

ON TREND

MWC26

**Ultimately, the
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for us was not
the rocket
science.**

**Parth Trivedi
CEO, Skylo**



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COMMENT

Has connected intelligence for resource-agnostic IoT arrived?



George Malim, managing editor IoT Now

If you believe everything you see, you could easily believe we're moving into a world where both the connectivity and the intelligence IoT relies upon are undifferentiated propositions.

The most appropriate of these resources is selected automatically by an autonomous agent so there's no need to form an opinion or preference about what your deployment uses. The outcome is that IoT becomes agnostic about connectivity and intelligence.

Recent innovations and introductions mean previously convoluted and complex processes for provisioning IoT connectivity and setting up intelligent resources at the edge or in the cloud have been resolved. The careful decisions of the previous decades, assessing connectivity types, providers and contract terms, are about to be replaced by an always-optimised automatic system.

That vision means your Cat-1 LTE is as good as your non-terrestrial network (NTN), your low earth orbit (LEO) satellite coverage or your low power wide area network (LPWAN) technology. It also assumes an uninterrupted migration from 4G to 5G to 6G and radically oversimplifies the sophistication of IoT connectivity and intelligence. You didn't have to scratch the surface market spiel at the show to uncover barely-hidden realities in which multiple technologies will co-exist in an ecosystem composed of different providers who are yet to work out they will interact with each other in the automated world.

The clean vision of IoT resources provisioned according to need, through automated commercial agreements, supported by agentic AI, with flexibility assured isn't really happening. No one really believes one human in a co-working space in Hyderabad or Helsinki is going to be finally responsible for your million-unit deployment with autonomous systems trusted to deliver optimised, secure connectivity whatever the situation.

What people at the show believe is that the new SGP.32 specification will make it easier for IoT devices to access connectivity profiles and that gathering more data into a single pane of glass (SPoG) management system will aid management precision and help handle massive scale.

There are differing views of what constitutes that SPoG and how comprehensive it should be. Is a SPoG that only covers IoT connections sufficient? Should a SPoG really provide granular information on connectivity, intelligent resources, the machine data and the context with adjacent devices? These are open questions which MWC26 visitors are engaging with. Visitors also believe that security can't be left to chance, that connectivity is complicated and it should be treated with respect, and that agents simply aren't ready yet.

That's not to say IoT that is network and intelligence-agnostic won't happen, just that it won't happen soon or in the format that the over-excited suggest today. In the meantime, AI will be used to automate some processes and to rationalise data into SPoG displays, leading to faster, more accurate decision-making and more efficient IoT operations.

That, in itself, is a substantial innovative leap for IoT organisations to take and should be celebrated.



INTERVIEW

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Parth Trivedi

CEO, Skylo

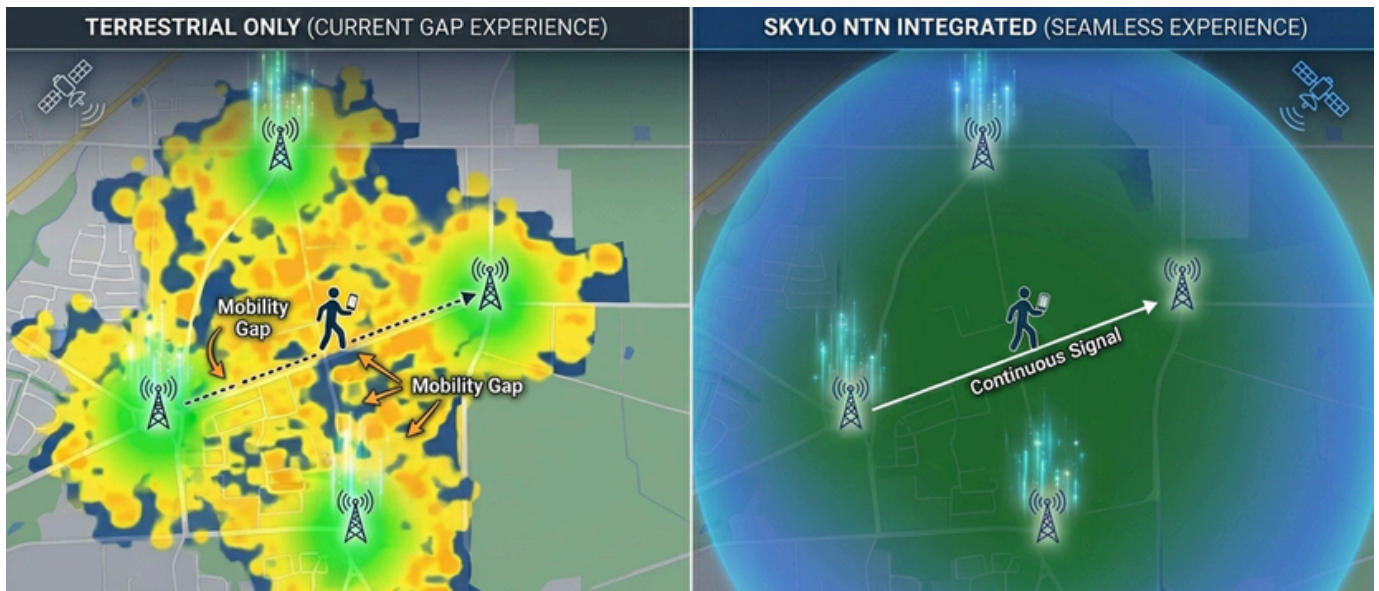


Parth Trivedi, the chief executive of Skylo, met IoT Now's George Malim at MWC26 Barcelona to discuss the convergence of satellite and cellular connectivity. With a career that has spanned aerospace and communications technology, he's ideally placed for the non-terrestrial networks (NTN) era

Satellite connectivity used to occupy a specialised area of high-value, essential communications that were dependent on huge investment in space infrastructure. Recent innovation such as low earth orbit satellites and the coming NTN revolution have democratised access to satellite connectivity, bring connectivity to the unconnected and enabling richer, experiences for numerous connected devices.

“For me, the most exciting thing about this sector is about how fully-integrated it is about to become with the cellular industry – without knowing it,” says Trivedi. “The success criterion is not building satellite networks and building constellations and managing a satellite service. The success criterion is whether, as an end user, I can have a continuous experience without knowing whether I was on Wi-Fi, cellular or satellite.”

“I want carriers to treat satellites no differently to how they treat cell sites,” he explains. “The need to feel confident to offload traffic to or from any of the infrastructure. If I walk my dog 300 yards from my house, that’s not a coverage gap, it’s a mobility gap – it’s a terrible experience with the illusion of being connected. If we can solve that, we can provide an unparalleled level of service quality.”



Beyond rocket science

Trivedi has had a far-reaching career as an aerospace engineer having led various missions and projects at MIT, which were sponsored by the US Department of Defense, NASA and the FAA. He also knows plenty about radio access networks, giving him a prime seat to steer Skylo's 100% global coverage which is routinely used to connect IoT sensors and mobile devices anywhere on earth.

"The infrastructure in space is simply a component for making the experience ubiquitous," he confirms, sitting in front of an impressive display of Skylo devices. "You certainly need adequate capacity to solve the experience challenge but for me it's about aligning the entire ecosystem."

"My expertise began in satellite launch, followed by radio network engineering and an MBA, ultimately, the harder challenge was not the rocket science," he smiles. "It wasn't the design and configuration of the protocols, it was changing the entire ecosystem to signal the same language, to align the strategy at the OS level to ensure a predictable user experience is provided."

Under a standardised sky

Looking ahead to NTNs, Trivedi thinks the industry is well-placed to handle the technological challenges. "The difference is that the base station is moving," he explains. "GPS has been solving this for a long time – satellites are constantly shooting out this data so let's assume some familiar behaviour. We should think about satellites as no different to cell sites that are operating at a slightly higher altitude".

Sometimes, it is only working out the calculations that is necessary and the technology to do that is well-established. However, the relationships are not so simple to form. “Our platform is reducing friction for on-boarding carriers,” he says. “We appear to them as just another friendly carrier their eSIM or IMSI can move onto. What does the integration look like? It looks like any other integration. It uses standard 3GPP interfaces so there’s no change in behaviour required for carriers to adopt this new mode of connectivity. There are even standard 3GSM contracts.”

Trivedi sees this opening up vast new opportunities for integrated cellular and satellite connectivity, along with NTN, to support enterprise and consumer experiences. “When we started, it was all enterprise activity and we were led into the consumer sector by customer pull rather than push. Everything I’ve described fits under a standardised sky that makes satellite an extension of your customer experience.”



EVENT REPORT

Has connected intelligence for resource-agnostic IoT arrived?

The arrival of the 'made-for-IoT' SGP.32 specification from GSMA finally delivers an IoT-specific framework for embedded SIM (eSIM) connections. The simplicity this brings, as implementations begin, fundamentally changes IoT connectivity, enabling greater flexibility and delivering on the promise of eSIM. It was clear at MWC26 Barcelona that the mobile network operators and IoT connectivity providers both understand the potential and recognise that the model has shifted.

IoT enterprises now have greater choice and that also comes with greater simplicity. This significantly reduces the connectivity management burden as device fleets grow and mature. However, making one aspect of provisioning IoT devices easier isn't the destination – it's a first stop on a longer journey to automated IoT connectivity that is monitored and managed across vast deployed device estates with minimised friction.

Enterprises are increasingly frustrated with the complexity of managing global device fleets across different connectivity providers and want to manage from one system with clear data on device connectivity and performance alongside operational data. At the same time, they need to be sure solutions are secure so providers that can augment connectivity services with other essentials, notably security, are gaining traction.

Managing for scale

Now managing more than 104 million connected devices and over 41 million embedded SIMs, Aeris was showcasing its recent announcement of a secure access secure edge (SASE) partnership with Palo Alto networks which extends SASE out to the wireless IoT edge. The partnership integrates Aeris IoT Watchtower with Palo Alto's Prisma SASE 5G system to combine cellular IoT connectivity with advanced security to eliminate security gaps and offer unified visibility, proactive threat response and 5G support.

"We're investing in support to the SASE market for IoT," says Wladimir de Lara Araujo, the head of security at Aeris. "The fundamental problem for wireless devices is they have had to push secure agents onto the device to support SASE but either the end user won't agree to it or a partner's end user won't agree to the agent."

Aeris says the partnership provides an approach that is agentless and embedded directly into the connectivity. The system applies SASE security policies directly to the device without needing to install software agents, radically simplifying configuration but also addressing reluctance to install agents.

"All the magic happens here. By using Aeris Watchtower, Palo Alto has the functionality to correlate IT and agents with wireless network information from Watchtower."



Wladimir de Lara Araujo, head of security, Aeris

"We bring customers the ability to connect worldwide through our IoT partner network with all these mobile network operators through Aeris and create a unified view across the installed device base," says de Lara Araujo. "All the magic happens here. By using Aeris Watchtower, Palo Alto has the functionality to correlate IT and agents with wireless network information from Watchtower."

Fragmented ecosystem data

With security under the microscope as massive IoT results in an expanded threat surface, IoT experts at the show were also focusing on ways to simplify management of IoT devices and operations. Fragmented data across multiple systems makes it highly complex, if not impossible, to gain accurate pictures of connected device performance and value across vast IoT device estates. Innovative companies were putting forward solutions to solve the spaghetti and deliver unified views to aid management.

“We’re a global mobile network operator for IoT,” explains Luc Vidal-Madjar, the head of M2M/IoT Business at BICS. “We offer global connectivity and want to have simple solutions and be a single provider for enterprises. We went into the enterprise market with our roaming multi-IMSI solution to optimise connectivity for IoT enterprises. Since then, we’ve been first to launch an SGP.31/SGP.32 solution because we recognised the need to change technology coming from the market as eSIM for IoT has been very complex.”

SPoG not spaghetti

Vidal-Madjar sees simplification as a core need for enterprises, especially as the SGP.32 specification is set to make it easier to utilise eSIM for large scale IoT deployments. In common with other IoT specialists at the show, he highlighted the importance of the single pane of glass (SPoG) display of enterprises’ IoT devices and their connectivity status. The fragmented approaches of connectivity across multiple network technologies, different mobile networks and connectivity management platforms is inefficient and hampers enterprise ability to scale up without commensurately scaling up the management burden.

“The single-pane-of-glass for the enterprise integrates with the connectivity management platform of mobile network operators and the enterprise has the possibility to manage profiles and use it with their SIM,” he says. “We are able to provide this and have a lot of demand from enterprises. At the management level it creates some workflows because APIs are not the same [from carrier to carrier]. Before this, enterprises wanted flexibility but it wasn’t there. If you wanted to switch carrier, later on, it wasn’t possible but now there is no restriction as long as the operator is ready for SGP.32.”

MWC26 by the numbers

AI at MWC26

105k

Visitors claimed by MWC26 organisers

45%

Operators prioritising AI monetisation as their top strategic business goal

188

Governmental delegations participated in the Ministerial Programme.

2,900

Exhibitors, sponsors, and partners

58%

Attendees from adjacent industries

2,600

Journalists and industry analysts reporting from the event

Creeping efforts to unify management data are bearing fruit and bringing insights together from multiple networks and technologies is helping to provide a deeper image of enterprise deployments. “The unified experience comes with a single-pane-of-glass that utilises agentic AI and an agentic fabric to enable customised workspaces,” says Araujo. “These enable the user of the platform to optimise how they interact with it not just via a traditional GenAI chat interface but to create a dashboard, widgets and reports.”

He says that Aeri Watchtower capabilities fuel this type of offering, introducing the ability for enterprises to use agentic AI to understand their operations. The interface allows creation of KPIs with a graphical view. The company will be launching a SPoG product in the third quarter of this year. “There will be obvious advantages and we’ll make it an attractive offer so people can consolidate and keep adding to it,” Araujo confirms.

Araujo provided examples of how Aeri is working with customers to deliver the greater visibility and observability they need in their IoT estates. Aeri has been working with Renault for several years, supporting more than 7.5 million vehicles. Aeri Watchtower has been used to troubleshoot devices that are causing issues and pinpoint the root cause in hours, rather than weeks as previously.

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Luc Vidal-Madjar, head of M2M/IoT Business, BICS

The SGP.32 revolution

“The value chain is being changed by the interesting possibilities in SGP.32,” adds Vidal-Madjar. “Everyone who sells a piece of hardware that is supposed to connect has a reason to provide their product with a bootstrap profile. For example, a modem maker can use SGP.31/SGP.32 to ship their product with a bootstrap profile and give their customer the freedom to choose the connectivity provider.”

“On the supply side, the momentum for us is to work with different parts of the value chain to integrate the technology and that will be a game-changer,” he says. “eSIM for IoT is very different to consumer eSIM and more and more digital players will integrate connectivity for their digital experiences.”

EDITORS TAKE

Has connected intelligence for resource-agnostic IoT arrived?

What do you think about the arrival of SGP.32 and the move toward agentless, embedded security in IoT connectivity?

Have your say in this episode

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