables them to scale with a single exposure in their multi-regional footprint. Similarly, aggregators extend the reach of these operators beyond regional geographic footprints, accelerate API adoption through simplified access, and create new revenue streams without significant investments.

For Enterprises: Aggregators provide unified access to network services across multiple operator networks, simplify application development through consistent interfaces, and enable advanced capabilities without specialized networking expertise.

This strategic position allows aggregators to capture significant value in the network API economy while facilitating growth. By connecting operators with developers and enabling new use cases, aggregators serve as catalysts for innovation throughout the ecosystem.

“While there are limitless opportunities for improving customer experience through network APIs, developers and enterprises prize scalability.”

What it will take for telcos to unlock value from network APIs, McKinsey, 2024



69 of the world’s largest network operators, representing 78% of global mobile connections, support the Open Gateway Initiative.

GSMA, 2025

NetAware Aggregator Platform Overview

The Shabodi NetAware Aggregator Platform represents a significant shift in how network APIs are consolidated, managed, and monetized. It’s designed to address aggregators’ complex challenges in the emerging network API economy.

At its core, NetAware Aggregator is a cloud-native platform that enables organizations to become key players in the network API ecosystem. The platform allows aggregators to launch scalable API aggregation and monetization services with minimal effort, connecting applications with network capabilities across multiple operators through a unified interface.

Unlike traditional API management platforms, NetAware Aggregator is purpose-built to meet the requirements of network API aggregation. The platform handles diverse operator networks with different implementations and technologies, eliminating integration barriers. While supporting industry-standard GSMA’s Open Gateway Initiative and CAMARA APIs, it also enables the creation and publication of custom APIs tailored to specific market needs. Furthermore, the platform facilitates participation in the worldwide API exchange ecosystem, allowing aggregators to extend their reach beyond regional boundaries.

A key differentiator of the NetAware Aggregator Platform is its ability to enable multi-version network service integration in a multi-tenanted, multi-operator environment. This enables any network service to the right operator interface, in real-time.

This flexibility eliminates the integration complexity that has historically prevented cross-operator API initiatives from scaling efficiently, allowing aggregators to focus on creating business value rather than managing technical disparities.

How Aggregators Can Succeed with Shabodi NetAware

In multi-provider environments where multiple operators publish diverse APIs, aggregators face the complex challenge of exposing these as unified interfaces. Shabodi's NetAware platform directly addresses the critical needs of API aggregators with powerful capabilities designed to eliminate technical barriers and accelerate time-to-market:

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Intelligent API Routing

Advanced routing algorithms automatically direct API calls to the appropriate provider based on multiple identifiers including MSISDN (phone number), device identifier (UEID), IP address, and Network Access Identifier (NAI ID) (This routing complexity is entirely handled by Shabodi, eliminating the need for aggregators to manage complex routing logic.)

API Transformation Engine

- API Transformation (from exposed API format to Operator's API format)
- Translation (from a single exposed API to operators' multiple APIs)
- Derivation capabilities handle the additional parameters and conditions required by operators to fulfill requests
- CAMARA-compliant (as well as compliant with TMF, 3GPP, and OGI) API integration with full standards support
- Custom API authoring environment with visual development tools
- Advanced API bundling tools for creating composite solutions

Translation of exposed aggregator API invocation security mechanism to the operator's API invocation security mechanism

Comprehensive Metering & Billing

- Ability to meter and enable appropriate charging record
- Generate service records that the operator can convert into a bill
- Capturing of the metering data of the API invocation (ingress and egress)
- Interacting with Operator's BSS system via TMForum APIs

Multi-Tenant Security Framework

- Standard invocation security
- Multi-tenant environment with requirements for data sovereignty and data segregation
- Translation of exposed aggregator API invocation security mechanism to the operator's API invocation security mechanism

Automated API Lifecycle Management

- Management of operator API versions that need to be transformed, translated, and derived to the exposed API
- Automatic, AI/ML-driven transformations are generated to manage invocations and flows to new versions

Vertical-Specific API Authoring

- Regional and vertical compliance template library ensuring regulatory adherence
- Custom API authoring environment with visual development tools
- Advanced API bundling tools for creating composite solutions

Example Use Case: Financial Sector Fraud Prevention

The financial sector faces increasingly sophisticated fraud attempts, particularly through social engineering attacks targeting customers rather than banks directly. The NetAware Aggregator Platform enables robust anti-fraud solutions that leverage network intelligence across multiple operators.

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Solution Overview

Using the Network APIs exposed through the NetAware Aggregator platform, financial institutions can validate transactions through multiple network-based verification methods:

Number verification to match users with their registered mobile devices

Real-time connection status verification during high-value transactions

Location correlation between the transaction origin and the customer’s physical location

SIM swap detection to identify potentially compromised accounts

Some of the most common network APIs in use include:

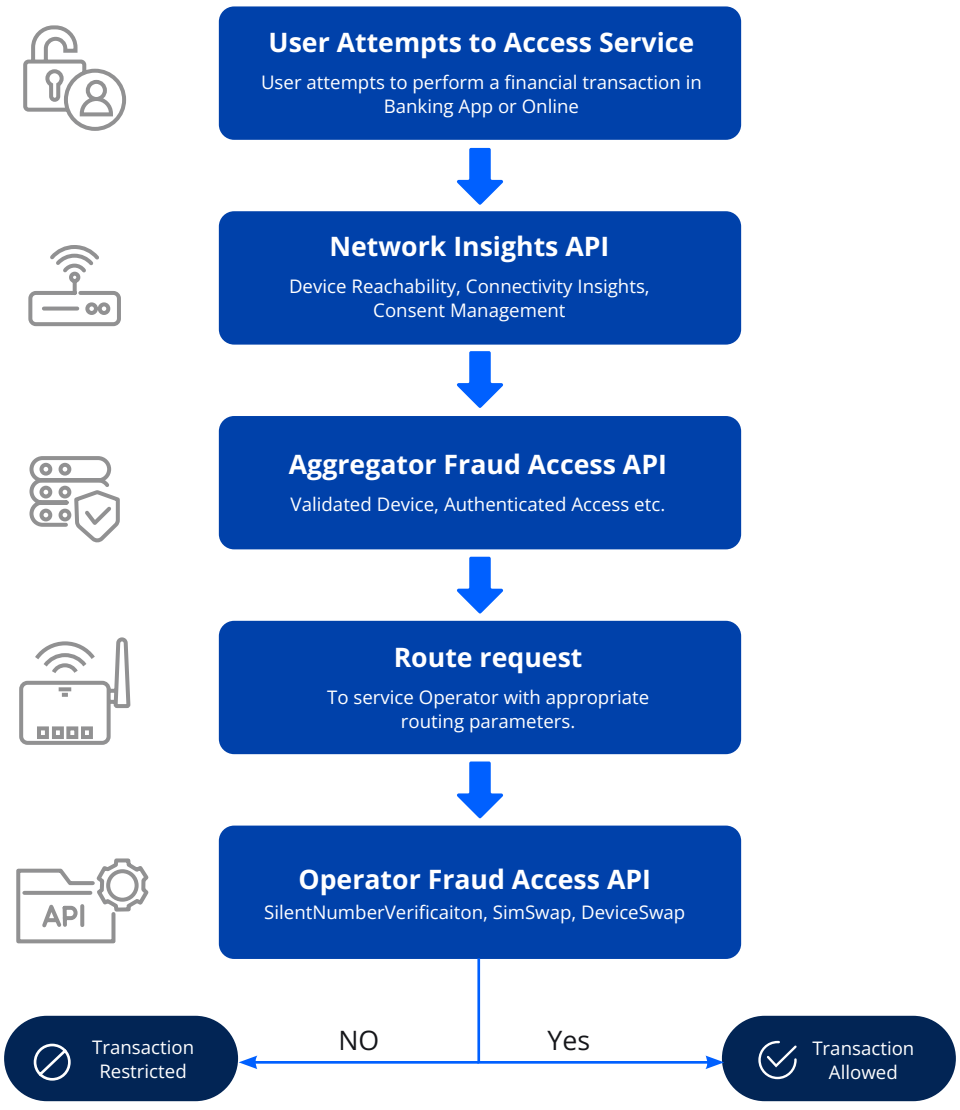
- Quality on Demand
- Device Location
- Device Identification & Verification
- Device Roaming Status
- Customer Profile
- Billing & Charging
- SIM Card Management

Implementation

The solution connects major financial institutions with multiple MNOs through standardized CAMARA APIs for identity verification, device status, and location services. The platform provides seamless coverage regardless of customer network by aggregating these capabilities across operators.

Business Impact

This solution delivers value to all ecosystem participants: financial institutions reduce fraud losses while minimizing customer friction, MNOs monetize their network intelligence capabilities, and aggregators create sustainable revenue streams through platform fees and revenue-sharing arrangements, all while improving the overall security of the financial system.



Example Use Case: Connected Equipment Management for Global OEMs

Global equipment manufacturers install connectivity modules in their machines, collecting and transmitting telemetry data to centralized systems. These modules include e-SIMs with roaming agreements established through connectivity aggregators. Today, these aggregators typically select service providers in each country based solely on least-cost routing. Still, manufacturers want to enhance this selection process by incorporating additional factors such as latency, available bandwidth, and other performance metrics.

Today, these aggregators typically select service providers in each country based solely on least-cost routing.

Solution Overview

1. Enhanced provider selection that considers latency, bandwidth availability, and performance metrics beyond simple cost-based routing
2. Real-time network monitoring to optimize connection quality for different operational needs
3. Ability to dynamically request higher network quality during critical operations
4. Automated management of connectivity across multiple network types and service providers

Implementation

The NetAware Aggregator platform connects equipment manufacturers with multiple mobile network operators, providing intelligent network selection beyond basic least-cost routing. The platform evaluates available networks against specific service requirements to ensure optimal connectivity for both routine telemetry and more demanding applications like remote diagnostics.

Business Impact

This solution delivers value to all ecosystem participants: equipment manufacturers gain more reliable connectivity for critical operations while maintaining cost efficiency; mobile operators can differentiate based on quality metrics; and aggregators create sustainable revenue streams by providing enhanced selection capabilities that improve overall equipment performance and reliability.

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Connect with Us

Ready to unlock the full potential of network API aggregation? We'd love to hear about your business challenges and explore how the NetAware Aggregator Platform can position you for success in the evolving network API economy. Connect with our team of experts today at https://www.shabodi.com/contact-us/ to start your journey toward becoming a pivotal player in this high-growth market.

Get In Touch