

Answering enterprise demands: telcos' role in cloud transformation

STL Partners

18th April 2024

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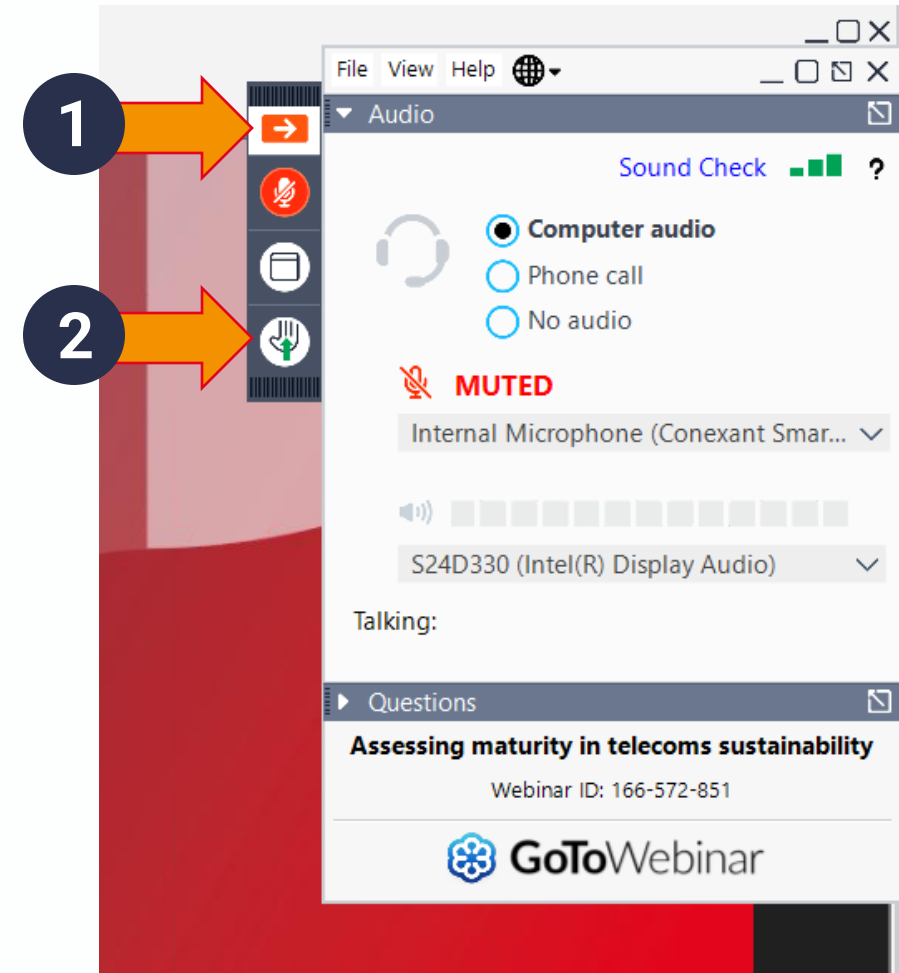


Agenda

- 1 Introduction**
- 2 STL Presentation: Enterprises need cloud partners: how can telcos get there?**
- 3 Red Hat Presentation: Unlocking business value in the digital era**
- 4 Panel discussion and Q&A**
- 5 Wrap up**

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 - Any questions that we don't answer live will be answered offline and shared in a summary Q&A document
- We'll send you the slides and a recording shortly after the session, please do share with colleagues



Our research evaluates where and how operators can capture value as enterprises move toward cloud-centric IT services

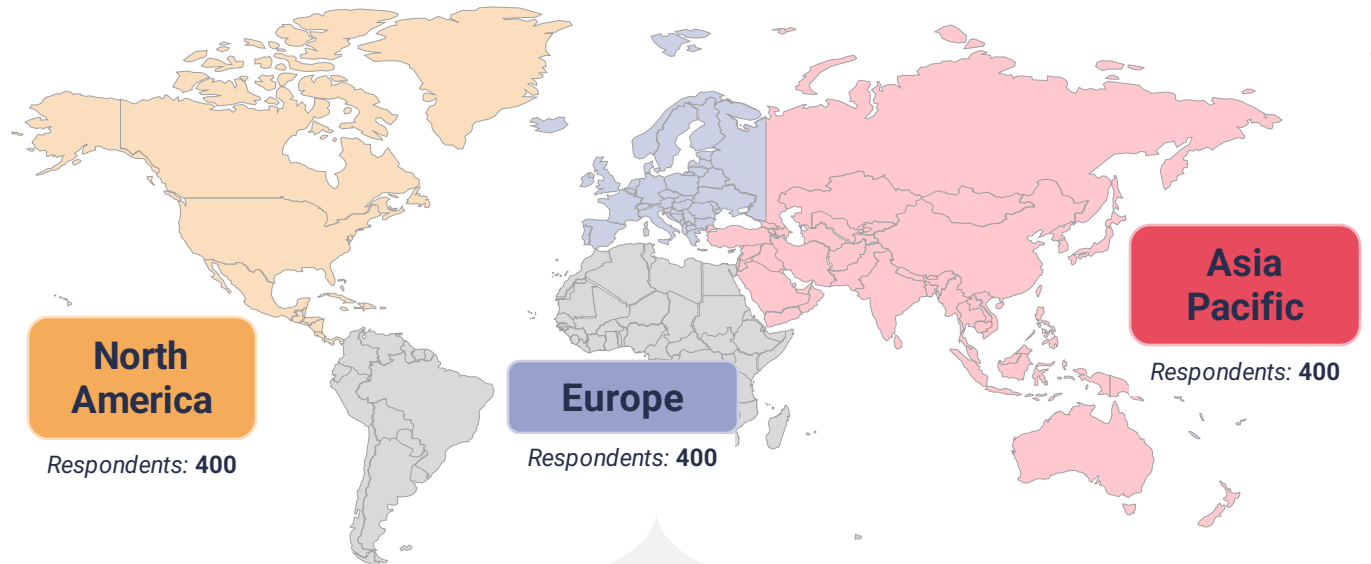


We interviewed seven key stakeholders from Tier-1 and Tier-2 telcos to understand how they are approaching the opportunity

Role	Operator profile
Cloud Technology Strategist	Tier-1 operator, NAM
Evolution Director	Tier-1 operator, EMEA
Senior Manager SME Strategy	Tier-1 operator, EMEA
Senior Manager, Cloud Products & Services	Tier-1 operator, NAM
Senior B2B consultant - Business Development for IT&IS	Tier-1 operator, EMEA
Vice President, Cloud & Workplace	Tier-2 operator, EMEA
Global Head of Commercial, Cloud	Tier-1 operator, EMEA



We conducted a survey with 1,200 enterprise respondents across North America, Europe and Asia Pacific to understand the adoption of cloud ICT services and the role of the CSP.



Across four industry verticals

Banking

Retail

Manufacturing

Healthcare

Our speakers



MIRIAM SABAPATHY

Consultant

STL Partners



DARIUS SINGH

Director, Consulting &
Enterprise Platforms
Lead

STL Partners



SANJAY AIYAGARI

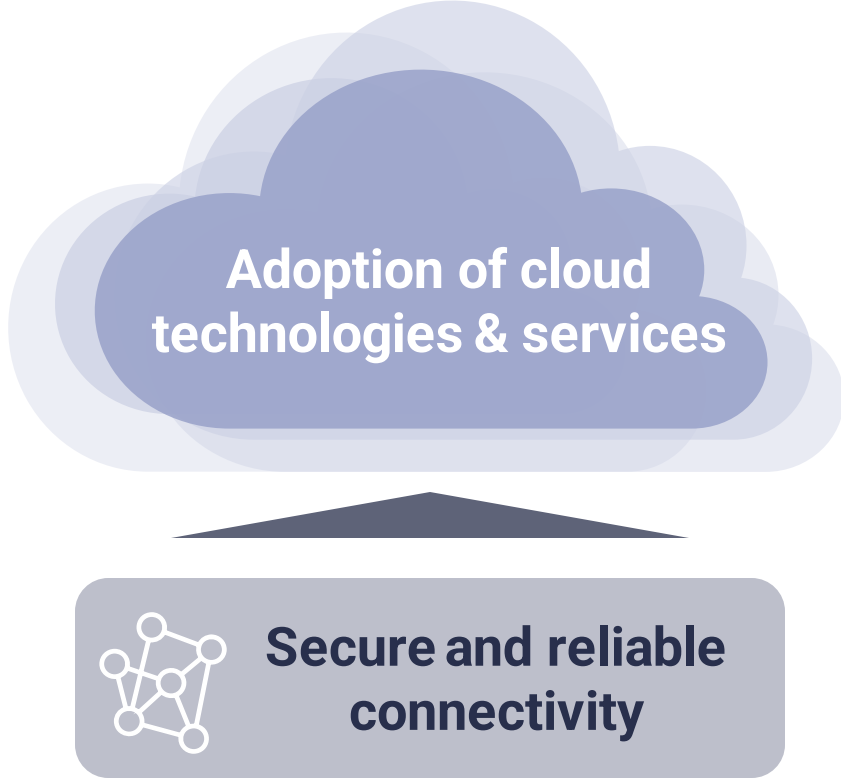
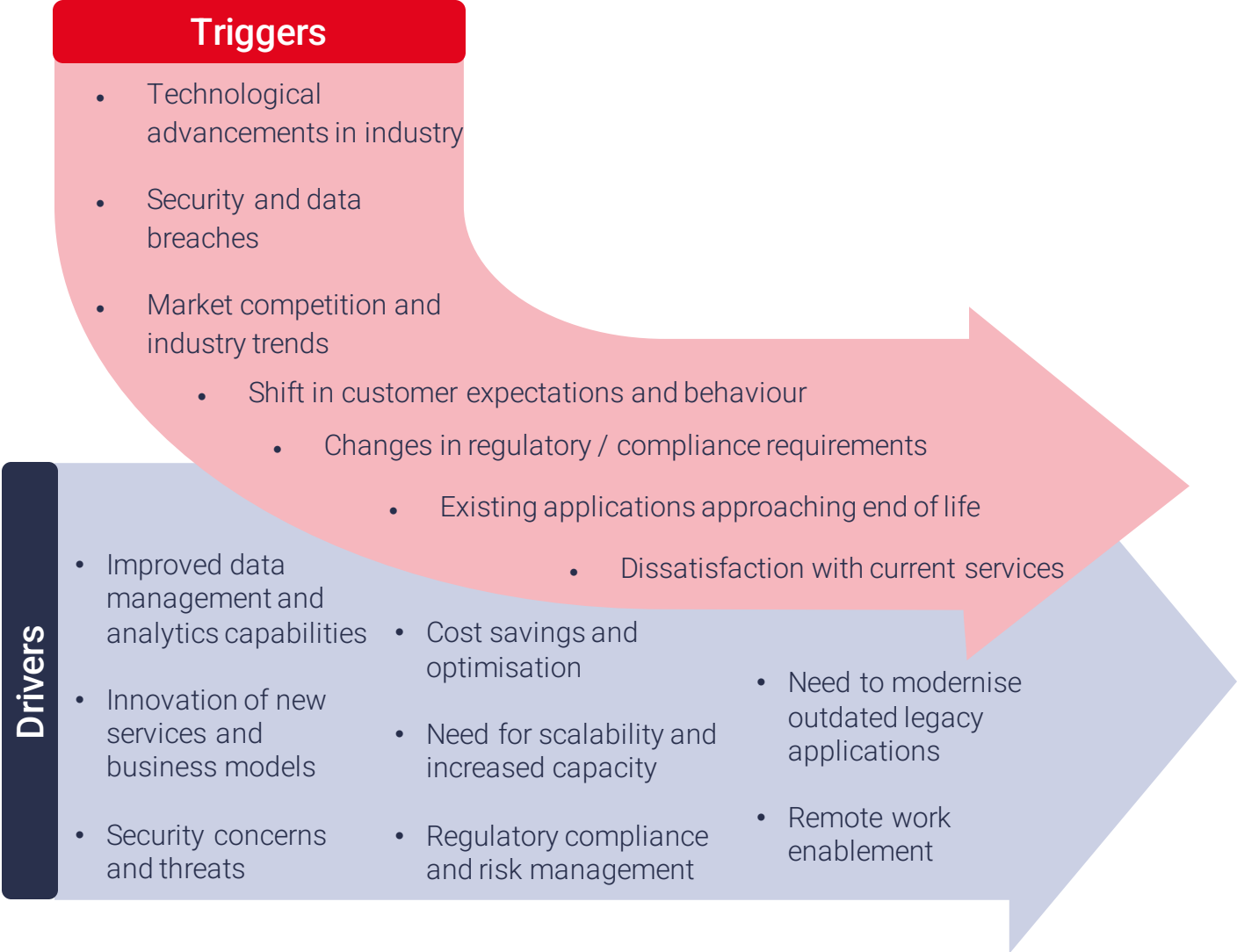
Principal Architect,
Edge Computing

Red Hat

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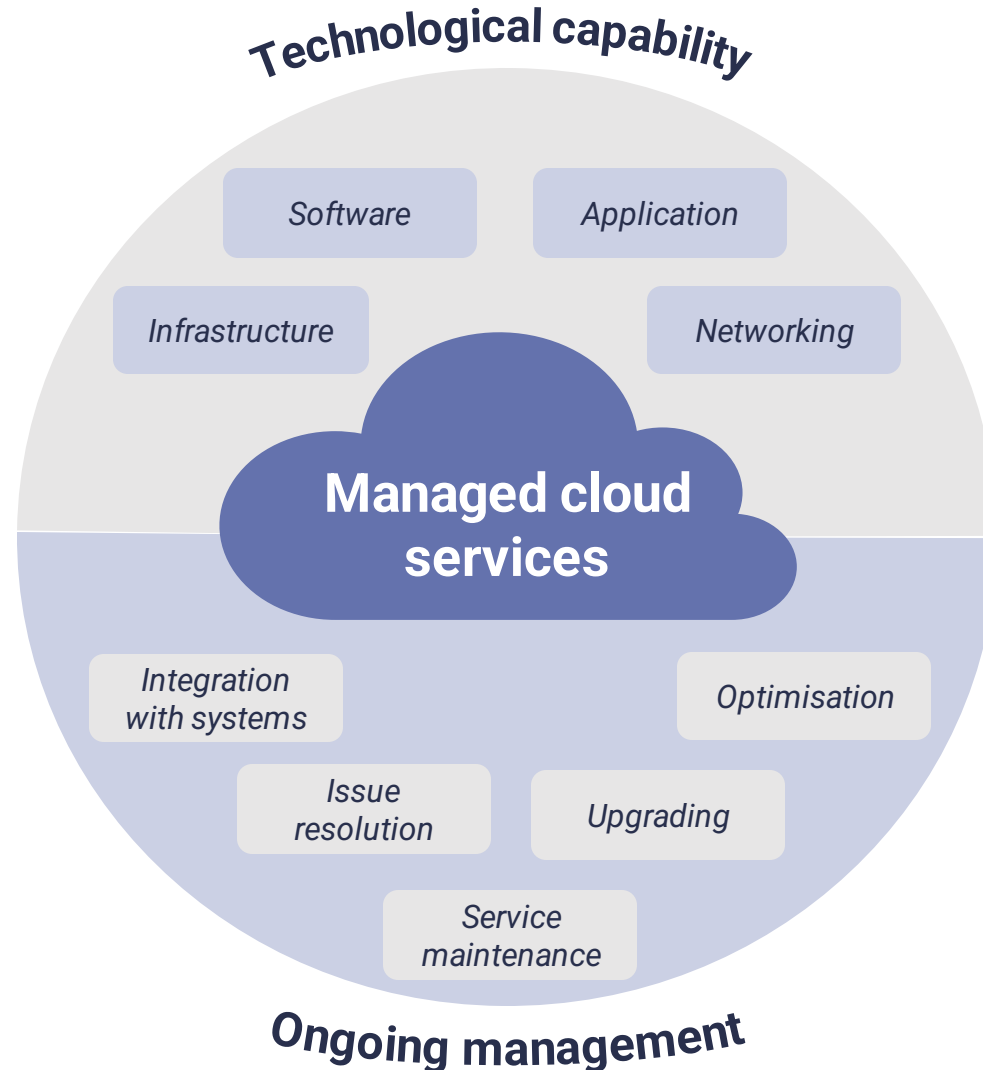
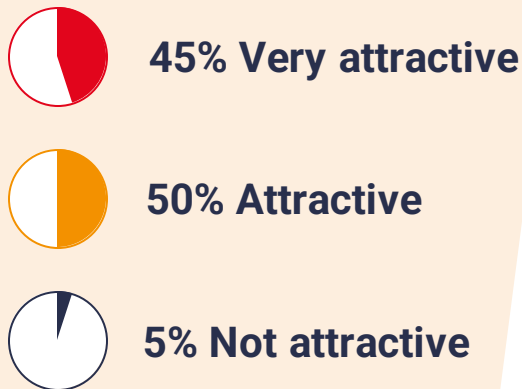
Secure and reliable connectivity forms the foundation of enterprise cloud transformation



Increasingly, managed cloud services is an offering that telcos are betting on

Enterprises are seeking a strategic partner to outsource management of their cloud environments

Q: At a general level, how attractive is a proposition of a managed service for your organisation's cloud capabilities?



Operators can move beyond reselling technologies and build greater relevance with customers

“Managed services help us get closer to customers and facilitate upselling/cross-selling opportunities with them.”

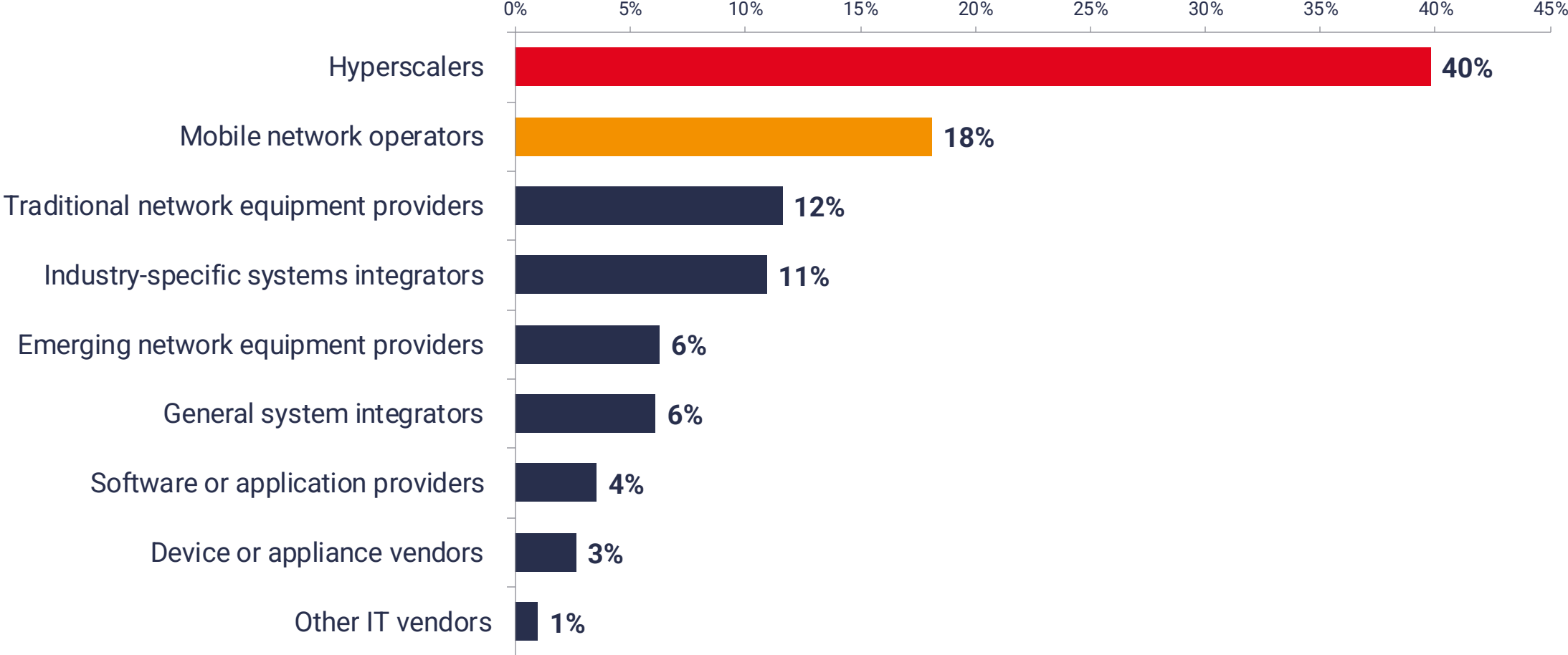
- Global Head of Commercial – Cloud, Tier-1 operator, EMEA

“We aim to provide as many managed services as we can. One of the main triggers on the demand side is the complexity, which is more and more difficult for customers to manage themselves.”

- Vice President, Cloud & Workplace, Tier-2 operator, EMEA

However, hyperscalers dominate the cloud and cloud services market as the preferred vendor for enterprises

Q: Which type of ecosystem player would be your preferred vendor to procure a managed cloud service?
% of total respondents



To compete in the market, telcos must focus on establishing deeper connections with customers and building new skills



Develop deep industry and customer understanding



Build targeted solutions where telcos have a right to play

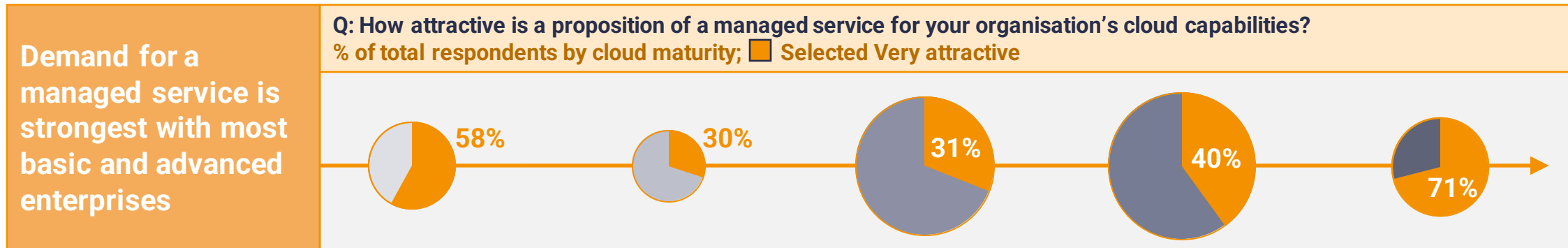
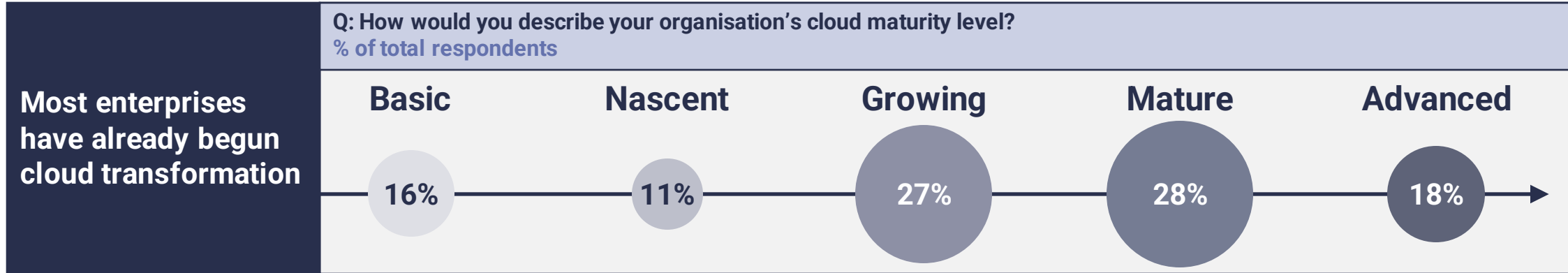


Leverage unique telco capabilities



Invest in building new skills and expertise

Enterprise needs differ by cloud adoption maturity, telcos should tailor their propositions accordingly



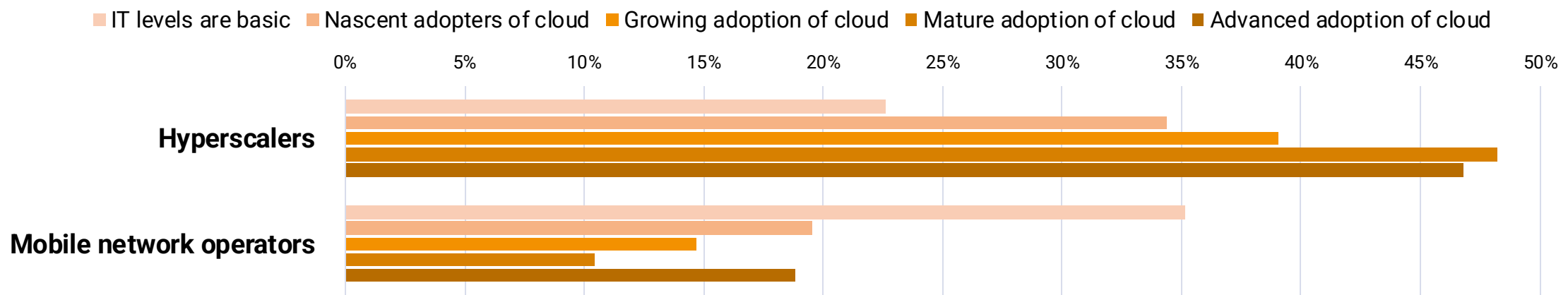
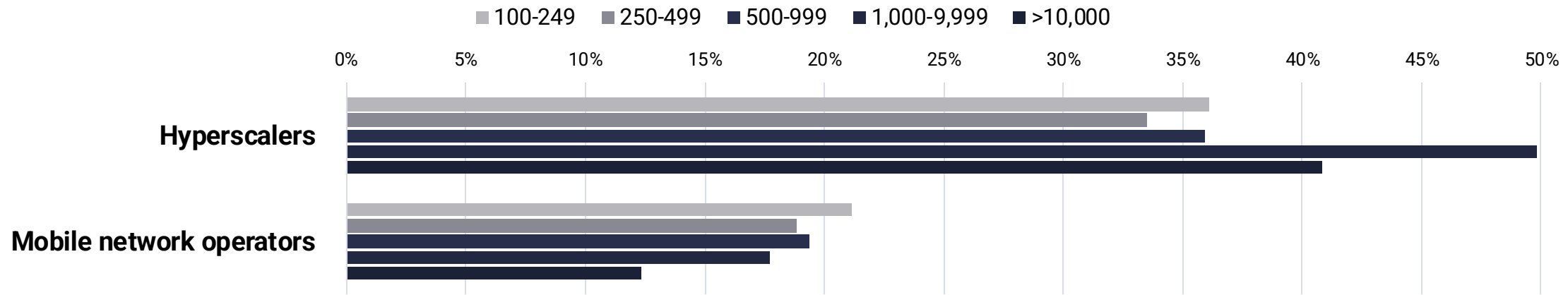
Cloud propositions should be crafted to the specific needs of enterprise profiles

Enterprise Profile	Needs
Basic enterprises	Plan migration strategy to cloud, migrate specific workloads to cloud, re-architect existing systems for (hybrid) cloud environment
Advanced enterprises	Optimise cloud-enabled operations, manage multi-cloud/-vendor environments, manage ROI of cloud investments

Telcos should consider firmographic as well as technographic data, targeting mid-sized and less mature enterprises



Which type of ecosystem player would be your preferred vendor to procure a managed cloud service?
 % of total responses by enterprise size; by cloud maturity level



Telcos should build on their strengths as providing reliable, secure connectivity to expand its role in enterprise



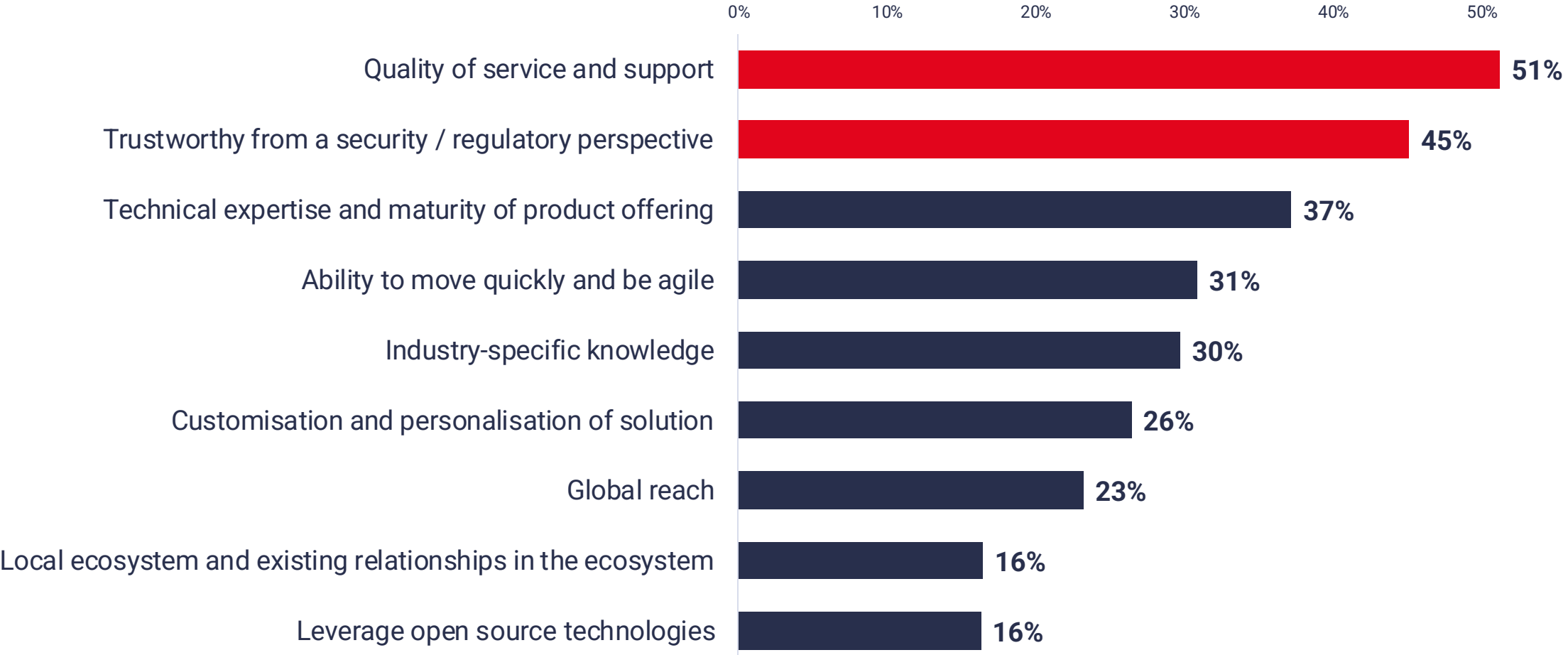
Which of the following capabilities do you consider a unique strength of a communications service provider? Select top three.
% of total responses



Quality of service and trust rank as leading differentiators when selecting a cloud managed services provider



Which capabilities would be a differentiator when selecting a cloud managed services provider? Select top three.
% of total responses



Concurrently, telcos must also invest in developing new capabilities and skills to strengthen their cloud proposition



Which capabilities would be a differentiator when selecting a cloud managed services provider? Select top three.
% of total responses



Where telcos need to develop new capabilities, the focus should be on investing through partnerships, acquisitions and hiring new talent

To compete in the market, telcos must focus on establishing deeper connections with customers and building new skills



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Leverage unique telco capabilities

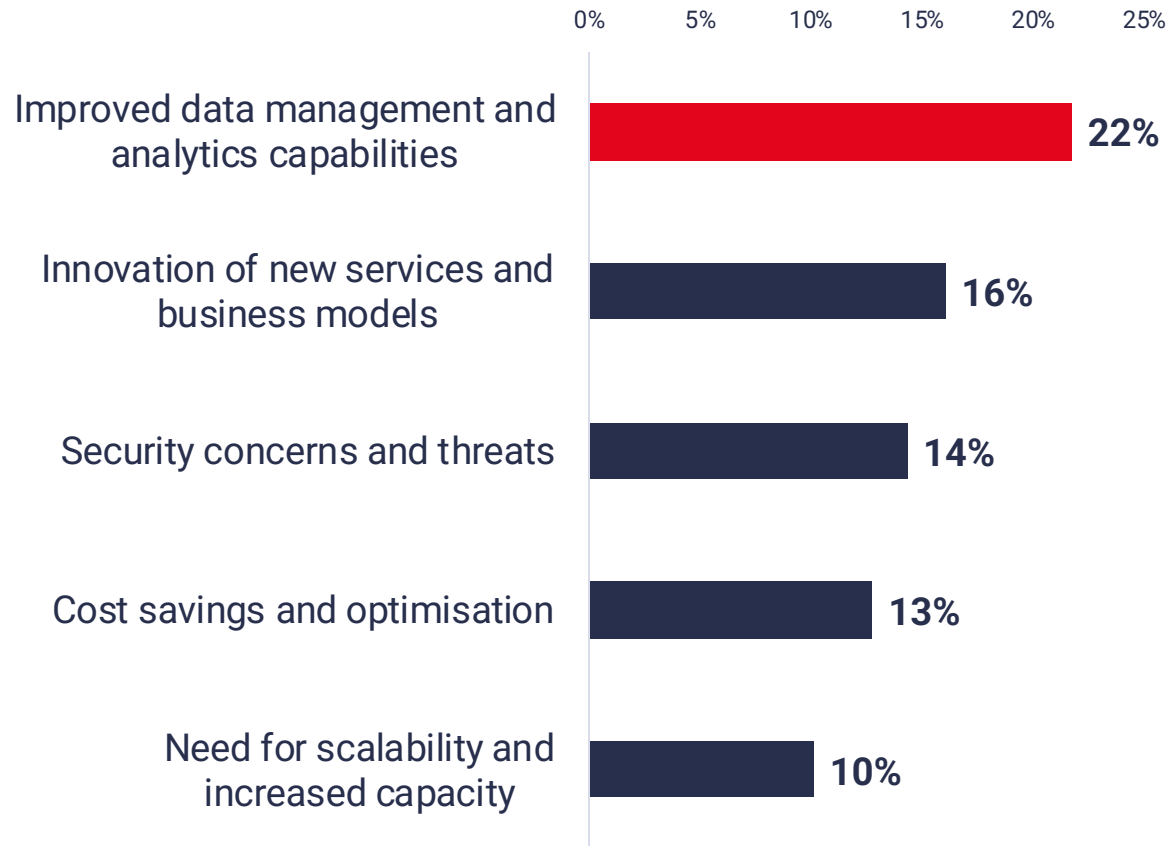


Invest in building new skills and expertise

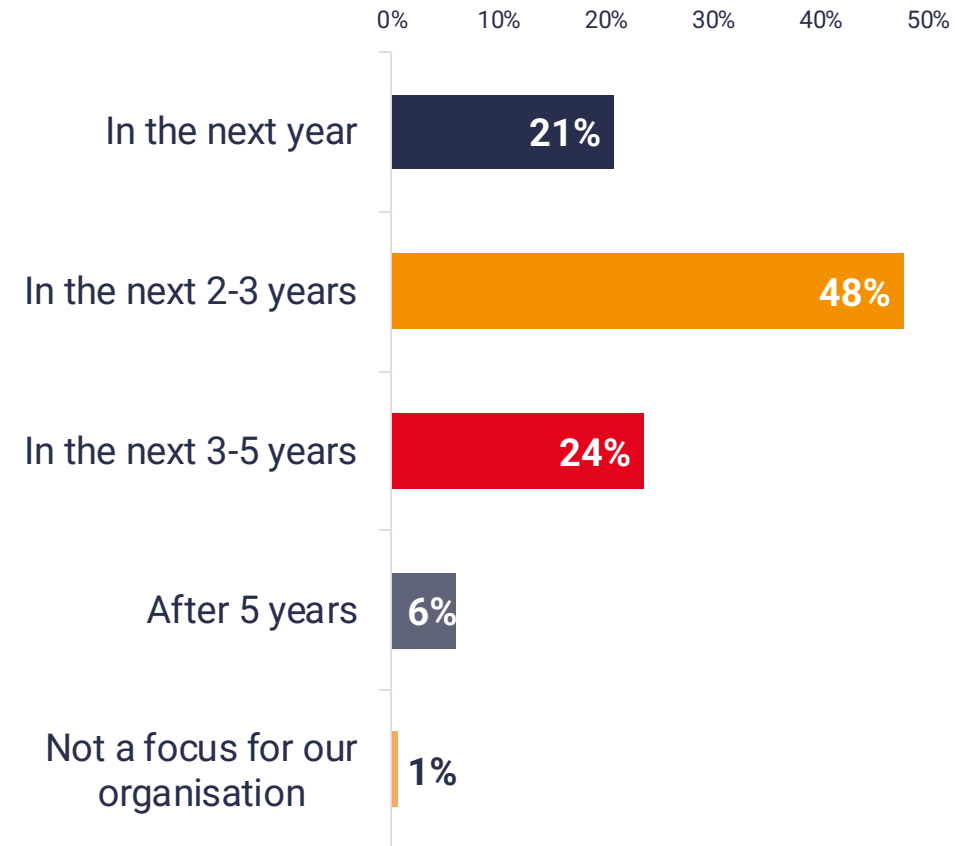
If telcos can effectively position themselves as strategic transformation partners, they can open the door to other longer-term opportunities such as data and AI

Accelerating data management & analytics capabilities is directly tied to enterprise cloud transformation, and a short-term priority

Q: What is your primary internal driver in the adoption of cloud technology? % of total respondents



Q: When do you expect your organisation to reach an advanced level of data maturity? % of total respondents



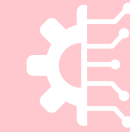
Enterprises seek the support of a third party to progress in this journey, which telcos can capitalise on through cloud



Over 70% of enterprises seek to accelerate their data maturity by procuring an entire solution from a third-party

Q: How is your organisation looking to accelerate its data analytics and AI maturity? Select all that apply.
% of total responses

- 72%** Procuring entire solution from a lead vendor that is also providing a key component
- 48%** Building the skills in house: hiring data scientists, developing AI capabilities internally
- 32%** Stitching together different components from different vendors, assembled and managed internally



Data management, analytics & AI capabilities

Adoption of cloud technologies & services



Secure and reliable connectivity



By becoming *enablers* of cloud transformation, telcos can evolve their role to become enterprise data and AI partners

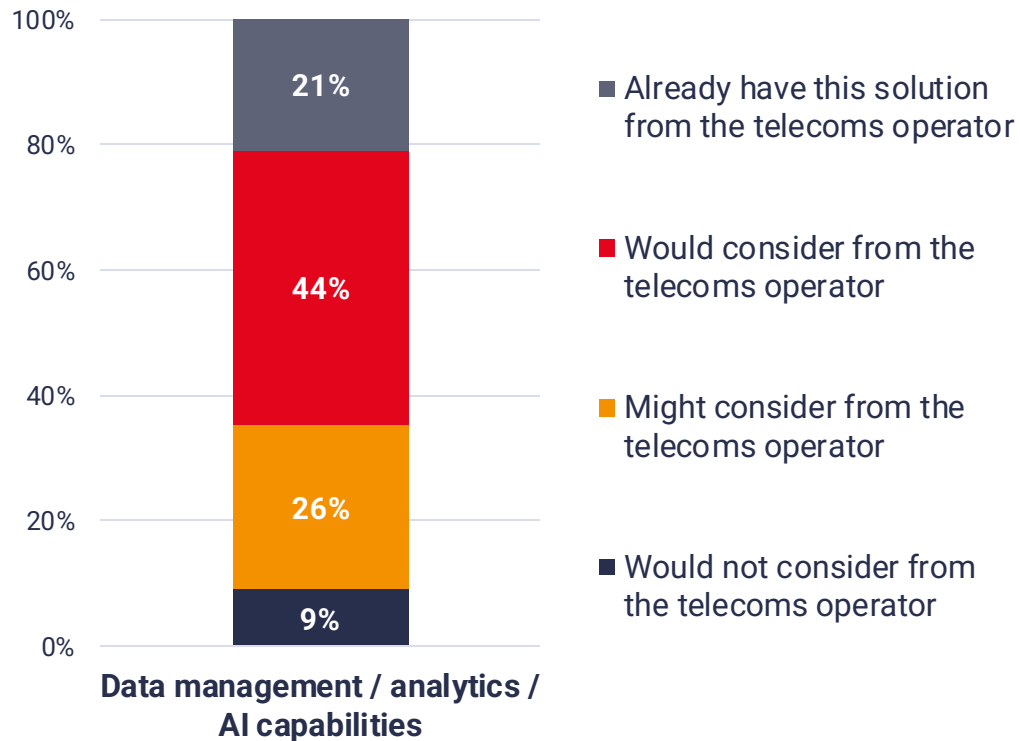


“Our current focus is on providing managed services to support initial migration to the cloud, but growth is not within that area... The real growth engine is around data and AI... We are not there yet on data monetisation but have been building skills internally.”

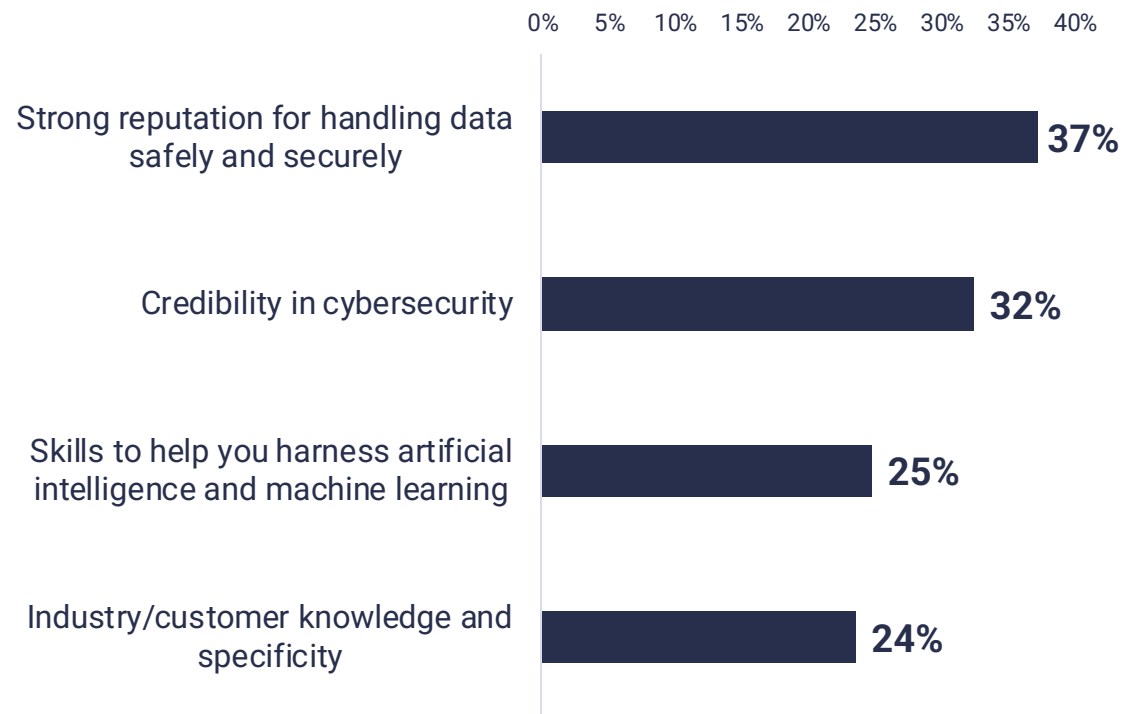
- Senior Manager, Cloud Products & Services, Tier-1 operator, NAM

Telcos should focus on developing key desired capabilities if they want to capitalise on the data & AI opportunity

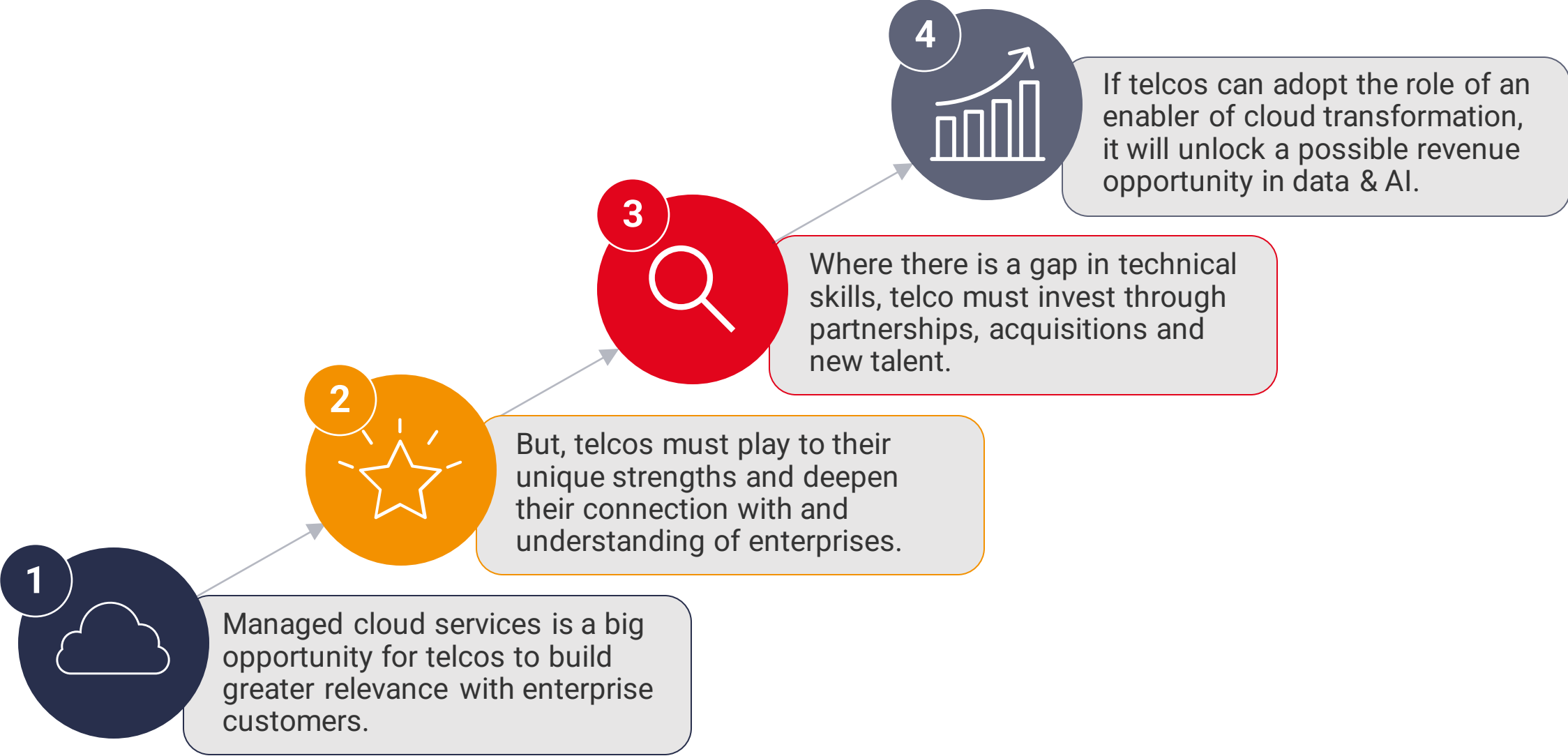
Q: Which of the following enterprise solutions would you trust your telecoms operator to provide your organisation?
 % of total respondents



Q: What are the key capabilities you would look for in a data management / analytics / AI partner?
 % of total respondents



If telcos can establish a firm and strategic role in enterprise cloud transformation, they can unlock longer term growth



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Unlocking Business Value In the Digital Era

How Telcos can Accelerate Innovation and Collaboration

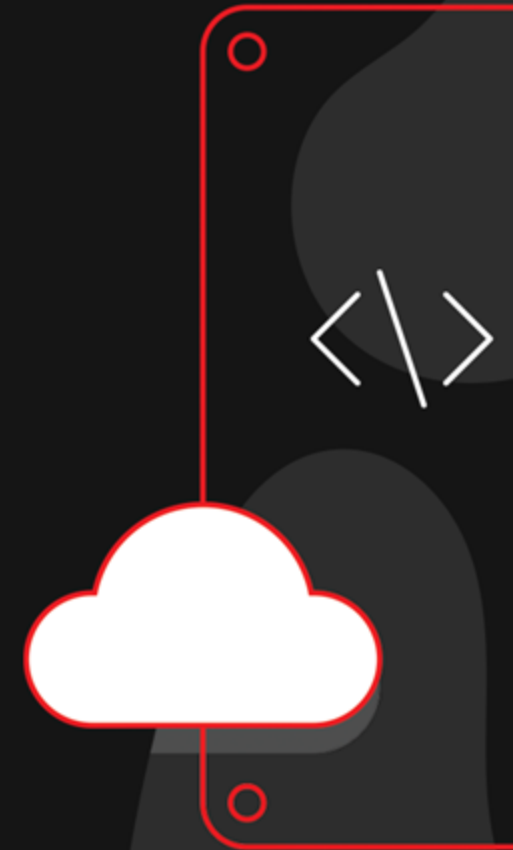
April 2024

Sanjay Aiyagari

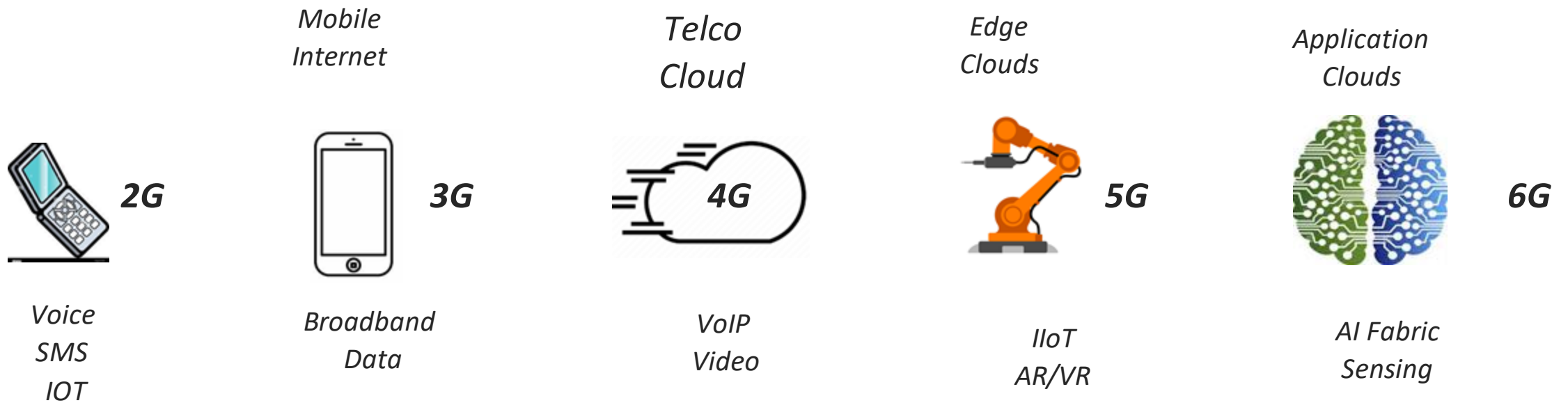
Principal Architect

Global Telco Edge

sanjay@redhat.com



Evolution of Network Technologies



- *New > 7Ghz Bands*
- *Extreme Mimo*
- *Location / Environment Sensing*

- *Application Clouds*
- *Expansive AI Fabric*
- *Situational Awareness*

- *Immersive 360 Video*
- *Terabits over High Frequencies*
- *Next Gen Cable 10G*

The Journey Is Important

Edge Computing is about **Solving Business Problems**



Faster Decision Making

Leverage data and analytics on-site to accelerate decisions



Enhanced End User Experience

Provide enhanced services to consumers and stakeholders outside of the office or data center



Remote Operations

Ensure critical operations continue despite limited connectivity



Data & Compliance

Process and manage sensitive data on-site and maintain regulatory compliance

Enabling Hybrid Edge Cloud value with AI/ML



Data driven diagnosis
Brain/lung scans
Diagnostic surveillance
Disease /outbreaks



Democratize data science for oil
and gas exploration



Applying AI for Farm to Table
Water



Modular AI platform
AI-powered Intelligent apps
AI as a service



AI-based edge intelligence platform
AI-Powered customer experience
Neural network ecosystem



NLP text analytics agriculture grants
Jupyter notebooks as a service



Speed airport
traveler experience

Etisalat in UAE partners with Lenovo
<https://developingtelecoms.com/telecom-technology/wireless-networks/13721-etisalat-uae-and-lenovo-plan-to-roll-out-a-5>

What telcos are concerned about

1. Sustainability

- ▶ Power Efficiency – less memory per system to reduce power use
- ▶ ESG – less hardware overall means less to reuse / recycle

2. Economics

- ▶ Business Models to deliver top line revenue via increased margins
- ▶ Bottom Line Revenue via Infrastructure optimization
- ▶ Drastic OPEX Reduction due to Power

3. Architecture

- ▶ Alignment to Distributed Applications (Many to Many)
- ▶ Data Proximity / Gravity (closer to consumer)
 - Scalable Access to data
 - AI/ML (Federated learning/inference models)
- ▶ Intelligent location affinity

4. Connectivity

- ▶ Locationless Applications (Across town or across country...doesn't matter)
- ▶ Cloud and k8s Platform Agnostic
- ▶ Fit into existing network architecture, without major networking project
- ▶ Full IPv6 support, for all components, with no exceptions

5. Security

- ▶ Service-level policies
- ▶ Zero-Trust Network Access – avoid opening ports, FW per application
- ▶ Optimize operations – Consolidate security audits to avoid months-long delay per app
- ▶ Ephemeral - setup links for few minutes/hours/days - then Delete! Minimize surface attacks



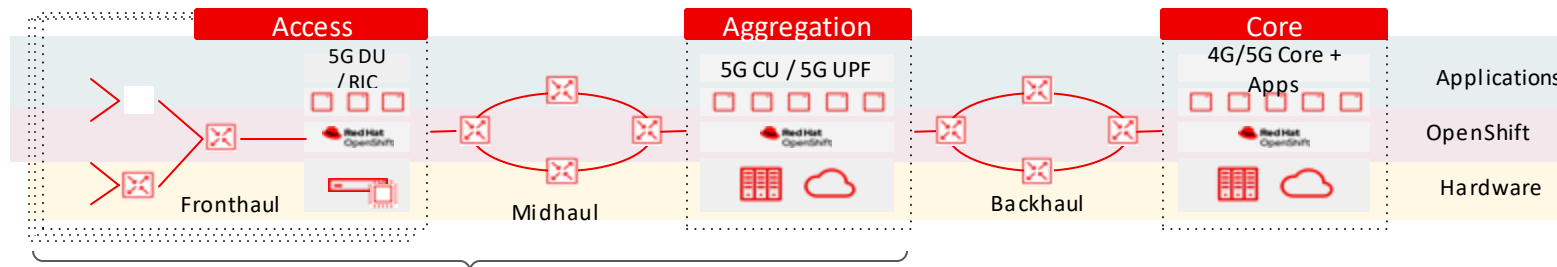
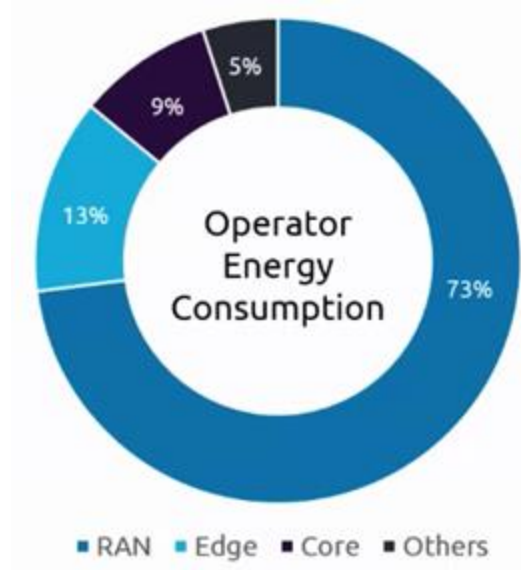
Power efficiency/savings

#1 priority for mobile operator production rollouts

REGULATIONS

- Telecom operators account for **~4% of the total power consumption by humanity***
- Each generation of network technologies:
 - **Individual elements** are more energy efficient
 - Overall **system volume increase the demand for resources** over previous generations
- The European Union and the United States have set up a target of at least **50% to 55% net reduction in greenhouse gas emissions by 2030**
- **Focus effort to increase savings in 5G and 6G**

ENERGY USE BY MOBILE NETWORKS**



RAN represents more than 70% of the service provider's network power consumption

Reference

40% Power Reduction

Combining Intel Kepler and Kove Software Defined Memory (SDM) for Edge

Intel CNCF Kepler Initiatives (20-30%)
(P-State Frequency/C-State Voltage)



- Blog: <https://www.redhat.com/en/blog/ultra-low-power-architecture-network-edge>

Kove Software Defined Memory (5-15%)
(Shared Memory Pool; Memory Frequency)



Key Drivers (Kove:SDM):

- Burst on-demand to dynamically adjust for the working data set
- Strategically utilize memory for CPU, memory and I/O bound workloads
- Optimized CPU, memory, I/O, Network, and power consumption cost envelope.

Creating a Zero Trust Virtual “Application Service” Cloud

Interconnect all your data / application services securely by simplifying access



Connect applications / services

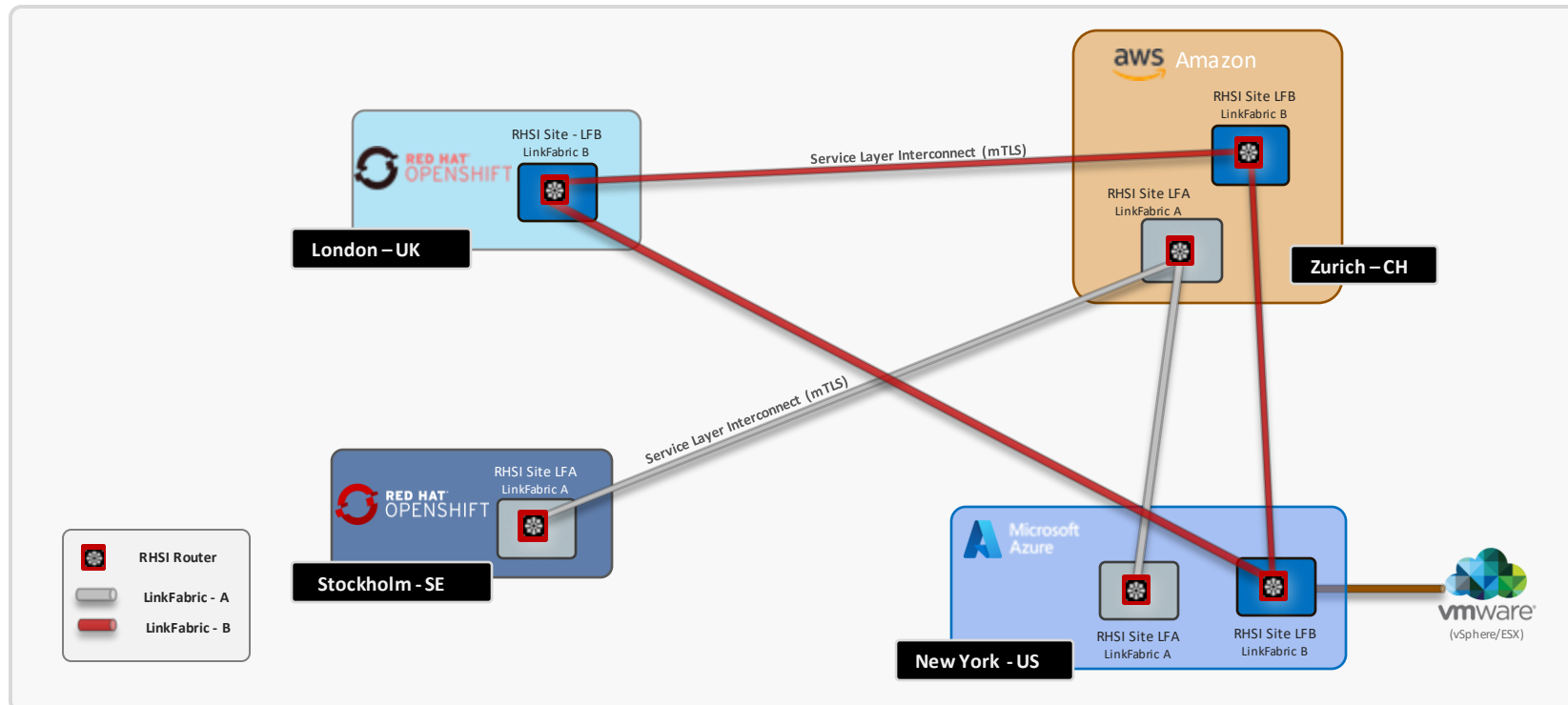
- Across different Kubernetes clusters (xKS)
- Bare Metal, VMs, Mainframe, Edge

Enabling Zero-Trust Network Access

- Secures data with mutual TLS
- Firewall friendly / NAT Traversal

Smart Routing

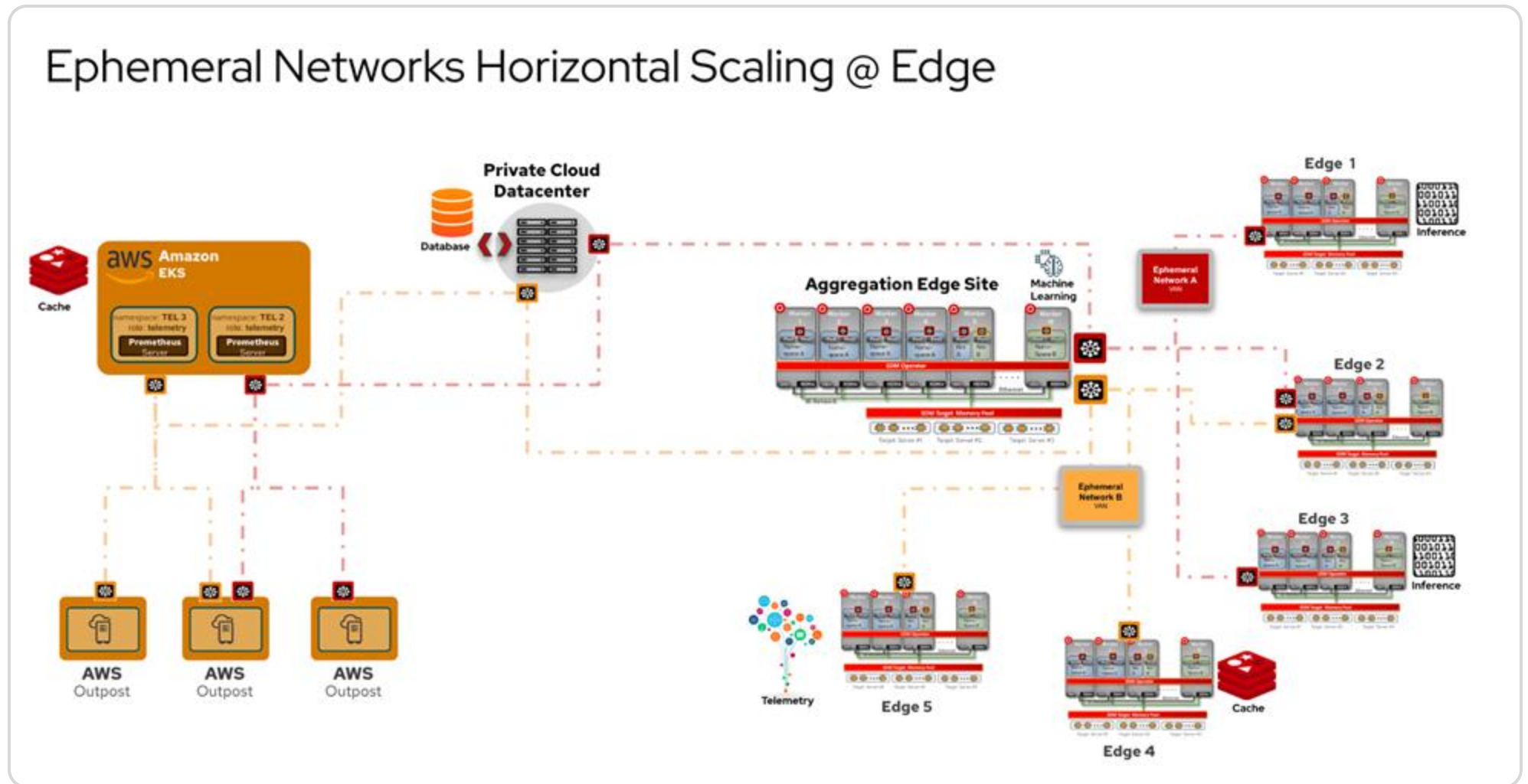
- Cost-based application routing
- Redundant network paths
- App Load balancing



Application Connectivity and Sovereignty

Designed for Security, Efficiency and Horizontal Scaling across Hybrid Cloud

- A pathway to Horizontal Scaling without hyperscaler dependency
- Vital for secure Zero-Trust connectivity to mitigate risk from geopolitical and regulatory concerns
- Platform for Federated AI, data location affinity
- Optimized resource consumption and connectivity for ESG



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Our panel discussion

Moderator



DARIUS SINGH

Director, Consulting &
Enterprise Platforms
Lead

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Panellists



MIRIAM SABAPATHY

Consultant

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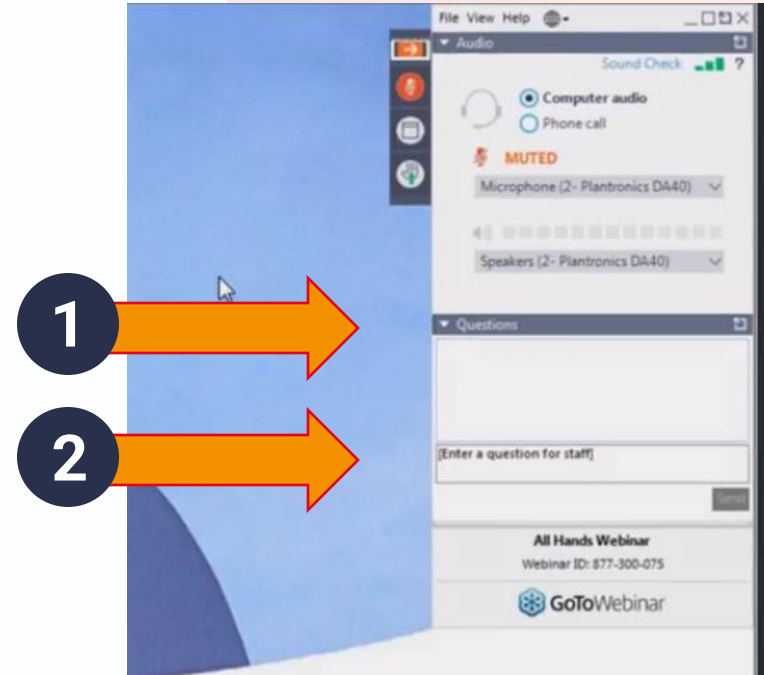
SANJAY AIYAGARI

Principal Architect,
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Red Hat

For our Q&A...

Please submit any questions using the GoToWebinar control panel



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For any other questions, please contact:

- Darius Singh, darius.singh@stlpartners.com
- Miriam Sabapathy, miriam.sabapathy@stlpartners.com

