



SCALING THE PRIVATE NETWORKS MARKET: IF IT WERE EASY, IT WOULD HAVE HAPPENED ALREADY

Webinar: Questions and Answers

Questions and Answers:

This document outlines the questions and answers received from the STL Partners and Volt Active Data webinar, ***Scaling the private networks market: If it were easy, it would have happened already***, which was delivered on Tuesday the 12th of December 2023.

You can watch the recording of the session, and also access the slides, using the link [here](#). In this document, we seek to address the questions raised in the webinar that we were unable to address during the available time.

If you have any questions not addressed during the webinar or in this Q&A document, or would like to hear more about our latest research or from our panellists, please contact:

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Questions and answers

1. Does "Private Network" = private wireless network on this webinar?

STL Partners: Yes, the focus on this webinar was on wireless cellular/mobile private networks.

2. Can you provide any insights on how enterprises perceive mobile private network (MPN) in a box offerings vs. those provided by mobile network operators?

Amdocs: Enterprises possibly aren't yet tech savvy enough to differentiate between MPN in a box (what I often describe as a dedicated network) vs. an MPN provided by the MNO, something more akin to a network-as-a-service offer. That said, it is important to clarify the enterprises trust their traditional technology advisors, those who eventually are helping them in a specific business transformation project or their traditional IT network vendors. So those advisors could play important role on recommending one or another way, and in this case it is important for the MPN ecosystem to understand this game and make sure there is enough education so that enterprises can identify overly biased value propositions.

Volt: I would agree with Vico's answer. Most Enterprises aren't savvy enough to differentiate between an MPN in a box vs. an MPN provided by an MNO. In fact, I would imagine the degree of telco knowledge required to manage and run an MPN would make most enterprises prefer to outsource the lot to an expert, perhaps the MNO. There will be other SIs who will offer a competitive alternative to the MNOs, but the enterprises will need to be educated about the options.

STL Partners: Agreed on the above and would re-iterate what we mentioned during the webinar, which is that there is currently a lack of awareness among enterprises regarding private networks, let alone the differences between on-premises, hybrid and network-slice based deployments or the providers offering them. Furthermore, enterprise IT teams typically aren't actively seeking out private networks. They are more focused on solving their business problems with existing network solutions, wherever possible. Hence, it's crucial for private network vendors, whether telcos or others, to demonstrate a clear understanding of customer problems in target verticals. They should focus their marketing and sales efforts on how private networks can solve these issues. We often observe (especially from telcos) a misplaced focus on network performance characteristics rather than the commercial benefits of adopting private networks.

3. For the \$300K average cost example, what is the profile of the physical deployment e.g. production, lab or POC, how many radios were deployed and who was the RAN provider/supplier?

STL Partners: This was a hypothetical example raised by one of our interviewees, so unfortunately, we cannot share a RAN provider. However, the deployment model was described as 'a small mobile private network deployed for a mid-sized factory floor with 10-12 radios.' The cost structure for the deployment was described as an 'upfront installation cost \$300,000 - \$500,000 in year 1 with ongoing support and maintenance costing \$50,000 per year.'

4. **Companies often struggle to understand why they should go for 5G MPNs over Wi-Fi 6. What are the key advantages and economic benefits of 5G instead of Wi-Fi?**

Amdocs – answered by Virgilio during the webinar: When comparing Wi-Fi 6 and 5G, an important consideration is the specific ecosystem and the number of compatible devices available for each technology. The decision often starts with evaluating whether there are enough devices in either the Wi-Fi 6 or 5G network to effectively address a particular problem.

One key distinction is that Wi-Fi 6, while effective for localized wireless networks, lacks the mobility and extensive coverage that 5G offers. In the context of private networks, where connectivity might be needed across different locations or 'islands', 5G provides a significant advantage. This is especially relevant when there's a need for mobility over large areas.

In summary, while both Wi-Fi 6 and 5G have their places, the choice often hinges on the operational requirements and the specific problem at hand. 5G's superior mobility and broader coverage make it a more suitable choice for expansive private networks, offering economic benefits in scenarios where wide-area connectivity and high mobility are crucial.

Volt – answered by Andrew during the webinar: The use cases that will deliver the most commercial value centre on mobility, i.e. when you have many industrial IoT devices that aren't stationary and plugged in. For devices that are moving around, you need constant connectivity on site both inside and outside and when devices go off site, you may need constant access to the public network. In these instances, private mobile networks offer enhanced commercial value vs. traditional Wi-Fi 6.

STL Partners: There's increasingly a consensus that 5G MPNs and Wi-Fi 6 are complementary network solutions, however there are some unique benefits of 5G that are worth noting and may affect an enterprises decision to adopt. Firstly, 5G boasts significantly greater device density, enabling the connection of thousands of IoT devices simultaneously, which is ideal for scenarios like smart manufacturing. Additionally, 5G provides superior Quality of Service (QoS) guarantees, with traffic prioritization ensuring stable latency and bandwidth crucial for mission-critical applications. 5G's wide-area coverage also outstrips Wi-Fi's capabilities, particularly in vast indoor spaces such as warehouses or outdoor areas of ports, where a single 5G antenna can replace multiple Wi-Fi access points, yielding cost savings. Finally, 5G networks are versatile, capable of supporting a diverse array of use cases with varying network requirements simultaneously within the same environment, further solidifying its economic and functional appeal for enterprises.

5. **Are there any developments in software radio coming down the line that will address the lack of spectrum harmonisation? And what is the panel's view on the significance of O-RAN in opening up the market?**

Amdocs: The US experiment on CBRS, a shared spectrum available for enterprise and MNOs is a good example of a spectral width (SW) solution aligned with spectrum harmonization. Evolving from that point we are going to see automated frequency coordination which will allow both Wi-Fi 6 and 5G New Radio Unlicensed to coexist.

About ORAN, the impact of ORAN in the Private Network space can be seen into the number of new RAN vendors who want to participate in the market. Some public small vendors and some huge players who are still on stealth mode.

6. **How did STL source its private networks deployments data?**

STL Partners: The deployment data shared in STL's presentation was taken from STL Partners' 'Private Networks Global Insights Tool,' which gathers data on private networks deployments from company press releases. The tool currently has deployment data from 2014 - 2022 and will soon be updated with 2023 data.

7. **How did Amdocs source its private networks deployment data, was it based on the overall market or just Amdocs deployments and are the deployments network sites or the number of customers?**

Amdocs: While we can't share our exact data sources, the data come from the public domain and refer to the number of network sites that aren't just Amdocs deployments. We decided to combine at least two reputable sources of data and we regularly updated it year-on-year.

8. **A key barrier between private network providers and enterprises is customer security. Could you shed some light on this and how OT security can be handled for mission critical use cases to avoid damage?**

STL Partners – answered by Darius during the webinar: One aspect to consider, from a non-technical perspective, is the perception of security. Despite the 3GPP standards enabling device authentication at the far edge, enterprises often believe that on-premises solutions are more secure. This perception persists even if there aren't many fundamental differences in security standards between on-prem and other solutions. This belief is powerful and should be considered by operators and vendor partners in their propositions. Acknowledging and addressing these security perceptions is worthwhile.

Amdocs – answered by Virgilio during the webinar: In private networks and cellular tech, we trust 3GPP standards for strong device authentication, but legacy devices often use less secure methods. With the addition of Wi-Fi 6, device security is improving. However, when integrating this with operational technology (OT), we must consider whether to isolate control and user planes at the network edge or use public clouds.

Using layered security, like external firewalls, is crucial for protecting private networks. While it's hard to generalize security levels, focusing on specific issues helps create effective solutions. For mission-critical OT in private networks, it's vital to balance advanced authentication, strategic placement of network functions, and robust layered security to address the main concern of security between providers and enterprise customers.

9. **On the supply side, which barriers do you see provide the biggest impact in scaling the market if lifted?**

STL Partners: Besides the well-known challenge of spectrum availability, another significant barrier often highlighted in interviews is the availability of 5G devices. This situation is expected to improve once Original Equipment Manufacturers (OEMs) begin creating devices that are easily set up and integrate seamlessly into private 5G networks. Such advancements will make it easier for private network vendors to demonstrate their business case. This shift will enable enterprises to expand beyond implementing anchor use cases like video analytics, allowing them to explore a wider range of applications that not only add value but also enhance existing use cases, thereby improving operational efficiency. Furthermore, replacing systems that rely on a variety of existing networks can also lead to cost savings through network consolidation. This, combined with the use case driven enhanced operational efficiency, can yield a quicker return on investment for enterprise customers, thereby creating a stronger incentive for them to adopt private 5G networks and more compelling vendor propositions. This should stimulate the momentum required to scale the market.

Volt: I believe that once the supply side understand the business problems enterprises need to solve (and are prepared to pay to solve) that their current solutions can't deliver, the supply side of the market will have the knowledge required to develop compelling use cases and position them more effectively to customers.

Amdocs: In markets where there is no enterprise spectrum, spectrum is the obvious barrier that needs lifting. Therefore, at global scale, enterprise spectrum harmonization could help a lot in scaling the market for network equipment and devices.

10. **Can you share any data from a recent private 5G network implementation and the rough cost and commercial value for the customer?**

STL Partners: Whilst STL doesn't have any commercial data from private 5G network deployments that we are allowed to publicise, I'll refer to our answer to question four which has an example of the rough cost of a relatively small private network deployment. [STL also has an ROI tool for private 5G in manufacturing that is available to our research subscribers.](#) The tool allows you to estimate the ROI and payback period of deploying specific private 5G use cases in a manufacturing setting. Additionally, STL will be publishing a private networks market sizing in the first quarter of 2024, which will provide an estimate of the commercial value of private networks over the coming years. [Sign up to our private networks newsletter to be notified when it is released.](#)

Amdocs: I would recommend checking private network ROI studies from research like Bell Labs, they keep amazing track of private network deployments and ROI.

11. **I'm interested in hearing the panellists' thoughts on using a neutral host network 'bridge' as a launch pad for specific private networks use cases?**

Amdocs: Great question, and an important reminder, neutral host is a powerful strategy for private networks running in the consumer domain, but less so for industrial applications (which I often describe as OT processes). However, within the consumer domain, such as entertainment

venues, large transportation hubs, hospitality facilities, leveraging neutral host is certainly a great go to market strategy.

Get in touch with our panellists to learn more:

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Follow this link if you'd like to learn more about STL Partners' view of the Private Networks market:

<https://stlpartners.com/private-cellular-networks/>

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