waveXD™
Prefabs for Developers

POSITION PAPER

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The Rise of Network Intelligent App Development

Traditional application development relied on standard connectivity with no direct access to network capabilities. But as the need for low-latency, real-time responsiveness and high quality connectivity grows, integrating network powered intelligence into applications will become important.

Telecom operators are opening up network capabilities and making them programmable through network APIs. Integrating these APIs in their applications can enable enterprises and their developers to build new innovative experiences. Consider these scenarios:

Scenario 1: A fleet management company wants to have a real-time visibility of its vehicles at all times and is currently using GPS tracking technology in its fleet tracking application. It faces challenges in getting real-time location

WaveXD is a business initiative of WaveMaker, Inc. WaveXD provides pre-built Network API-driven components, journeys, apps and themes that developers can embed, compose, customize, and extend to launch 5G app in quick time. It accelerates and simplifies delivery of new 5G-powered experiences for a range of use cases; from financial fraud prevention to asset monitoring to on-demand quality-of-service boost.

information when these vehicles are travelling through tunnels or areas with low or no-GPS connectivity. In this scenario, a network-intelligent fleet tracking application integrated with Device Location API (a typical network API) could provide the company with real-time precise location even in areas where GPS does not work.

Scenario 2: A large bank wants to protect its mobile digital banking app users from fraud during login and transaction stages. Secure authentication using password may fail if someone has stolen the password, while an additional layer of security using one time password (OTP) on phone may fail if the sim and phone is stolen the OTP is compromised. Here a network powered mobile digital banking app integrated with three APIs - number verification API, SIM swap API and device location API - provides a highly secure banking experience. Also, these APIs do not ask the user for any additional input, improving the experience.

There are many network-intelligent applications that could drive better outcomes for businesses and improve customer experience: real-time asset monitoring, connectivity boost-on-demand for critical applications, high quality video stream from security cameras, geo-fencing vehicles and ensuring worker safety in hazardous situations.

Despite the promise of network APIs, adoption by application developers has been limited mainly because:

Lack of awareness: Developers working on enterprise applications or products are typically unaware of these APIs and how these can be relevant in their applications or use cases.

Lack of expertise: Enterprise developers are typically not well-versed in working with network APIs, making it difficult for them to integrate in their applications.

Opportunity to Transform Application Development

Network APIs offer a great opportunity to infuse 5G connectivity in applications building truly intelligent applications that plumb into the network layer and leverage its capabilities to improve reliability, connectivity, speed of data transfer and security.

If network APIs are more accessible to developers and are used properly, one will be able to:

Embed connectivity in their applications: locate devices in real-time, get network congestion insights and adjust bandwidth, find device status and take action in real-time.

Leverage 5G and edge computing: build low latency high performing AR/VR applications, live streaming, entertainment, gaming applications.

Integrate network powered security: add multi-step authentication that provides higher security against fraud through device, SIM swap and number verification.

How Network Intelligent Apps Benefit

End users would get more innovative and refreshing user experiences (video quality, real-time location), fast and secure applications (high performance, low latency, bandwidth boost-on-demand, secure authentication).

Enterprises can offer better customer experience and improve business operations (real-time and reliable fleet visibility, smart asset monitoring, precision farming, remote patient monitoring, worker safety). Application developers can bake-in connectivity, in addition to high performance and transformative features.

Finally, telecom operators get an opportunity to diversify and expand their revenue streams by monetizing network APIs.

But What Needs to Happen First

To make this future a reality, the adoption of network APIs by developers has to be made easier.

Industry adoption of network APIs: Enterprises must explore use cases and applications that can be built with these capabilities, and empower their developers to experiment (hackathons) and integrate them in their applications.

Developer-friendly tools: Providing SDKs, documentation, access to sandbox environments and pre-built API-powered components to help developers work with network APIs easily without the need to understand the primitives.

Ecosystem Collaboration: Telecom operators, platform providers and developers need to come together to innovate and build a thriving ecosystem.

In summary

The future of network-intelligent application development is ecosystem driven and requires a developer-first approach. Network-intelligent application development will be a paradigm shift in the way enterprises build applications

Network APIs don't just offer enhancements but can truly elevate the user experience and allow innovation that was not possible earlier. Enterprises that embrace network APIs today will have a competitive advantage and will lead the industry in delivering innovative solutions and adaptive digital experiences.

The time to adopt network APIs is now. Or be left behind.