Building the telco edge: With or without hyperscalers?

STL Partners

1 September 2021

In partnership with:

Red Hat

STL PARTNERS

Agenda

1	**Introduction & housekeeping**	5 mins
2	**Presentation**	20 mins
3	**Panel discussion and Q&A**	30 mins
4	**Closing remarks and wrap-up**	5 mins

PARTNERS

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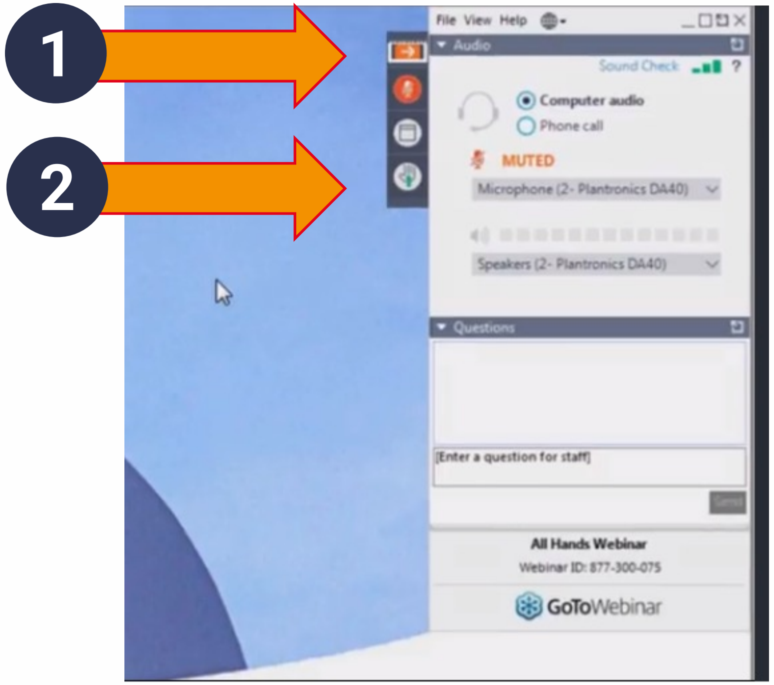


Webinar agenda

20 mins

Building the telco edge: with or without hyperscalers?



30 mins

Panel discussion and Q&A

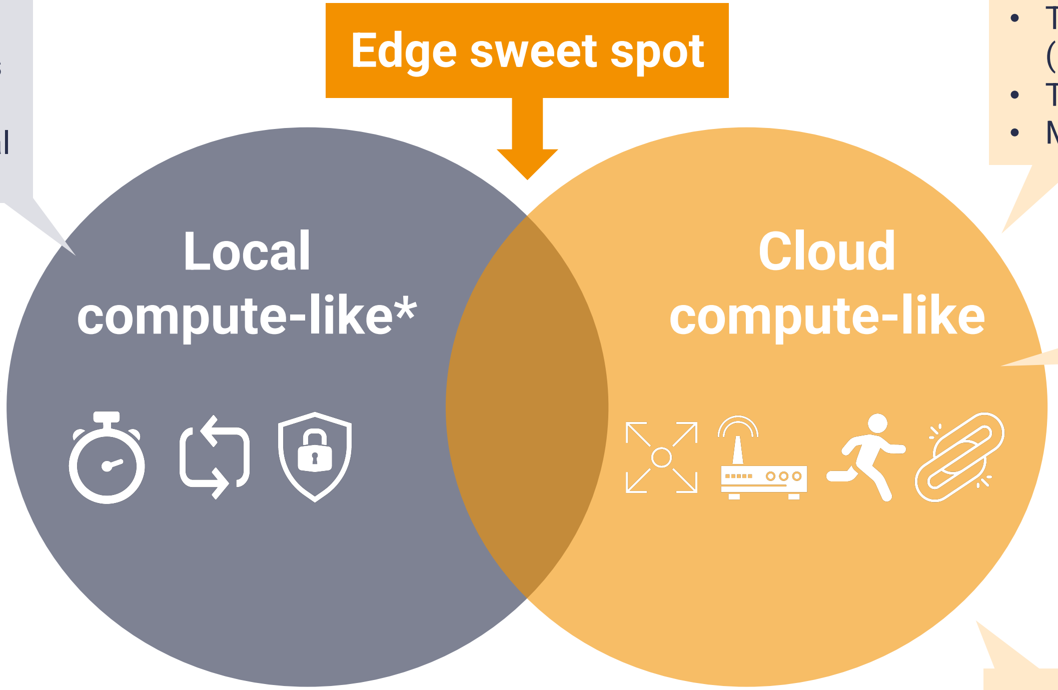


The drivers for enterprises/developers to adopt edge computing combine cloud and local compute capabilities

Low latency and reliability
- Human experiential
- M2M critical applications
- Network reliability
- Noticeable computational slowdown

Reduced backhaul
- Processing at edge
- Trickle-back
- Caching

Data localisation
- Data sovereignty
- Security and privacy



Flexibility
- Temporary peak usage (location)
- Temporary peak usage (time)
- Moveable workload up/down

Light device
- Lightweight device
- Improved battery life/ overheating
- Legacy devices
- Generic server
- (hardware TCO)

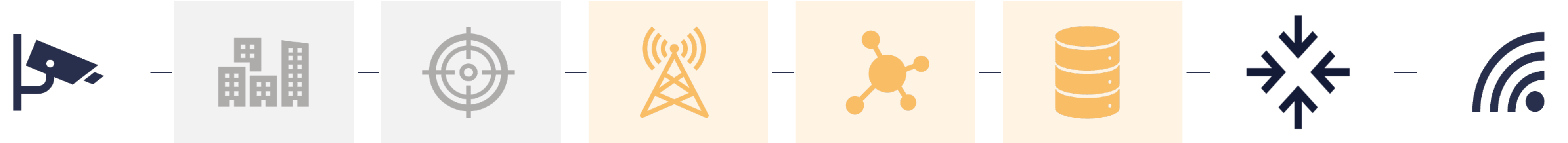
Mobility
- Travelling device
- Spin-up anywhere (access)

Resilience
- Hardware resilience

*Local computing here refers to processing that occurs either on the end-device or on-premises using traditional, proprietary (and often monolithic) infrastructure

Telco edge computing is divided along these dimensions, depending on type of application and where the edge is

End device | Enterprises | Access point | Access network | Transport | Core network | Internet exchange | Internet



	On-premises edge	Network edge
Network functions	• Private LTE/5G network • SD WAN/ universal CPE services • Wi-Fi gateways	• Distributed core • RAN network functions • Virtual CMTS
Third-party enterprise applications	• Video analytics • Industrial applications • Healthcare applications • AI/ML	• Video analytics • Cloud gaming • CDN • Fleet management • AI/ML

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This session will showcase insights from STL and Red Hat's ongoing research on edge computing…

STL Partners surveyed **150 telecoms operators** globally between Dec 2020 - March 2021

Respondents by region

Respondents by business unit

54 Strategy	**32** Enterprise	**56** Network & IT	**8** Consumer & Wholesale

Example CSPs

HGC Global Communications, PCCW, Telkomsel, Singtel, Spark nz, Optus, Globe, TM, Vi, stc, airtel, digi, dtac, TATA, StarHub, etisalat

...to understand how operators are investing in and building their edge infrastructure

Executive summary

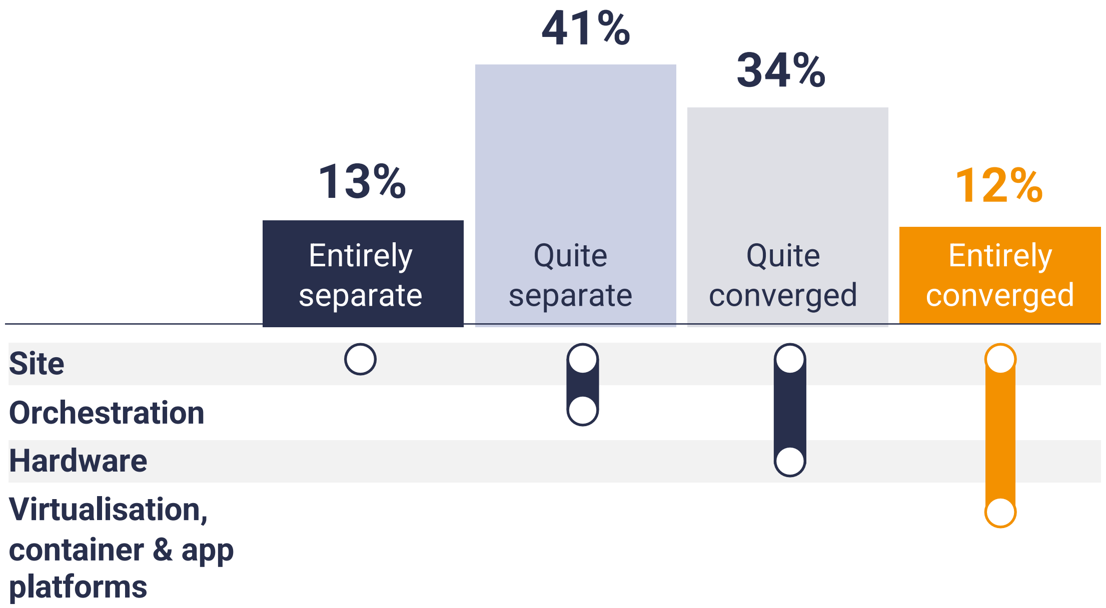
What is the edge opportunity for operators and enterprises?	Operators in Asia are converging edge infrastructure across network functions and third-party applications
How are operators building edge computing to support third-party applications and network functions?	Edge investments in third-party applications will accelerate over the next 5 years
How are operators working with partners to build their edge and take services to market?	Operators are beginning to use hyperscaler infrastructure to monetise edge for third-party enterprise applications
What enterprise use cases should operators in Asia focus on?	Multi-cloud will dominate the telco edge, and operators should invest in developing ecosystems and hybrid cloud capabilities

Overall, CSPs will not fully consolidate edge infrastructure for network functions and third-party applications

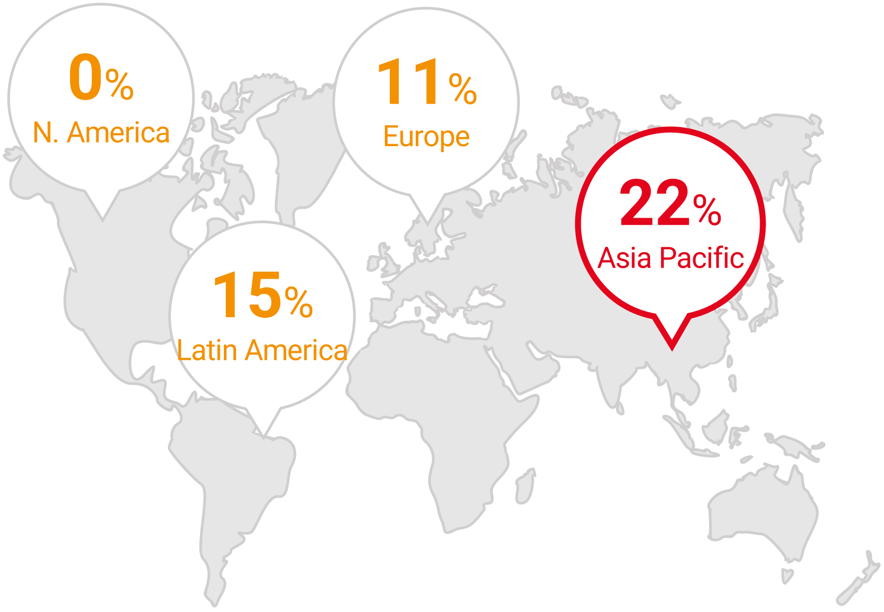
12% of CSPs believe that they will fully converge their edge infrastructure

22% of CSPs in Asia support shared edge orchestration, higher than other regions

Level of convergence which of the following are shared between network functions and 3rd-party apps:



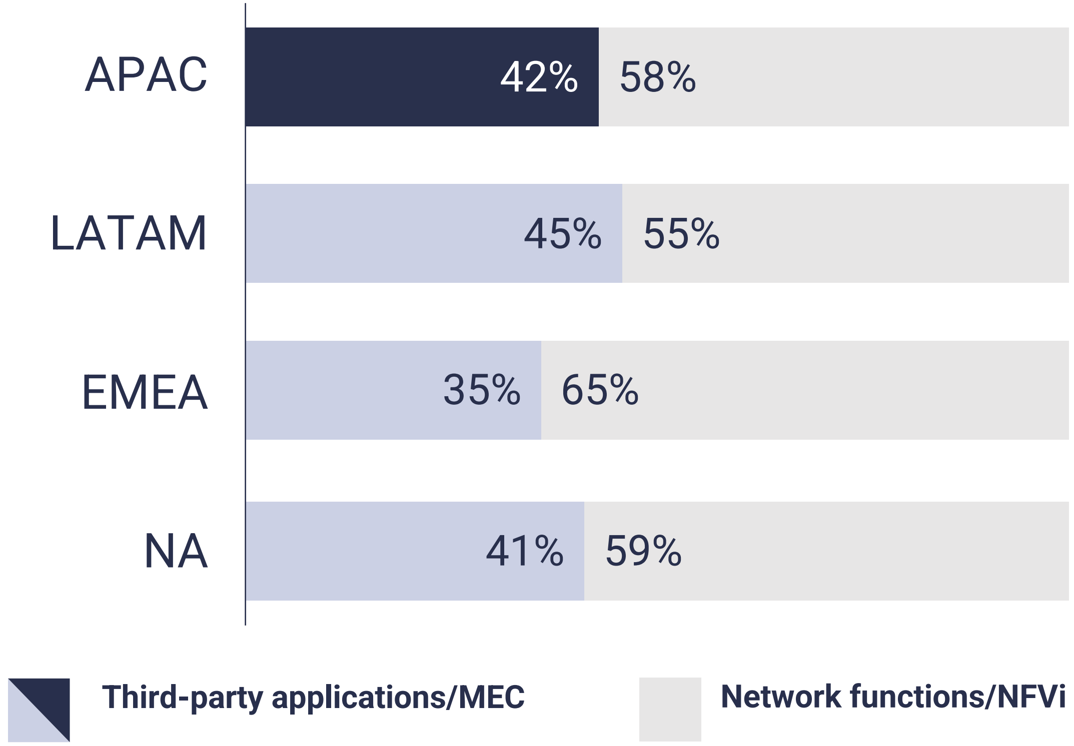
Support for "entirely converged" edge (as defined on the left) varies from region to region :



While edge investments are mostly focused on network functions today, relative to third-party applications…

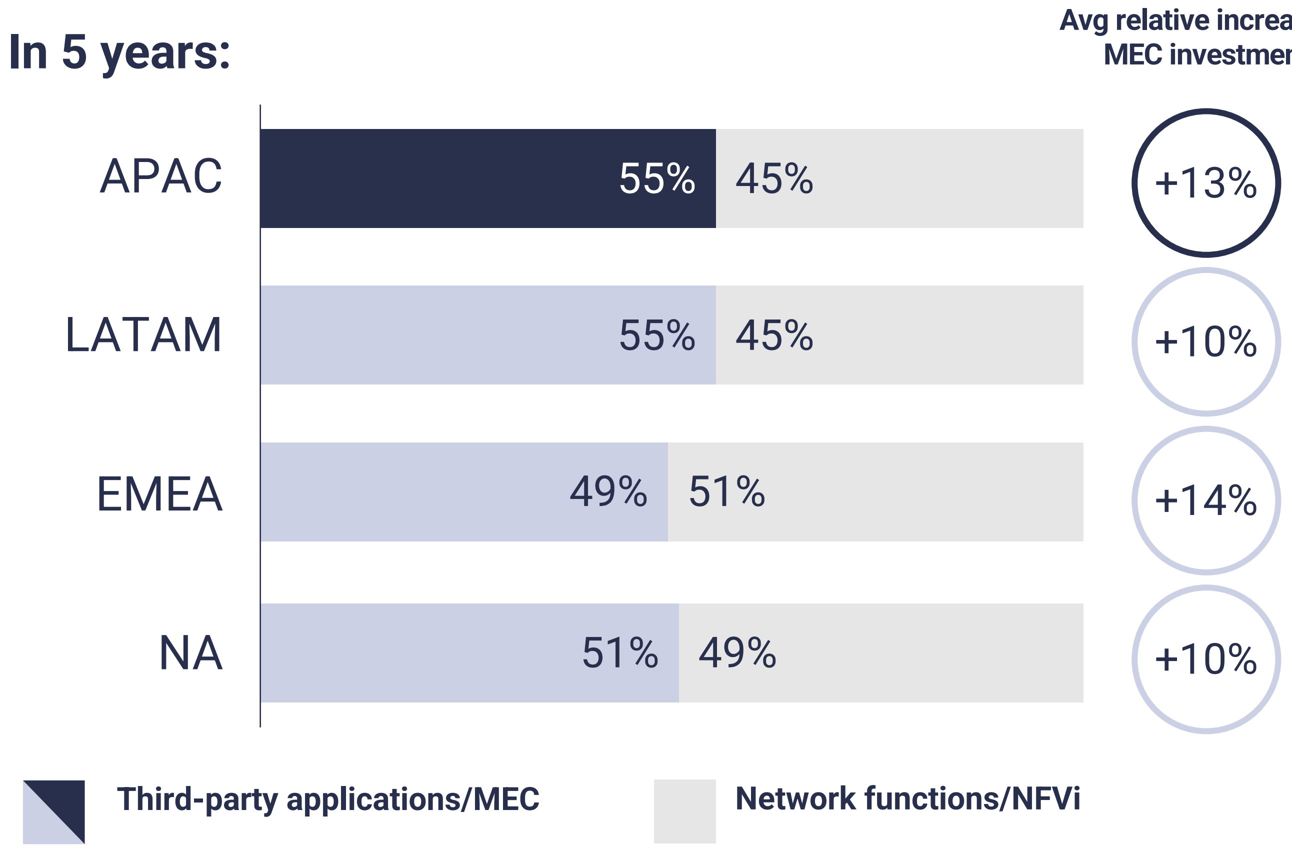
42% of edge investments in Asia will be allocated to third-party applications in the near term

In 1-2 years:



…Investment in third-party applications will continue to accelerate in the next 5 years

55% **of edge investments in Asia will be allocated to third-party applications in 5 years**

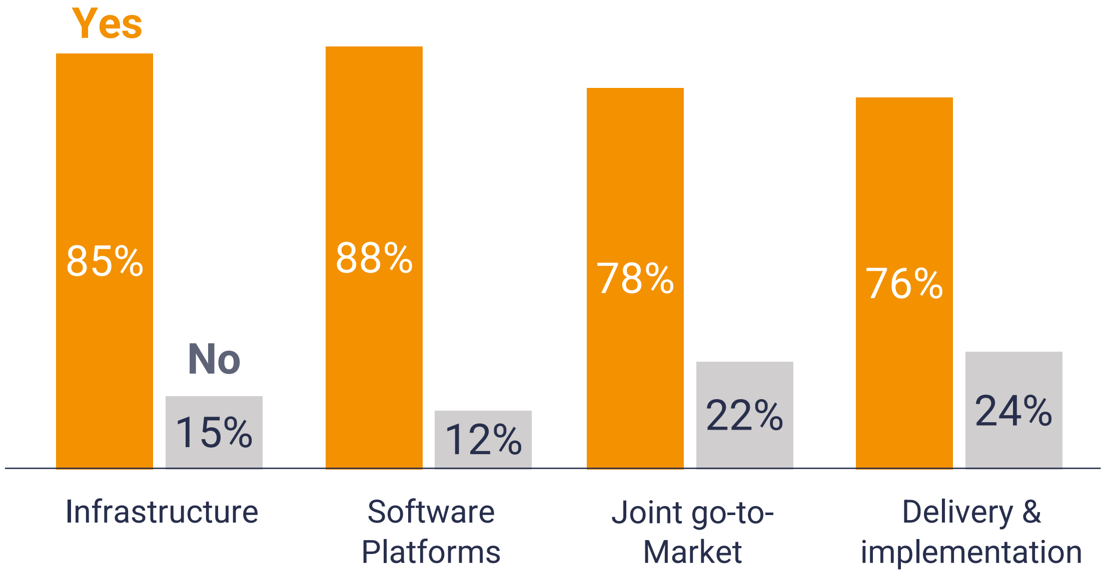


CSPs are beginning to engage with hyperscalers in order to monetise edge for third party applications

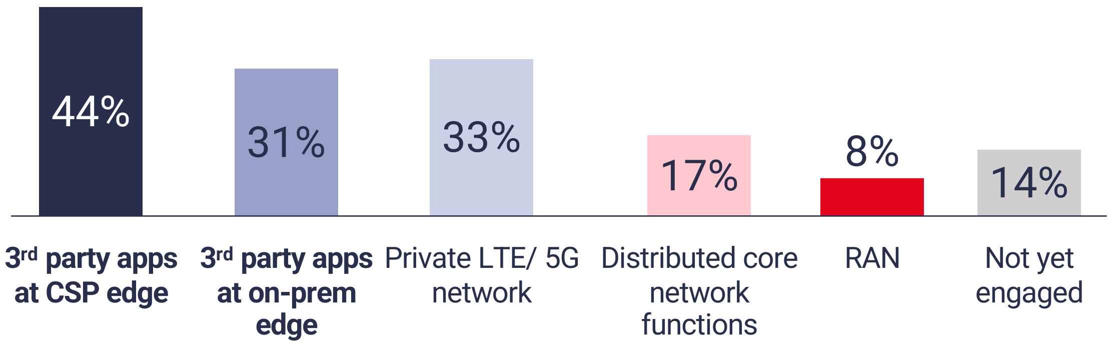
CSPs are already beginning to engage or partner with hyperscalers across the edge value chain

44% **of CSPs say that they are already engaging hyperscalers to build 3rd party apps at CSP edge**

% of CSPs considering or already engaging with hyperscalers today at each stage:



% of CSPs considering or already engaging with hyperscalers today at each edge domain:



Poll: In which industry sector(s) are you seeing the most interest in 5G and edge use cases?

1. Energy & extractives, such as oil and gas, mining
2. Healthcare, for example in hospitals for patient care
3. Manufacturing, incl. process, discrete or automotive manufacturing
4. Transport & logistics incl. warehouses, sea ports and airports
5. Other

Overall, adoption for edge computing is at an early stage in developing Asia markets

Stage of edge use case adoption in developing Asia markets

In learning mode

Beginning to understand how edge computing could bring value

- *Drones*
- *Site surveillance (e.g. CCTV)*
- *Video monitoring for cargo*
- *Robots*

Exploration

Initial exploration and R&D on the edge computing opportunity

- *Automated/autonomous vehicles*
- *AR/VR with remote worker*
- *Predictive maintenance*
- *Inventory management*
- *Drones, UAVs*

Proof of Concept

Proof-of-concept or pilot deployments of edge computing

- *Digital twins*
- *Live streaming*

Initial deployments

Adoption of edge computing on **selected sites**

- *Video analytics for security*
- *Remote equipment monitoring/condition-based monitoring*
- *Remote equipment monitoring*

Edge is mainly on-prem edge

Mass roll-out

Adoption of edge computing **on a wide scale**

Key

Digital Natives | Logistics | Manufacturing | Mining | Oil & Gas | Smart Cities

The main factors influencing 5G and edge adoption are coverage, employee skills/education, and regulation

5G & connectivity rollout

- Lack of consistent coverage (esp. in remote areas where much industry resides) impedes edge adoption

Skill shortages

- Edge/5G use cases require knowledge of cloud and using cloud-based technology
- Educated/skilled workers join start-ups vs industry

Covid-19

- Remote operations accelerate tech adoption
- “Nice to have” use case deployments delayed

Competition and market pressure

- Some markets are less competitive than others, even within the same region; this culture can sometimes slow down change
- Even for global companies, there is a general lack of education on what edge computing is, focus is on 5G only

Regulation and uncertainty

- Regulatory restrictions to keep data on-prem encourages edge adoption
- While uncertainty impedes investments

CSPs are partnering with hyperscalers to benefit from their strong cloud platforms and to accelerate go-to-market for edge applications

56% of CSPs consider 'strength of cloud platforms' as a key driver for partnerships

54% of CSPs consider AWS as the preferred partner for edge computing overall

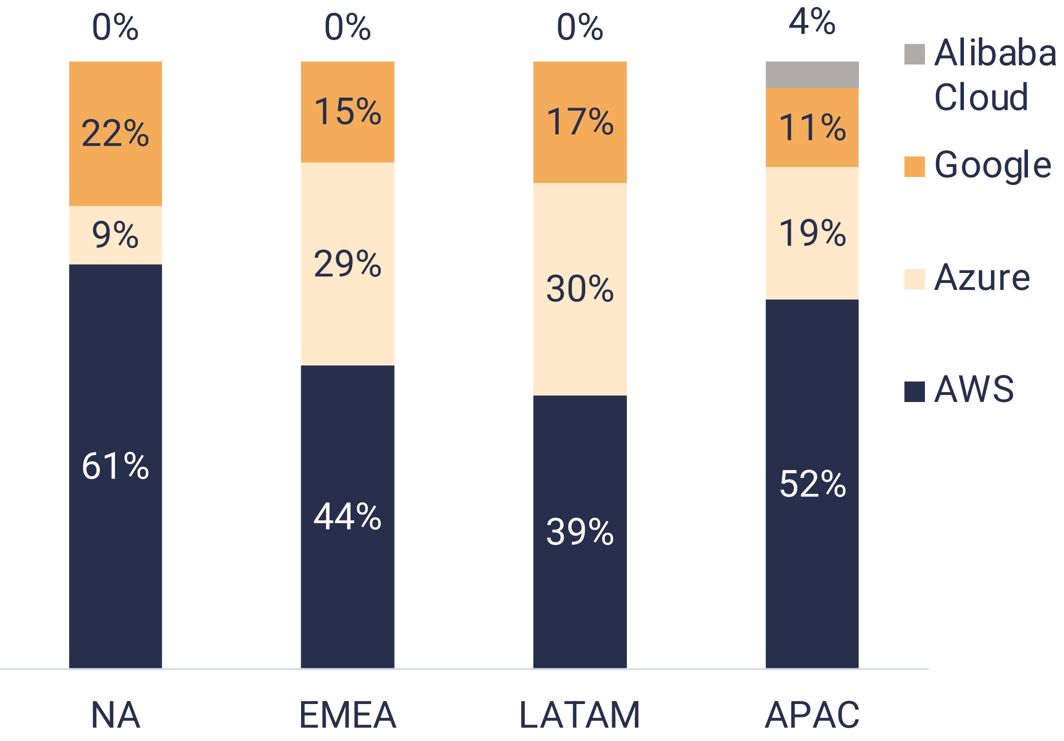
Top 3 perceived benefits of partnering with hyperscalers:

Strength of cloud platforms (e.g. adjacent capabilities and tools) **56%**

Access to partner ecosystem (e.g. developers) and end-applications **52%**

Accelerating go-to-market **50%**

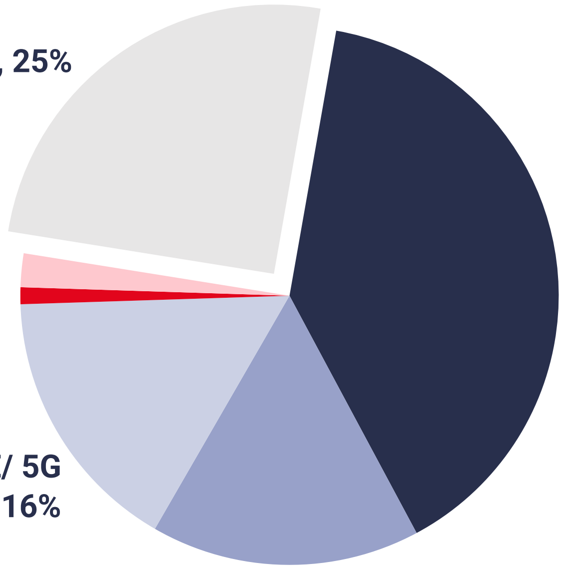
Most preferred cloud provider:



Hyperscaler involvement in provisioning telco networks will also remain low in the next 5 years

RAN and core networks are the least mature domains for hyperscaler-CSP partnerships today

% of CSPs believe hyperscaler partnerships in the following edge domains are the most mature:



Different BUs have varying concerns for using hyperscaler infrastructure and platforms for edge

For commercial teams (e.g. Strategy, Enterprise, Wholesale):

1. **Reducing overall share of revenue** from edge services
2. **Hyperscalers threat** of becoming telecom companies
3. **Limits competitive differentiation** (CSPs partnering with same HCPs)

For technical teams (e.g. Network, IT):

1. **Hyperscalers threat** of becoming telecom companies
2. **Difficulty integrating with existing network components**
3. **Difficulty moving workloads** to other cloud platforms

Telco edge will be multi-cloud and CSPs should invest in developing ecosystem partnerships and hybrid cloud capabilities

CSPs should have a clear edge computing strategy, starting with infrastructure:

- Infrastructure management and orchestration
- Customer service platforms
- Operations and field management

There is no single edge – it is multi-cloud:

- CSPs increasingly consider hyperscaler partnerships as inevitable for monetising edge computing.
- However, CSPs will have to engage with different partners (including vendors and hyperscalers) to meet different customers' needs with a hybrid edge cloud.

CSPs should evaluate ecosystem partnerships against three drivers:

- Developing specialist applications for use cases in specific verticals
- Providing end-to-end enterprise solutions with best-of-breed components
- Helping accelerate GTM, delivery and integration with enterprise customers

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Panel discussion and Q&A

Panellists

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Our upcoming webinar this month

Thursday 16 September
11AM EST | 5PM CEST

Link to register here

Thank you to everyone for joining

We hope you enjoyed the session!

If you have any further questions, please email:

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