shabodi

Product Brief

Shabodi NetAware Enterprise Platform Product Brief

"According to recent studies, large enterprises may experience downtime costs exceeding $1 million per hour, while smaller companies face a proportionally higher impact due to limited resources."

DivergeIT, 2024

> Despite investing millions in network infrastructure and digital applications, enterprises face a critical disconnect: applications don't access or leverage the advanced capabilities built into modern networks. It's not a failure of technology either - applications and networks have always operated as separate domains with no common language.

Modern networks offer sophisticated features like quality-of-service controls, security mechanisms, and dynamic routing. Yet, applications treat these networks as simple data pipes rather than as intelligent resources that can be actively utilized.

This disconnect is evident across various industries, including manufacturing, healthcare, and finance. Organizations build sophisticated network environments with all the bells and whistles - private 5G, public 5G, advanced Wi-Fi meshes, and SD-WAN. Yet, their mission-critical applications remain blind to the network's full capabilities. It's like driving a sports car in a school zone.

Shabodi's NetAware Enterprise Platform bridges this divide by empowering enterprises to unlock the full potential of their network investments. It enables applications to seamlessly integrate network intelligence, without requiring developers to be network experts. This results in smarter, more adaptive applications, faster time-to-value, and reduced development overhead.

The Enterprise Network Challenge

Organizations across various sectors face significant operational challenges that limit their ability to capitalize on technology investments fully.

Challenge	Impact	Typical Effects
Application Performance inconsistency	Productivity & user experience	• Latency issues in mission-critical apps • Degradation during peak demand • Location-dependent performance
IT/OT integration complexity	Operational efficiency	• Poor communication between systems • Vendor-specific custom integration • Resistance to standardization
Security concerns	Risk management	• Expanded attack surfaces • Non-compliance with standards • Operational vulnerabilities
Data management challenges	System capacity	• Bandwidth strain from IoT/video • Edge-to-cloud optimization issues • Inconsistent performance for AI/analytics
Scalability barriers	Enterprise growth	• Operational silos across locations • Lack of standardization

Network-awareness: The Missing Link

Modern networks contain a wealth of sophisticated services and capabilities that remain largely inaccessible to applications. These network services include Quality of Service controls, security mechanisms, identity verification, location tracking, fraud detection, dynamic routing, locating edge computing resources, and many more. Without awareness of these services, applications cannot request specific performance parameters, adapt to changing network conditions, or utilize advanced network features that could significantly enhance their functionality and performance. Network-aware applications overcome this limitation by directly accessing these network services through standardized application programming interfaces, enabling them to utilize the full power of your network infrastructure investments.

Network-aware applications overcome this limitation by directly accessing these network services through standardized application programming interfaces

These practical applications demonstrate that the business impact is immediate and tangible across verticals:

- A manufacturing production application can detect if a specific cellular sensor has been socially engineered to gain unauthorized access to the OT network using intelligence from the network such as Sensor Status, last SIM Swap change, or Sensor Location., preventing security breach or potential downtime to the manufacturing line or factory.
- A healthcare provider can provide secure access to patient data using silent authentication (without the use of one-time passwords (OTPs)) and leveraging phone location information from the network, while protecting consumer data and delivering a frictionless experience.
- A retail point-of-sale system can seamlessly switch between Wi-Fi and cellular connections during peak shopping periods or request a specific Quality on Demand (QoD) on the cellular backup network in case of SD-WAN service failure, minimizing transaction interruptions.

Without network awareness, these applications would fail or degrade unpredictably.

The business impact extends beyond technical performance to tangible outcomes. Dissolving the artificial boundaries between applications and networks enables organizations to realize the full potential of both investments working in concert rather than as isolated technology domains.

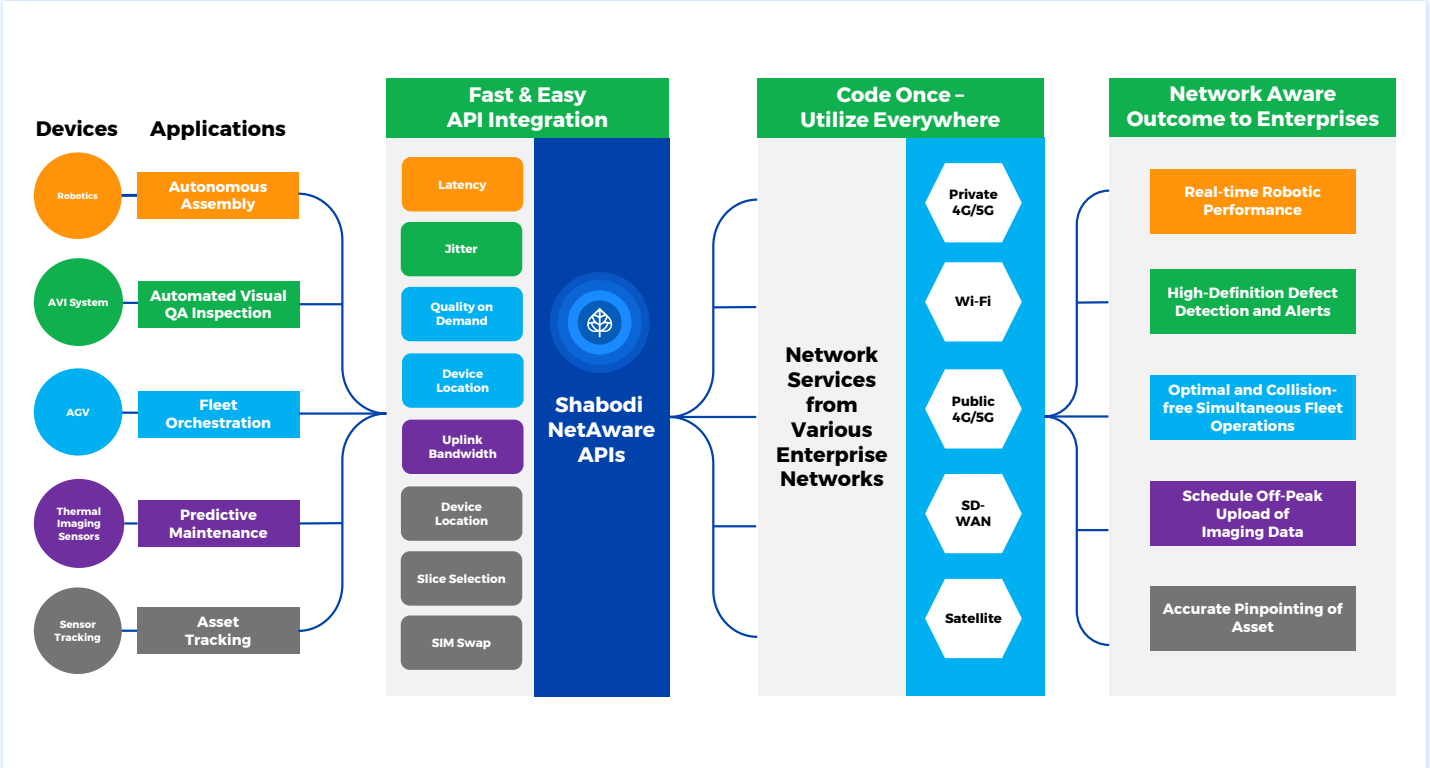
Shabodi NetAware Enterprise: The Programmable Network Platform

Shabodi makes network awareness possible through a revolutionary approach that significantly transforms how applications interact with networks. Rather than treating networks as connectivity pipes, Shabodi's NetAware platform exposes network intelligence as application programmable interfaces (APIs) that applications can actively embed in their logic. This breakthrough stems from Shabodi's deep expertise in application development and network engineering, traditionally siloed disciplines that rarely collaborate effectively.

The NetAware platform acts as a sophisticated translator between these worlds, using patent-pending technology to convert complex network protocols and capabilities into developer-friendly APIs. This translation layer eliminates the technical barriers that have historically prevented applications from accessing network intelligence.

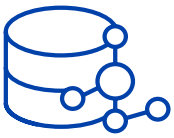
Universal Network Abstraction Technology

NetAware exposes the underlying network services as APIs, a capability many organizations initially underestimate until they see it in action. The NetAware platform offers a consistent API through patent-pending transformation and translation engineering, regardless of whether systems operate on public 5G, private 5G, Wi-Fi, SD-WAN, or even satellite connections.



API Authoring

NetAware provides a powerful API authoring environment that enables application developers to consume network APIs in an understandable format. The platform enables enterprises to create custom Network APIs by grouping multiple other APIs into a single API to solve a specific problem that can be executed in near real-time, while supporting high throughput and security.



NetAware's API authoring capabilities allow enterprises to define precisely how applications interact with diverse network services

Key capabilities include:

- Creation of custom network-aware APIs, adhering to proprietary enterprise, vertical standards, or regional-specific API formats that translate to appropriate network commands
- Real-time derivation of network-specific parameters based on application requirements
- Intelligent routing of API calls to appropriate network services based on context
- Secure transformation layer that maintains compliance while enabling innovation

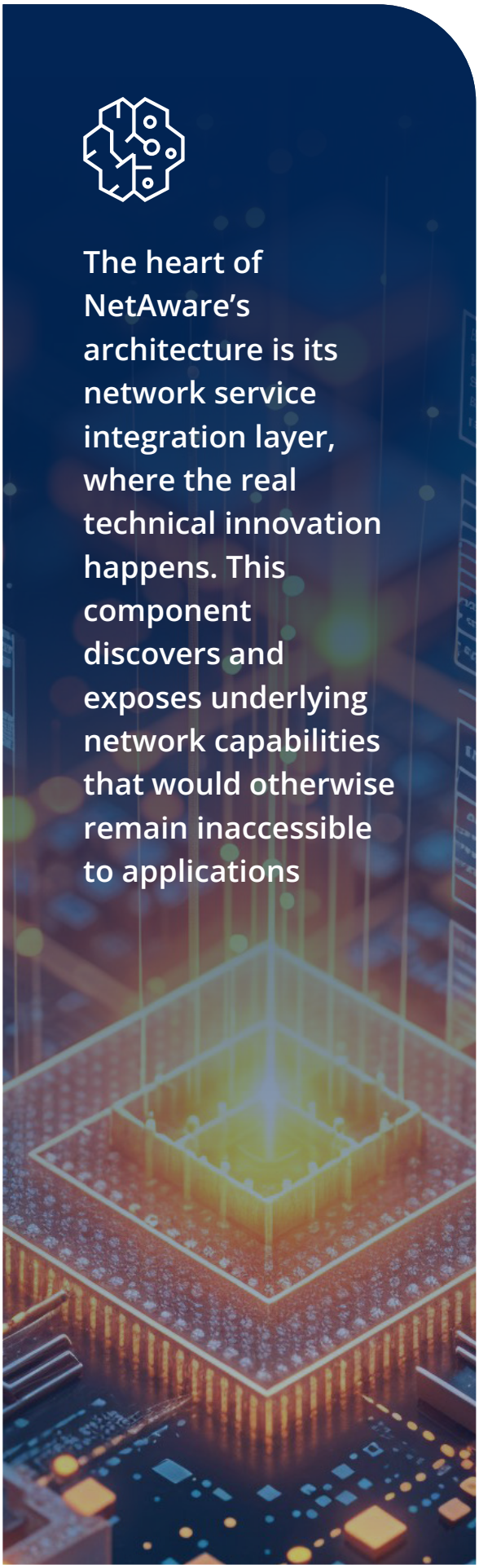
This approach goes beyond traditional API management by enabling true network programmability. Rather than relying on network-specific exposure, which requires specialized domain knowledge, NetAware's API authoring capabilities allow enterprises to define precisely how applications interact with diverse network services, creating a consistent interface that works across heterogeneous infrastructure while maintaining granular control over execution.

Shabodi NetAware Authored APIs		
Security and Fraud Prevention	**Quality of Service**	**Device Intelligence**
Detect Fraud	Geo-Restricted QOD	Sensor Device Insight
Prevent Fraud	Device-Restricted QOD	Device Density (Area)
Remote Device Verification	Live Streaming QOD	Device Location Status
	Roaming Quality Check	Density Based Location Assist
		Device Activity Insights

“Code Once - Utilize Everywhere” Framework

What resonates most with technical teams is how NetAware standardizes network services access through consistent APIs. The platform’s “Code Once - Utilize Everywhere” approach isn’t about low-code or no-code development - it’s about providing the same network service APIs regardless of the underlying network technology. Developers write standard code against NetAware’s APIs once, and those same API calls work whether the application is running on public 5G, private 5G, Wi-Fi, SD-WAN, or satellite networks. For example, an API to retrieve the device location is the same for the developer, regardless of whether the underlying network to which the device is connected is Wi-Fi or cellular.

This framework eliminates the need to develop different network integration code for each network type or vendor. Instead of learning multiple network-specific protocols and technologies, developers work with a consistent set of APIs that abstract the underlying complexity while maintaining complete programmatic control. The resulting applications maintain consistent capabilities across diverse environments without requiring network-specific customization, significantly reducing integration complexity while preserving developer control and flexibility.



NetAware Platform Technical Architecture

The technical foundation of the Shabodi NetAware Enterprise Platform reflects its purpose - bridging worlds that traditionally operate in isolation. Unlike conventional middleware that passes data between systems, NetAware’s architecture actively orchestrates interactions between applications and networks through integrated layers.

Network Service Integration Layer

The heart of NetAware's architecture is its network service integration layer, where the real technical innovation happens. This component exposes underlying network capabilities that would otherwise remain inaccessible to applications.

For example, when applications invoke network insights and specific network characteristics via an API call to NetAware, NetAware dynamically sends the request to the appropriate underlying network controller to prioritize traffic based on business requirements, rather than relying on static rules. This capability becomes particularly valuable during peak demand periods, when conventional networks typically rely on simplistic prioritization schemes. A similar flow applies when an application requests the device's location or inquires whether the device has been tampered with.

Flexible Deployment Architecture

NetAware's deployment architecture embraces cloud-native principles while recognizing the reality of hybrid environments. The platform supports multiple deployment types, including edge configurations, on-premise systems, and cloud environments.

The platform provides standardized integration points for common enterprise systems, reducing implementation complexity. At the same time, its modular design allows for capabilities to be added incrementally rather than requiring disruptive "big bang" deployments, particularly benefiting enterprises with complex, heterogeneous environments.

Edge-to-Cloud Orchestration

Maintaining consistent application performance across multiple network types has become challenging for many organizations. NetAware tackles this challenge by intelligently orchestrating network resources across these diverse computing environments.

The platform adapts to where applications run, ensuring they can access appropriate network resources regardless of deployment location. Applications maintain consistent behavior whether deployed centrally or at the edge, automatically adjusting to the deployment context without requiring environment-specific configurations. This capability enables true location independence for critical business applications, ensuring performance and functionality remain consistent regardless of where processing occurs.

Advanced Security API Integration

NetAware takes an efficient approach to the perpetual challenge of security. Rather than treating network and application security as separate domains with tools and policies, the platform enables direct integration, creating a unified security posture.

Use Cases and Examples for Enterprise Applications

The Shabodi NetAware Enterprise Platform delivers strategic business value through core functionalities that directly address the most pressing challenges facing executive leadership today.

Intelligent QoS Management

NetAware's QoS (Quality of Service) management goes well beyond traditional traffic prioritization. The platform enables applications to control network performance parameters based on changing business requirements dynamically. Traditional QoS approaches often rely on overprovisioning, leading to inefficient resource utilization. NetAware's dynamic approach ensures critical applications receive precisely what they need when needed, reducing bandwidth costs while improving application performance during peak demand periods.

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Location and Positioning Services

The platform exposes network-based location information to applications in a manner that strikes a balance between precision and privacy. Beyond basic asset tracking, NetAware enables more sophisticated location-aware capabilities that enhance both operations and security. A logistics company can implement this capability to create geofenced security zones for sensitive cargo, automatically adjusting monitoring parameters based on location risk profiles. The platform's ability to leverage network-native positioning information reduces the need for additional positioning hardware while improving accuracy and reliability.

Authentication and Device Management

NetAware elevates network-level authentication services into application-accessible capabilities. This efficient approach creates a seamless authentication continuum from network through application layers. Authentication features include SIM-based authentication for trusted devices without additional credentials, secure device provisioning workflows that simplify onboarding, behavioral monitoring to detect potential security anomalies, and unified identity management across network and application domains.

Network Resource Orchestration

Perhaps the most remarkable feature is NetAware's ability to orchestrate network resources intelligently. The platform enables applications to select appropriate network services based on current requirements and optimize how they utilize available infrastructure. This orchestration intelligence enables organizations to maintain operations even during connectivity disruptions that would otherwise impact critical business functions, creating resilience without redundant infrastructure investments.

Why You Need NetAware: The Cost of Inaction

"I am listening to my customers and each day I am more convinced that the network-awareness of an application and controllability of the network plays a crucial role in digital transformation."

Ali Gencer, Opticoms

Wasted Network Infrastructure Investment

Companies are investing millions in sophisticated network technologies (private 5G, public 5G, SD-WAN, advanced Wi-Fi). Still, they can't realize their full potential because applications treat these networks as basic connectivity pipes. NetAware bridges this gap by enabling applications to leverage network capabilities directly, ultimately delivering a return on investment (ROI) on these substantial investments.

Operational Reliability at Risk

In today's digital-first environment, network performance directly impacts revenue. When applications lack awareness of network conditions, they can't adapt during peak demand or partial outages, leading to customer-facing failures. NetAware-enabled applications automatically adjust to changing network conditions, protecting both revenue and reputation.

Competitive Disadvantage

Early adopters of network-aware applications are creating measurable competitive advantages through higher service reliability, faster implementation of digital initiatives, and superior customer experiences. As this technology becomes standard practice, organizations without network awareness will face increasingly significant operational disadvantages.

Rising Operational Costs

Persistent IT talent shortages make manual network optimization increasingly expensive and unsustainable. NetAware automates network resource allocation based on business priorities, reducing the operational burden while improving service quality.

Inability to Scale for Growth

As organizations expand operations across locations, the complexity of maintaining consistent application performance grows exponentially. Without network awareness, scaling requires custom infrastructure configurations for each environment, creating bottlenecks to business growth that NetAware eliminates through its “Code Once - Utilize Everywhere” approach.

Connect with Us

Ready to unlock the full potential of network-aware APIs? We’d love to hear about your business challenges and explore how the NetAware Enterprise 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.