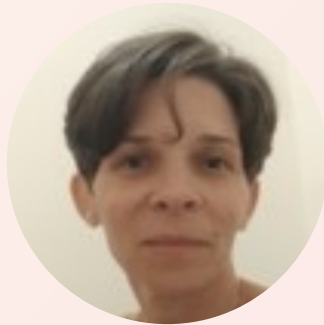


Scaled telco workload migration to public cloud: a mid- or end-2020s affair?

STL Partners

5 September 2024

Our speakers



EMMA BUCKLAND
Principal Analyst,
Network Innovation



DAVID MARTIN
Senior Analyst and
Telco Cloud Lead



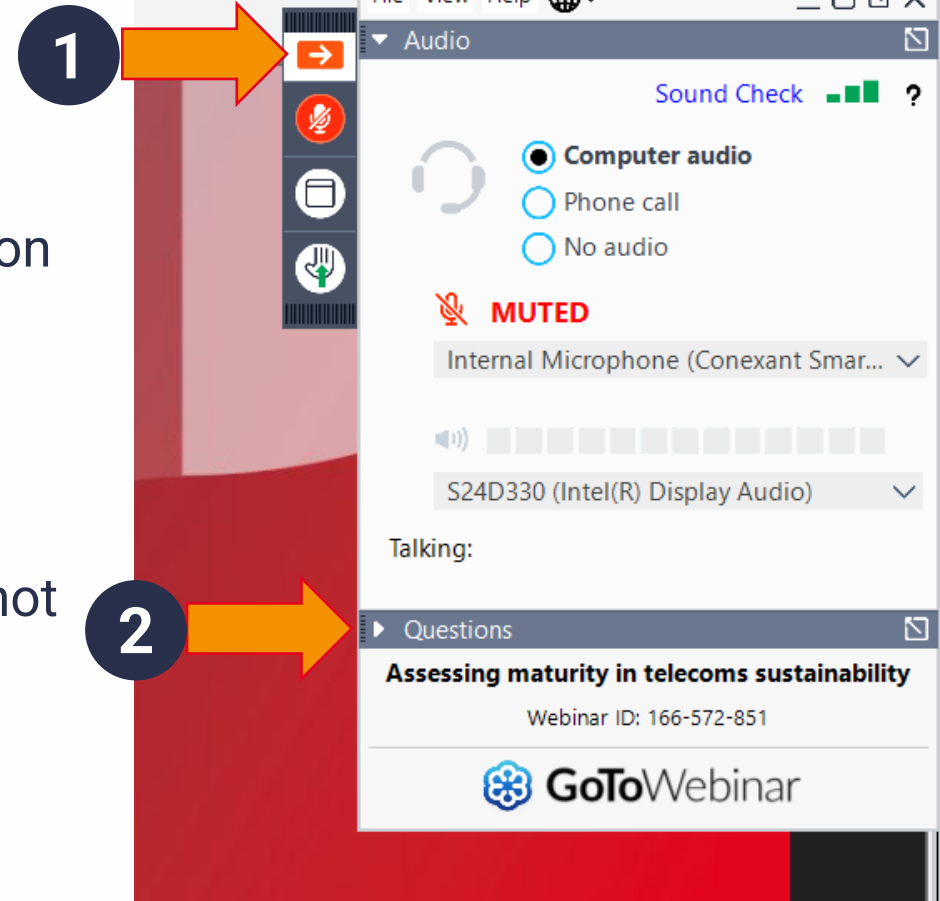
GEORGE GLANVILLE
Analyst, Telco cloud
and Edge

Agenda

1	Introduction and housekeeping	5 minutes
2	STL presentation	45 minutes
3	Q&A	10 minutes

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- Pull out the control panel to access GTW features
- All attendees in listen-only mode
- Please use the Questions box to submit any question during the presentation or for the Q&A session
- After today's session, all registrants will receive an email with a link to the recording and presentation.
- If there are any outstanding questions that we cannot address live during the webinar, we will also send a Q&A document next week.



This presentation draws from recent reports from our Network Innovation subscription service

Network Innovation



Executive Briefing

VENDOR-HYPERSCALER PARTNERSHIPS: BUILDING THE MULTI-CLOUD-NATIVE FUTURE?

Vendors and hyperscalers want to serve telcos with cloud-native network functions that are public cloud-ready – but there are few takers. What should they do?



David Martin, Senior Analyst & Telco Cloud Lead | david.martin@stlpartners.com | May 2024



Telco Cloud Deployment Tracker Q2 2024: Is AWS winning in hyperscale telco cloud?

Network Innovation

David Martin, Senior Analyst & Telco Cloud Lead
George Glanville, Analyst

2 August 2024

Hyperscalers in the telco vertical: Strategies and successes

This report analyses the positioning of each of the three hyperscalers – AWS, Google Cloud and Microsoft Azure – in the telco vertical (outside of China). We assess how successful they have been at convincing telcos to migrate their business to the public cloud.

August 2024

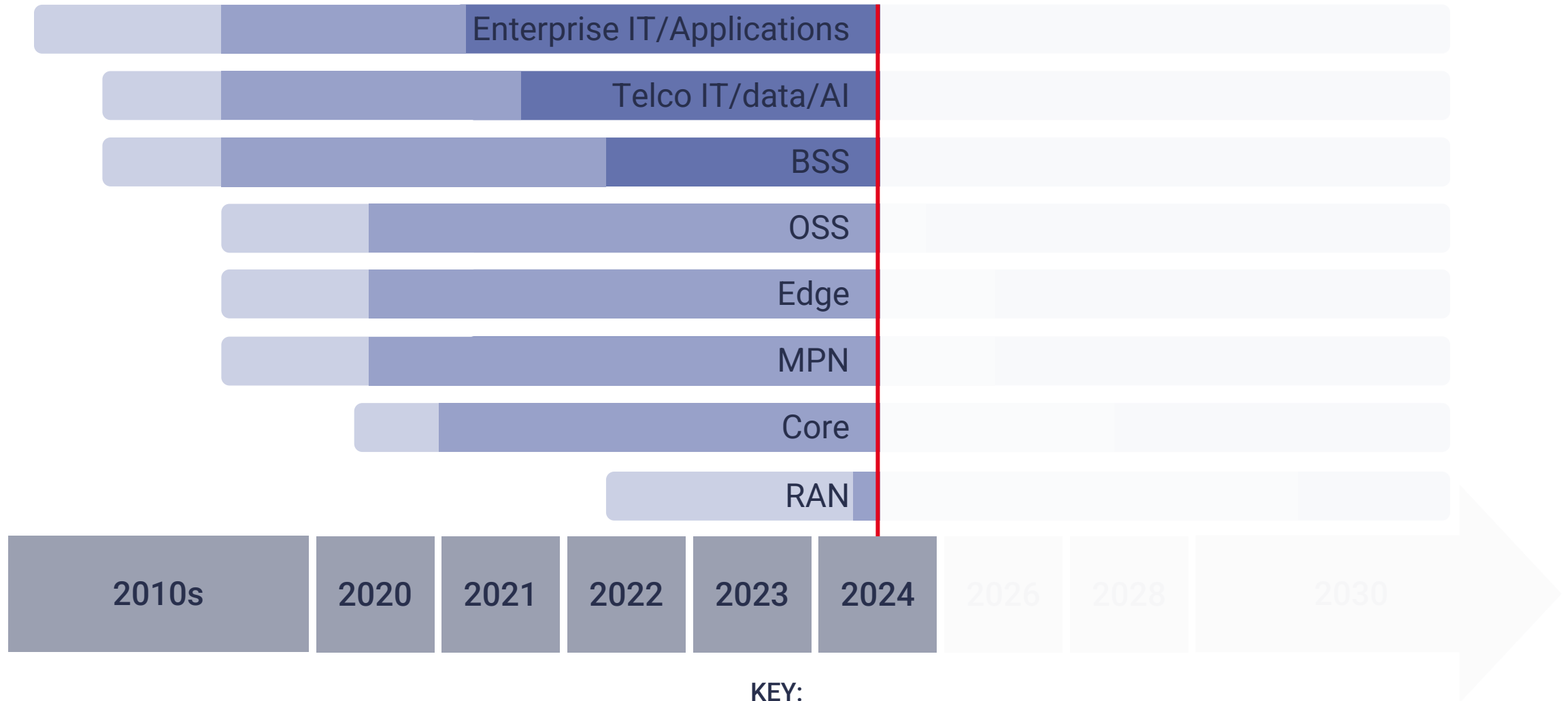
Emma Buckland, Principal Analyst – emma.buckland@stlpartners.com
George Glanville, Analyst – george.glanville@stlpartners.com



Agenda

- 1** Introduction and housekeeping 5 minutes
- 2** STL presentation 45 minutes
 - 2.1** Which telco workloads have migrated to the public cloud?
 - 2.2** Strengths and weaknesses of the main three hyperscalers
 - 2.3** Maturity of vendor network solutions
 - 2.4** Main barriers to public cloud migration
- 3** Q&A 10 minutes

Some telco workloads have been migrating to the public cloud for 10y+ but network workloads are last to do so

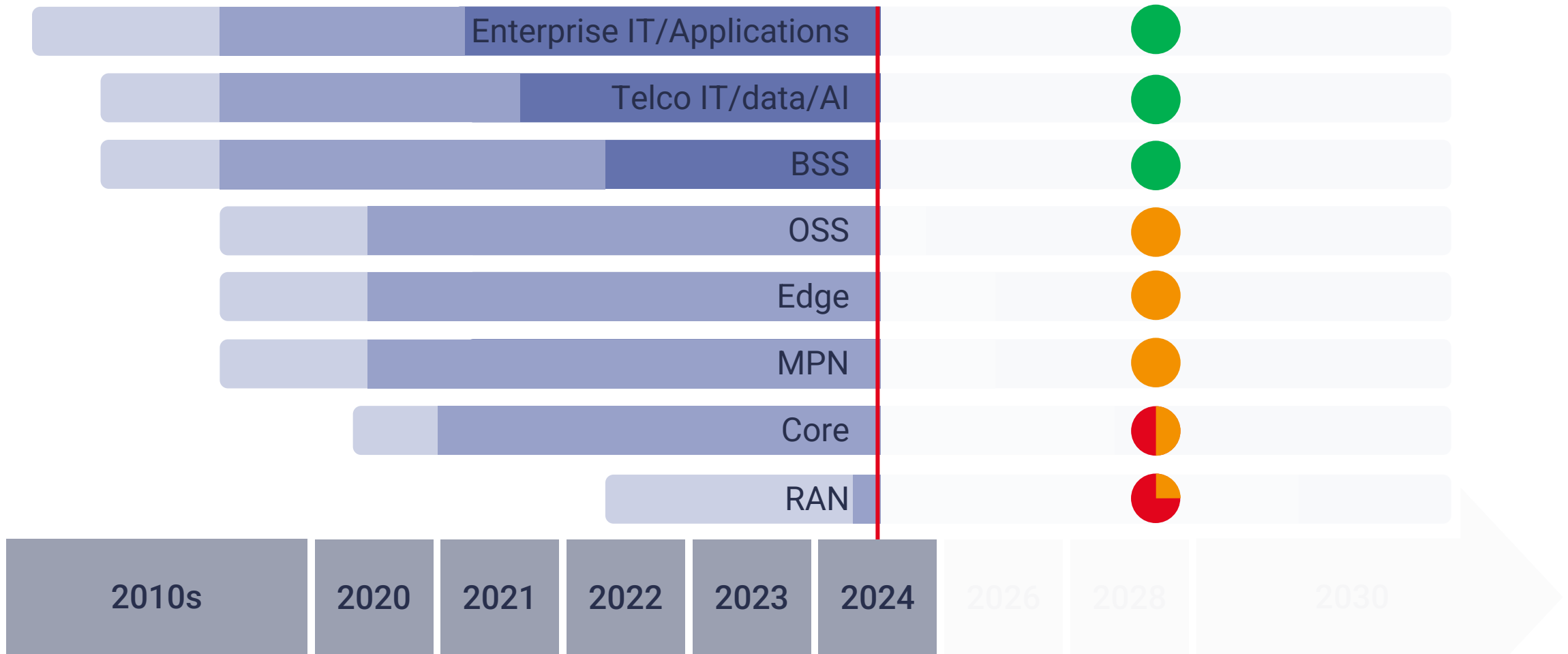


Source: [Hyperscalers in the telco vertical: Strategies and successes](#)

KEY:

Industry pioneers
 Early followers
 Mass market adoption

Consequently, those migrations are few and far from mature



Source: [Hyperscalers in the telco vertical: Strategies and successes](#)

KEY:



No commercial deployments



Several commercial deployments

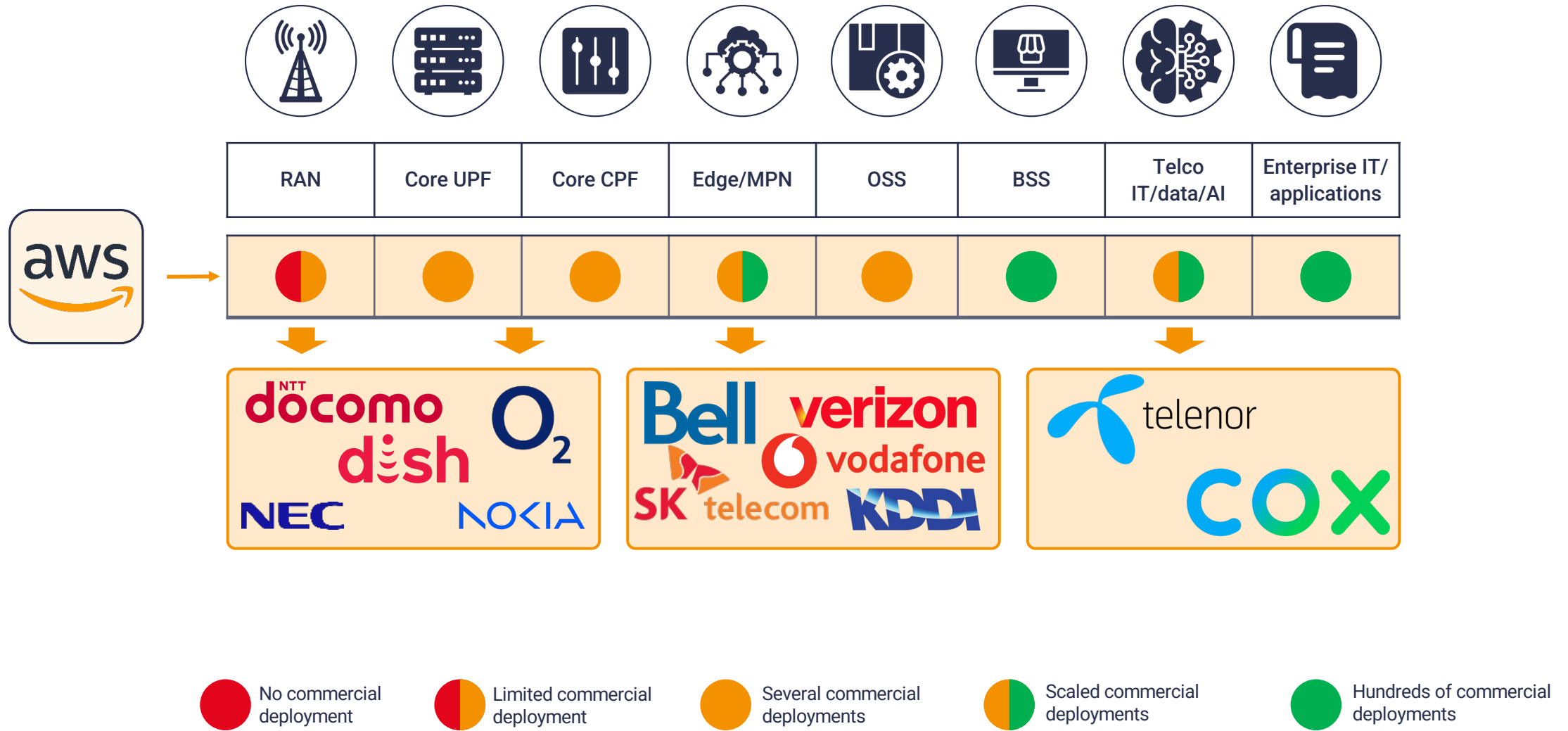


100s commercial deployments

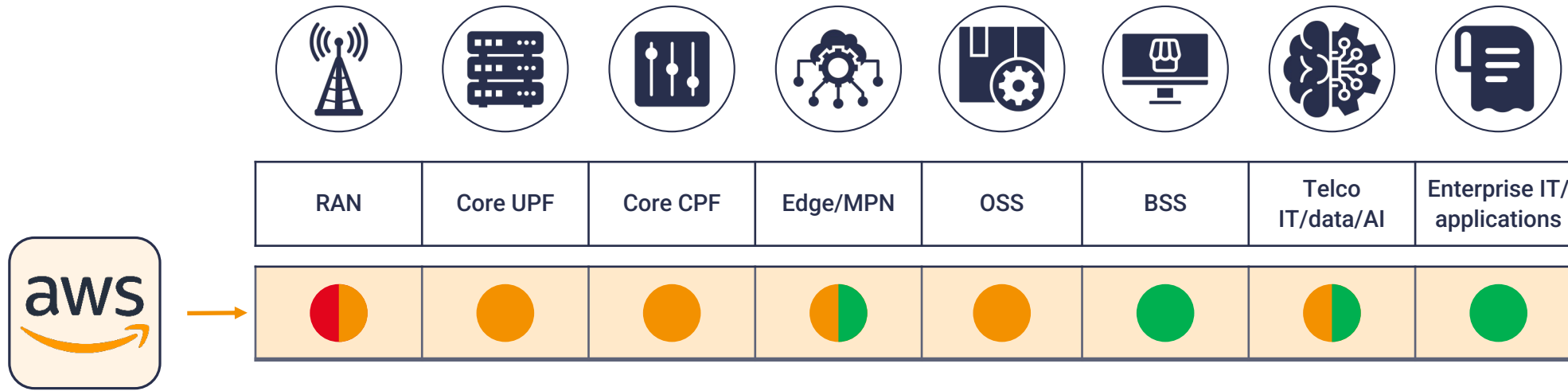
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AWS has some track record for every workload type



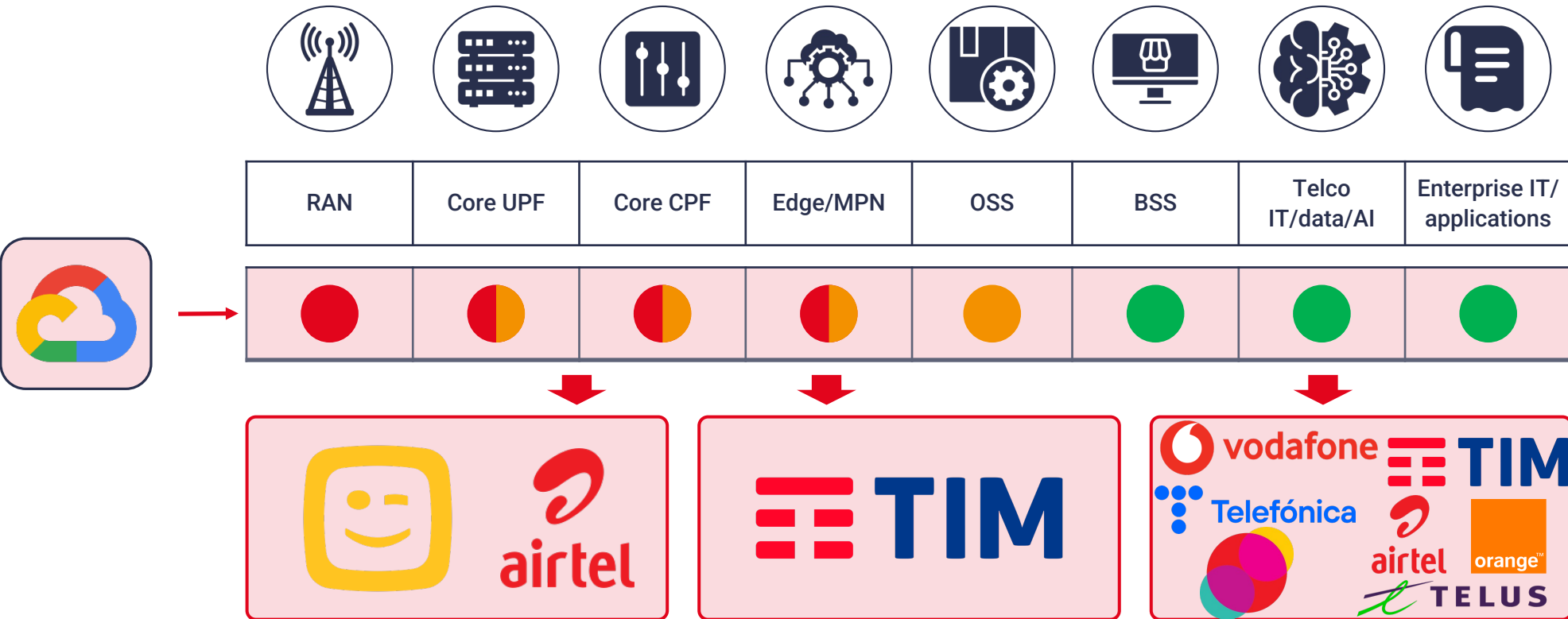
AWS: Best all-rounder



Strengths	<ul style="list-style-type: none"> • Largest cloud provider (\$\$\$) • Early in telco vertical • Has track record for every workload • 30+ edge deployments with telcos • High visibility in Europe (sovereign cloud) • Flagships deployments 	<ul style="list-style-type: none"> • Focus on Europe → less in non-EU regions? • Strong competition on Telco AI • Lack of evidence on TCO advantage • Still building track record on scaled brownfield network workload migration 	Weaknesses
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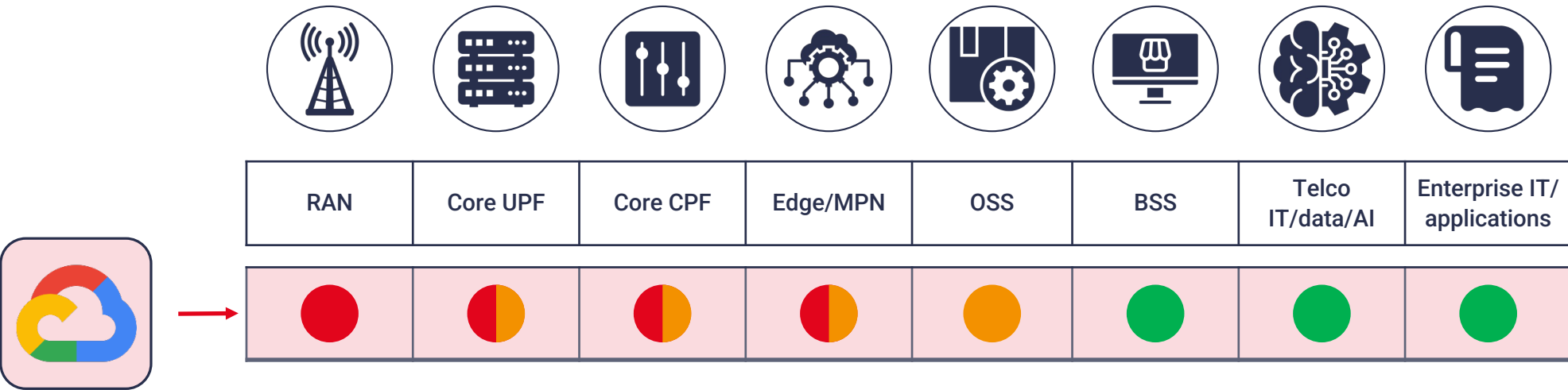
KEY: ● No commercial deployment ● Limited commercial deployment ● Several commercial deployments ● Scaled commercial deployments ● Hundreds of commercial deployments

Google Cloud is best positioned on the IT side of telco



KEY: ● No commercial deployment ◐ Limited commercial deployment ● Several commercial deployments ◐ Scaled commercial deployments ● Hundreds of commercial deployments

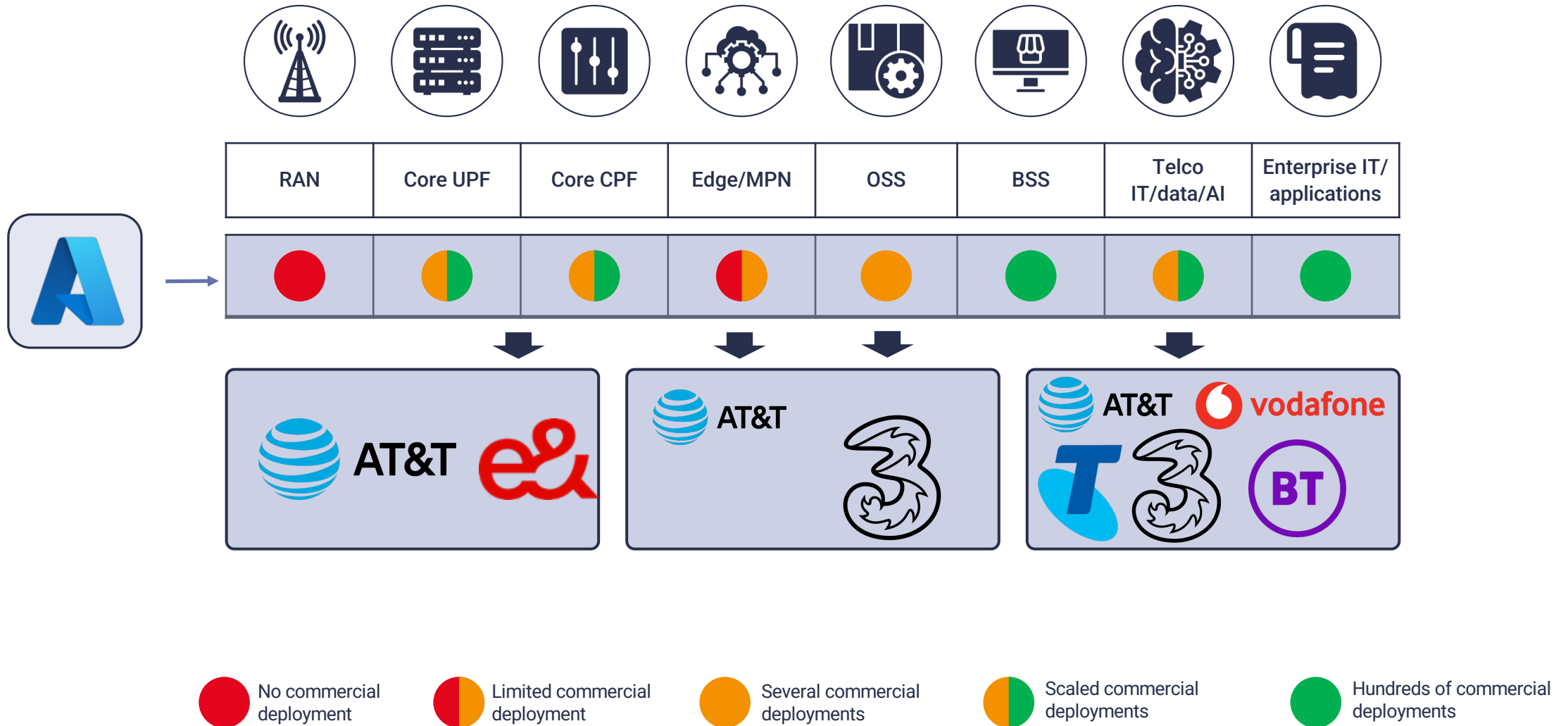
Google Cloud: First for telco data and AI



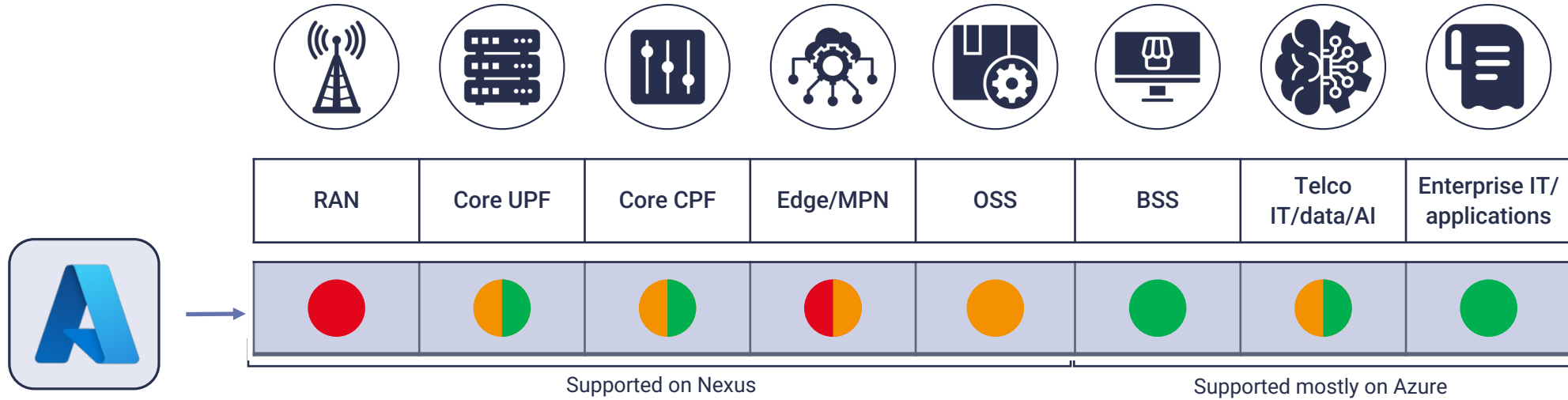
Strengths	<ul style="list-style-type: none"> Expertise at economically managing own extensive network Proponent of non-proprietary solutions (Kubernetes, Nephio, etc) Very strong on AI / data with flagship agreements with Tier-1 operators 	<ul style="list-style-type: none"> No dedicated telco vertical business unit Limited track record on network workload One edge deployment Could strong positioning on IT-side hamper success for non-IT workloads? Smallest cloud players of all 3 	Weaknesses
------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------

KEY: No commercial deployment Limited commercial deployment Several commercial deployments Scaled commercial deployments Hundreds of commercial deployments

Microsoft Azure had a strong telco DNA with the Azure for Operators unit and its Azure Operator Nexus platform



Azure's telco specialisation might wane with the toning down of AfO, but the refocus on AI will help



Strengths	<ul style="list-style-type: none"> • Very deep telco expertise in the AfO team (engineering team still within Microsoft) • High-profile and well publicised core workload deployments (AT&T and e&) • Agreement e& gives good kudos outside US • Strong refocus on AI and data offers good opportunities for Azure in telco vertical 	<ul style="list-style-type: none"> • Significant change of direction may create confusion • Will Microsoft lose some of its telco DNA by bringing its Nexus platform into the 'mothership' 	Weaknesses
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- No commercial deployment
- Limited commercial deployment
- Several commercial deployments
- Scaled commercial deployments
- Hundreds of commercial deployments

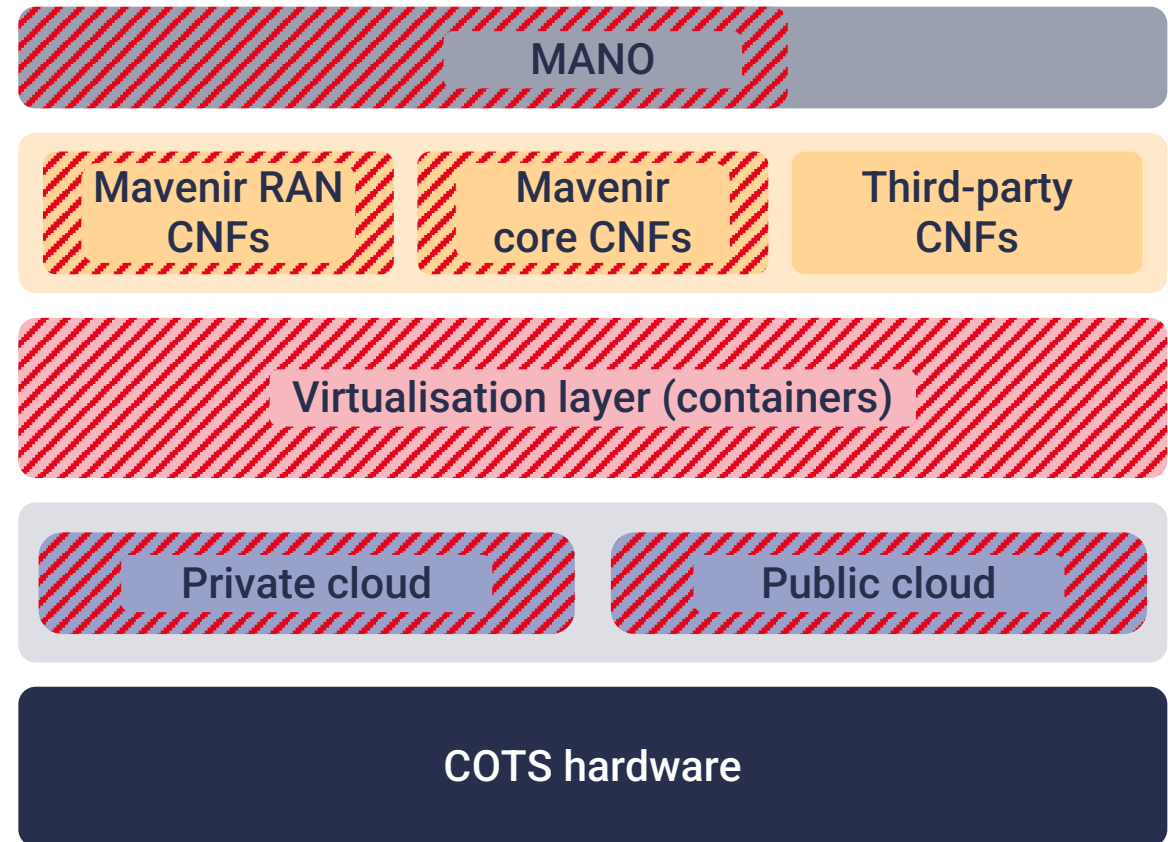
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Mavenir: Own CNFs across any cloud

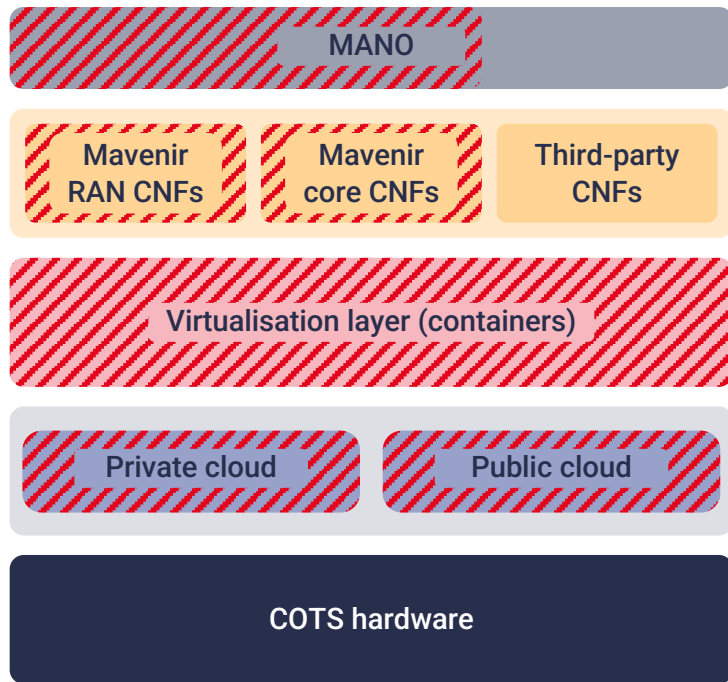
MAVENIR CLOUD STACK COMPONENTS






- 1** Mavenir claims its CNFs run on 'any cloud' and any Kubernetes distribution
- 2** Focus is on own CNFs, not multi-vendor
- 3** Closest HCP collaboration is with AWS



KEY:  Features of the stack targeted by Mavenir's collaborations with hyperscalers

Mavenir: Mixed picture with the HCPs



	 RAN	 Core
 aws	✓ ✓	✓
	✓	✓
	✗	✗

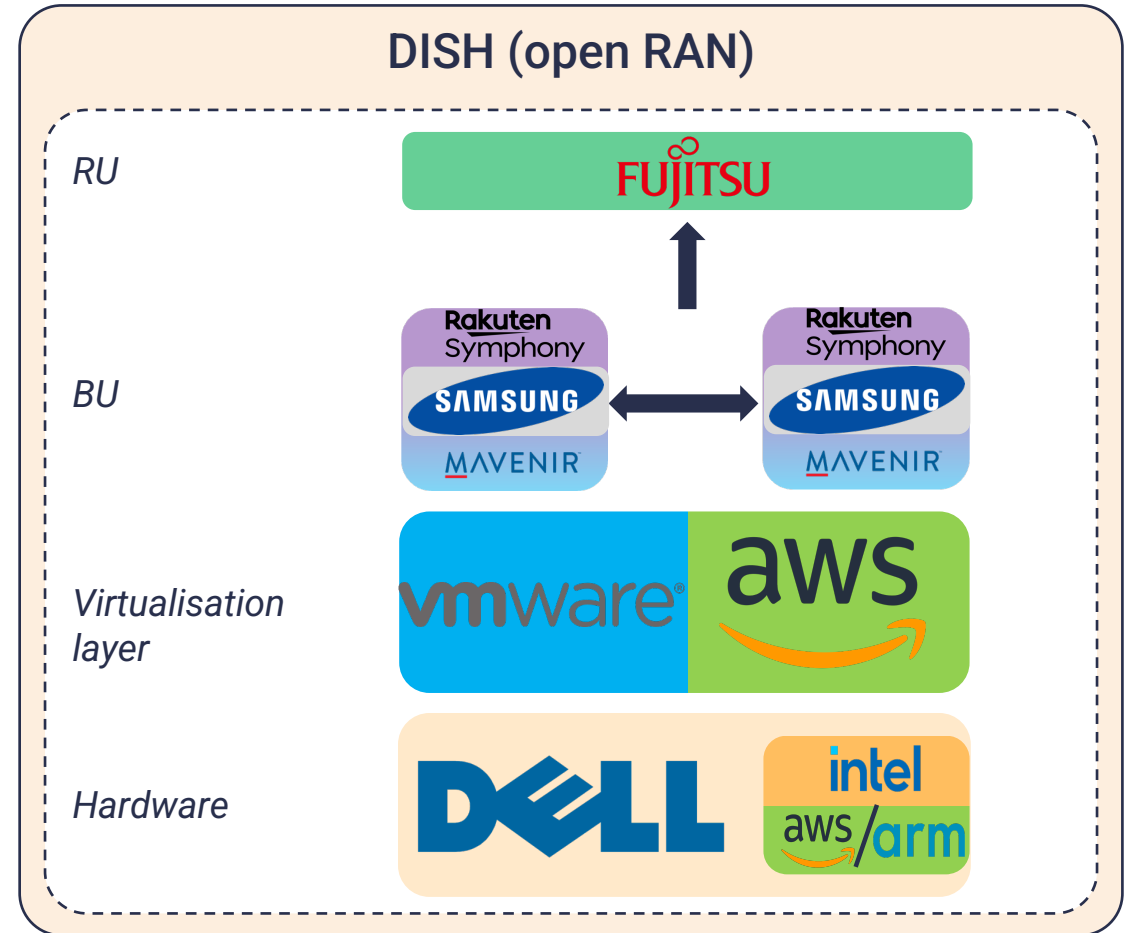
KEY:

- ✓ ✓ Commercial, deployed at least once at scale
- ✓ Commercially available, not yet deployed
- ✗ Not available

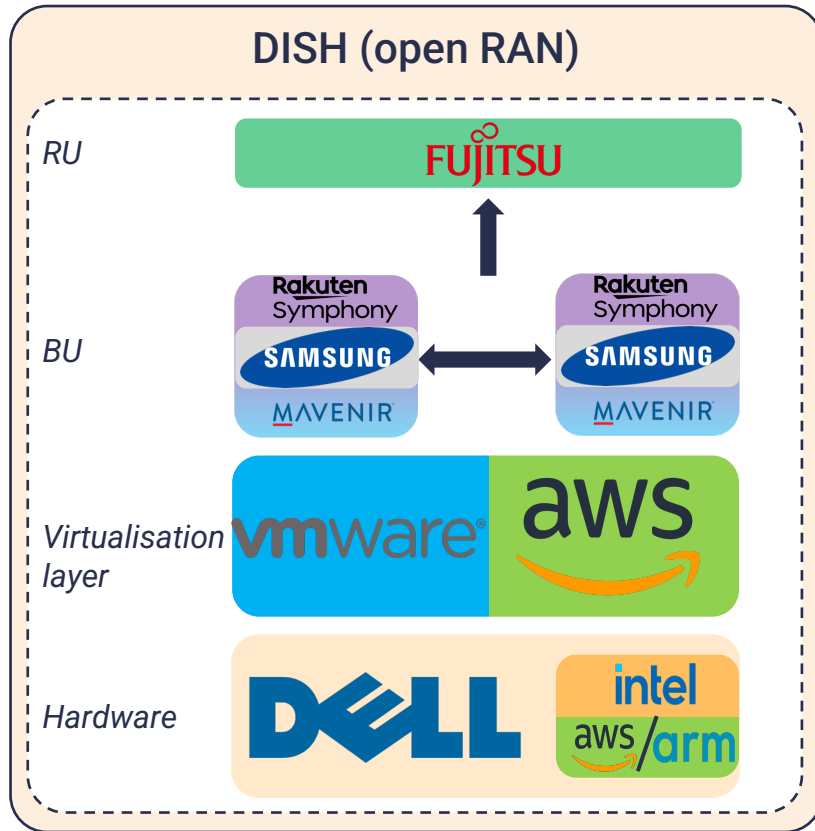
Samsung: vRAN across any cloud


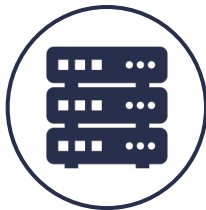



SAMSUNG CLOUD STACK COMPONENTS

- 1** Ecosystem approach to ensure vRAN/open RAN deployment over any cloud
- 2** Scaled deployment on AWS (DISH)
- 3** RAN CNFs deployed in both open RAN (DISH) and vRAN mode (Verizon)



Samsung: Only scaled deployment with AWS



		
	RAN	Core
	✓ ✓	✗
	✗	✗
	✗	✗

KEY:



Commercial, deployed at least once at scale



Commercially available, not yet deployed

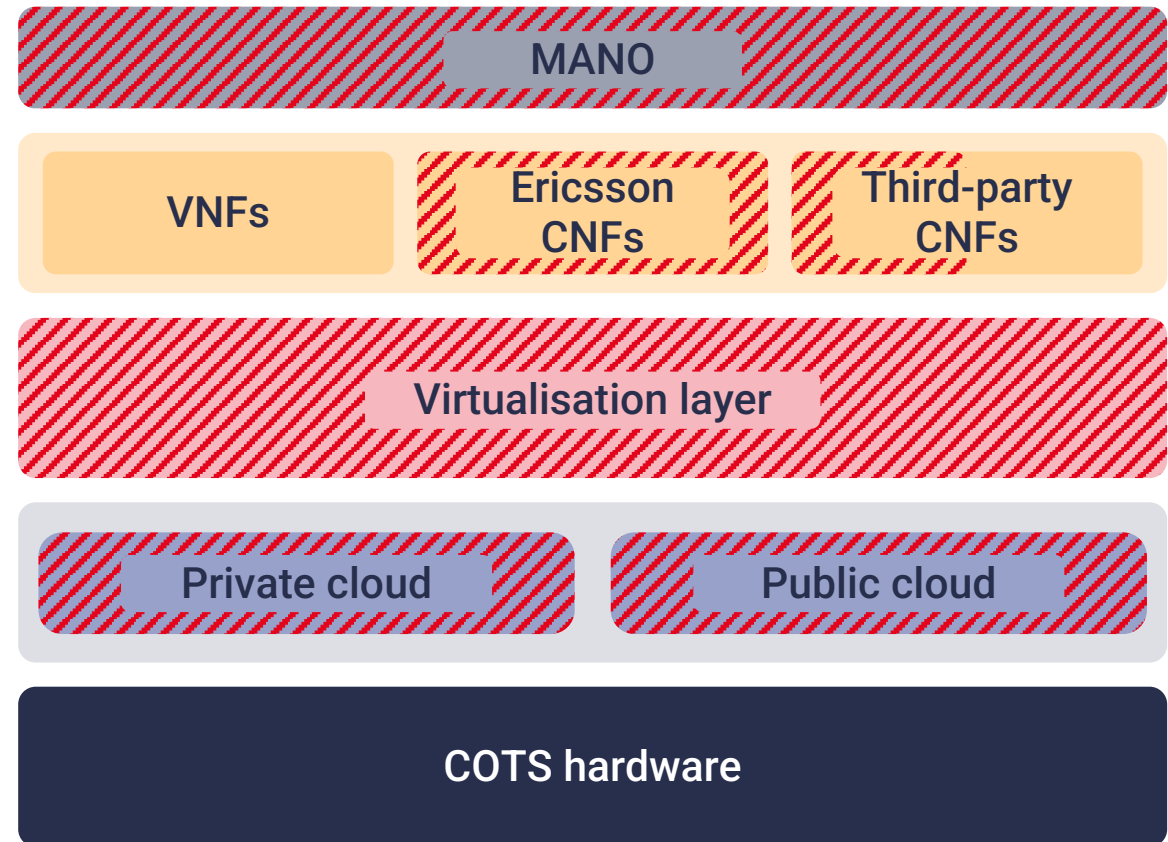


Not available

Ericsson: Multi-vendor, hybrid cloud

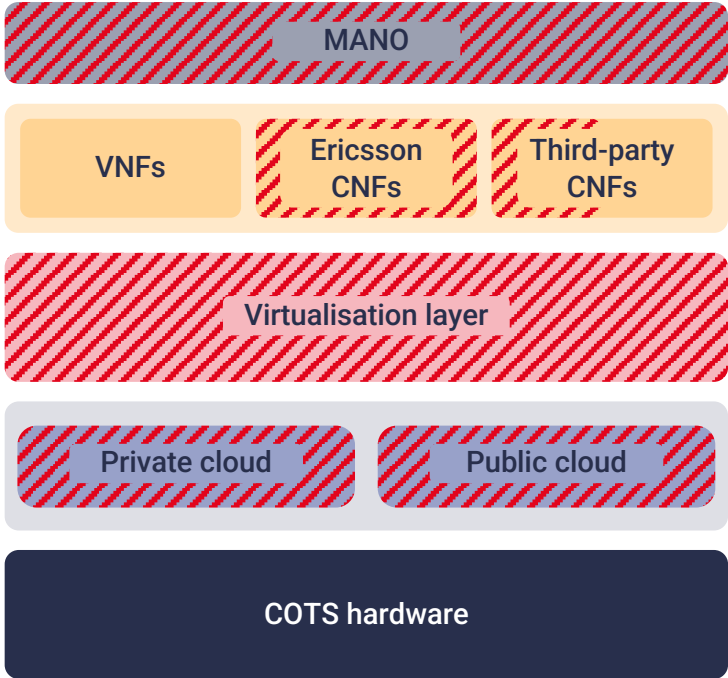
ERICSSON CLOUD STACK COMPONENTS


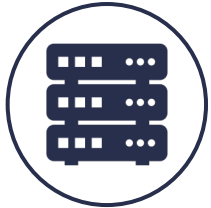



- 1** Multi-vendor orchestration for hybrid-cloud core operation
- 2** Focus mainly on own CNFs, but also third-party (intent-based orchestration)
- 3** Collaborations with all three HCPs to facilitate hybrid/multi-cloud



KEY:  Features of the stack targeted by Ericsson's collaborations with hyperscalers

Ericsson: No scaled deployments



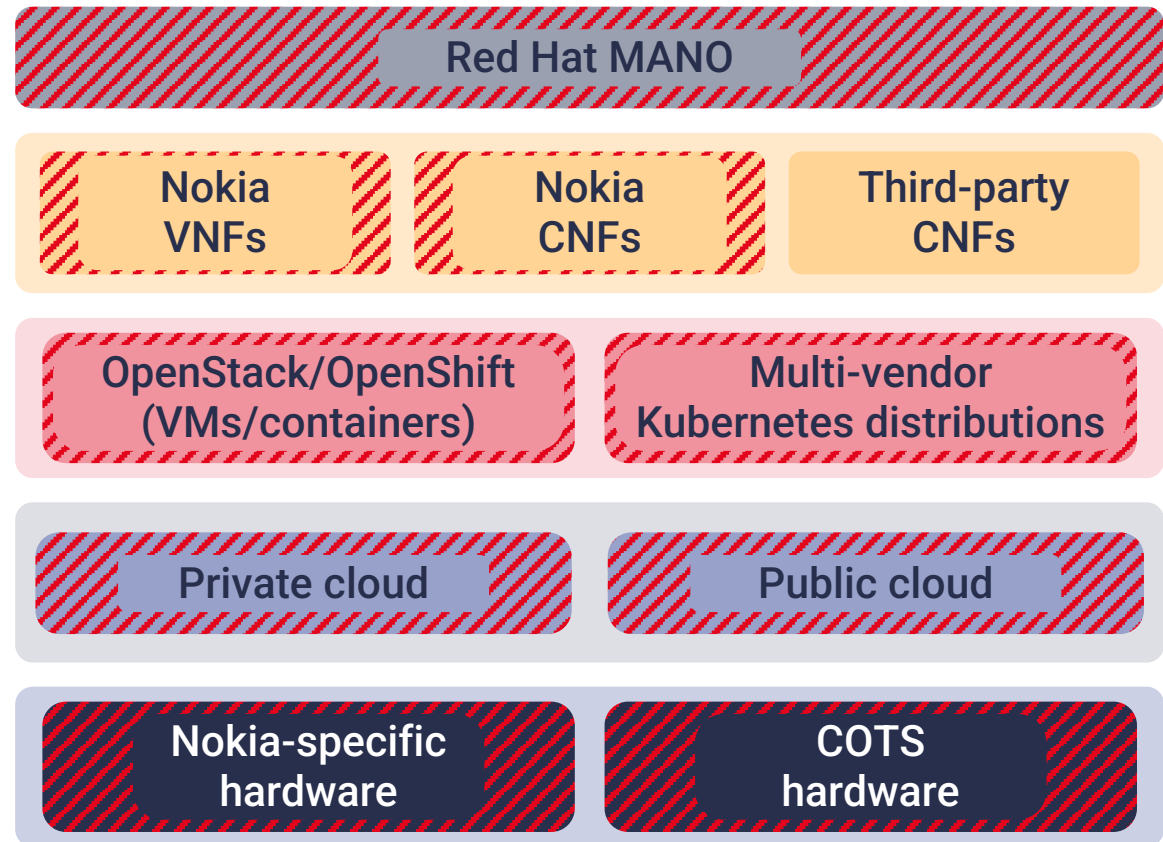
	 RAN	 Core
	✗	✓
	✓	✓
	✗	✓


KEY:
 ✓ Commercial, deployed at least once at scale
 ✓ Commercially available, not yet deployed
 ✗ Not available

Nokia: Own CNFs across any cloud

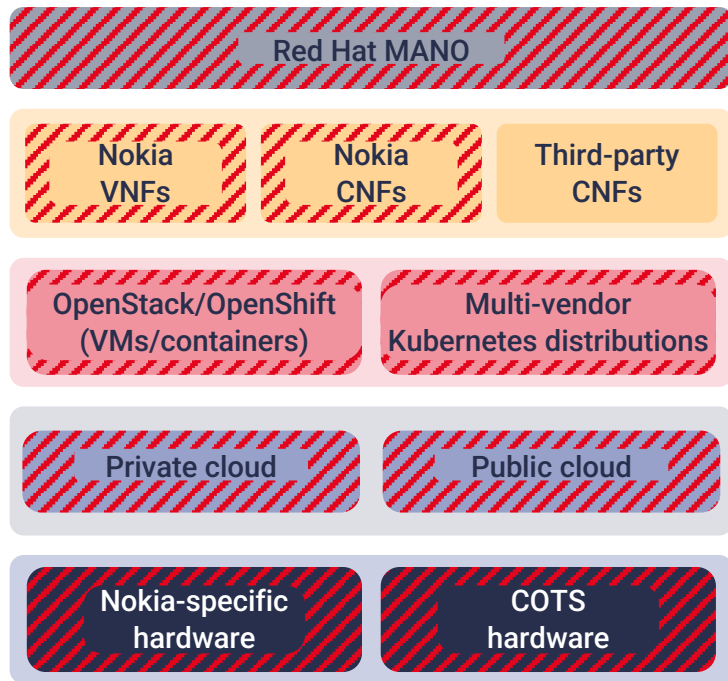
NOKIA CLOUD STACK COMPONENTS






- 1** Replaced proprietary platform with Red Hat OpenShift as CaaS layer
- 2** Part of a focus on own CNFs only over any cloud
- 3** Hybrid approach extends to hardware options



KEY:  Features of the stack targeted by Nokia's collaborations with hyperscalers

Nokia: Most extensive collaboration with AWS



	 RAN	 Core
	✓	✓ ✓
	✓	✓
	✓	✗

KEY:

- ✓ ✓ Commercial, deployed at least once at scale
- ✓ Commercially available, not yet deployed
- ✗ Not available

The problem isn't just with the hyperscalers, it's the NFs themselves

KEY TAKEAWAYS



Vendors claim CNFs ready to be deployed at scale on public cloud – though not yet on any cloud



There are many reasons why this hasn't happened – not purely technical



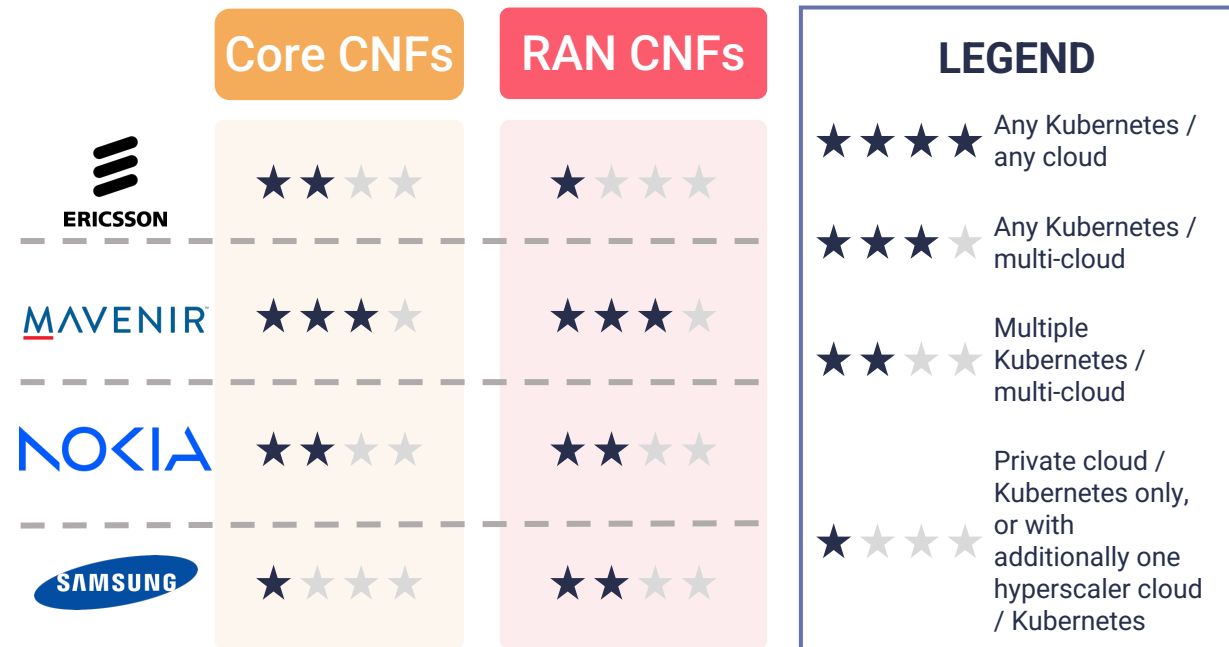
SA core and open RAN would be the anchor tenants for scaled deployments



But use cases and ROI for 5G SA still not clear; and maturity and cost-efficiency of open RAN still not proven: vRAN on private cloud prevails



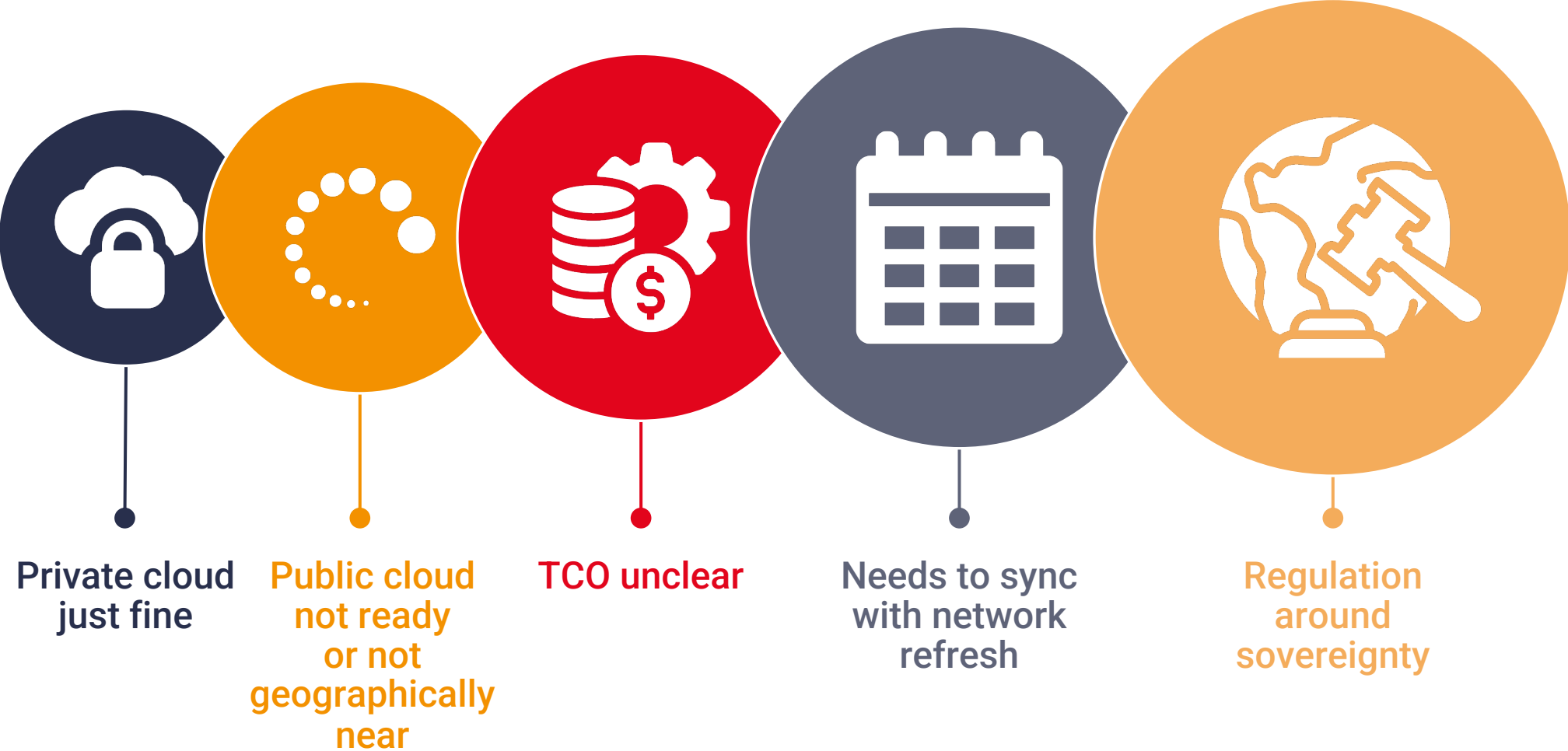
There are other non-technical barriers to running telco workloads – network and other – on public cloud.



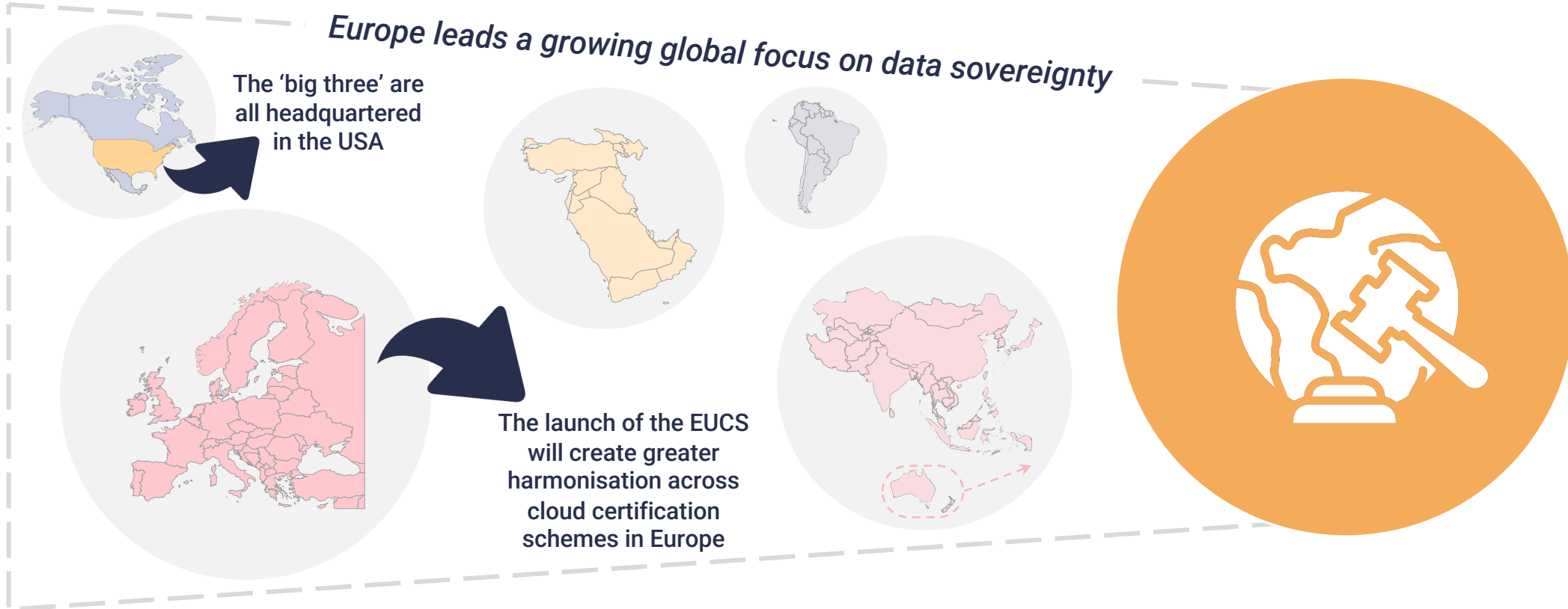
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Our research has identified five main barriers to the use of public cloud by telcos – one might trump them all



Sovereignty constitutes a significant barrier to public cloud migration



Fragmentation across sovereignty regimes presents a significant barrier to scaled public cloud migration

The 'big three' have employed a range of strategies to achieve compliance with sovereignty regulation



The development of 'sovereign' variants of their respective clouds



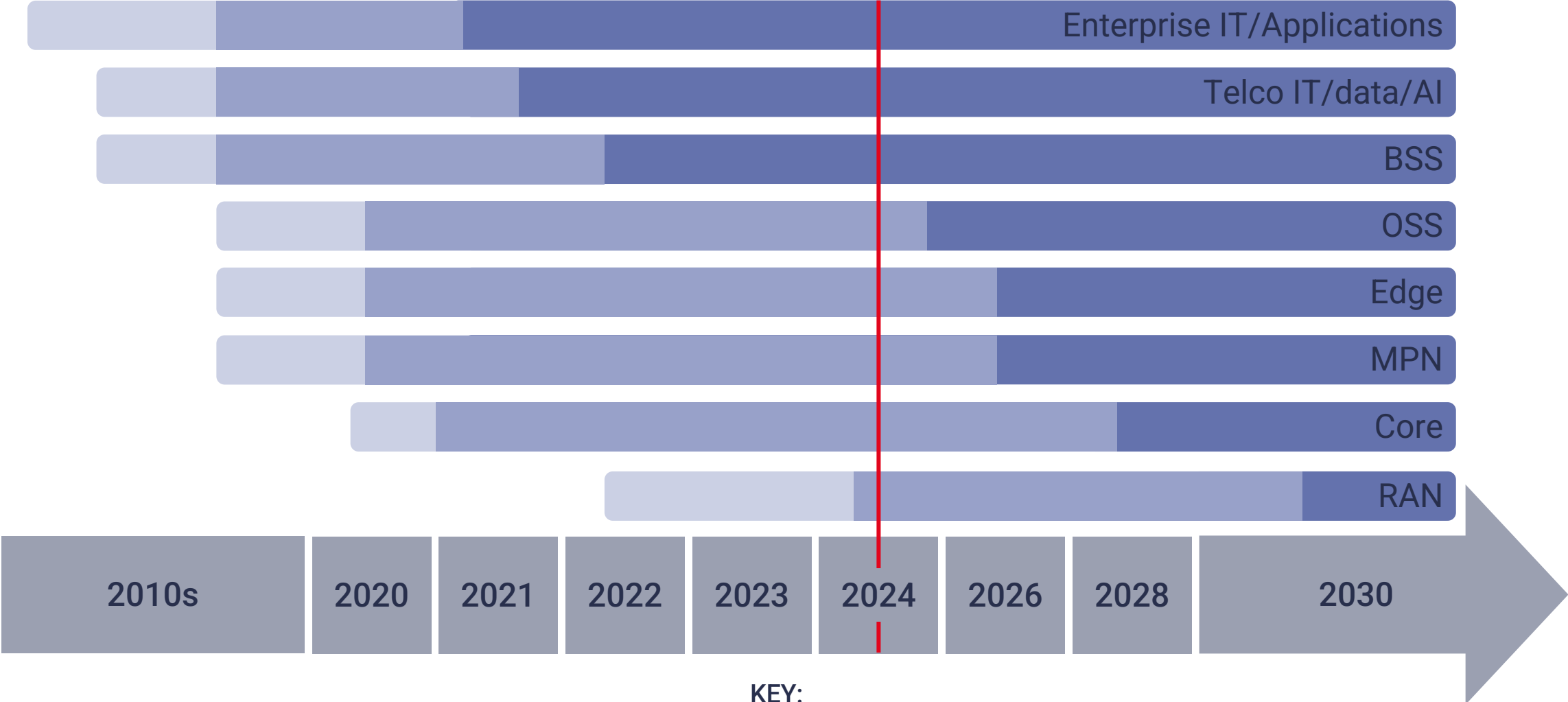
Establishing joint-venture companies



On-premises edge propositions



No scaled network workload migration until 2028-30



Source: [Hyperscalers in the telco vertical: Strategies and successes](#)

Conclusions

Many telco workloads have moved to public cloud but not the most critical ones

Many telcos like to work with each of the three hyperscalers on different workloads

Despite limited number of commercial deployments, significant collaboration behind the scene between vendor and hyperscalers on offering cloud-native RAN and core solutions

The most significant barrier to network workload migration at the moment is regulatory

Agenda

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Q&A

**Please submit your question through
GoToWebinar!**



Thank you for joining!

All registrants will be receiving the link to the recording and slides shortly to watch back or to share with colleagues, plus a Q&A write-up in due course.

For any other questions, please contact:

- David Martin, david.martin@stlpartners.com
- Emma Buckland, emma.buckland@stlpartners.com
- George Glanville, george.glanville@stlpartners.com



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www.stlpartners.com/network-innovation

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New tech

Research

HYPERSCALERS IN THE TELCO VERTICAL: STRATEGIES AND SUCCESSES

This report analyses the positioning of each of the three hyperscalers – AWS, Google Cloud and Microsoft Azure – in

[Read more](#) →

Research

TELCO CLOUD DEPLOYMENT TRACKER Q2 2024: IS AWS WINNING IN HYPERSCALE TELCO CLOUD?

Telco cloud deployment activity slowed down in Q2 2024 with only 20 deployments added to the tracker, eight of which

[Read more](#) →

Articles

MONETISING NEXT-GEN NETWORKS: KEY THEMES FROM TELECOMS EUROPE SUMMIT

A central theme of Telecoms Europe Summit 2024 was addressing the necessity to monetise next-gen networks.

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