

Telco cloud: what MWC reveals about operator strategies

29/03/2023

In partnership with:



Agenda

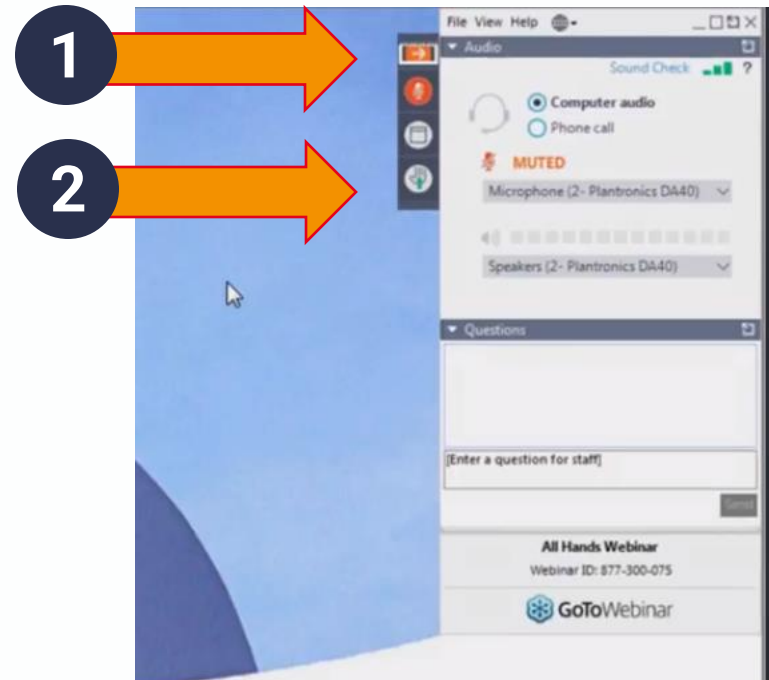
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Our speakers today



IAN HOOD

Chief Strategist

Red Hat



JOANNA NEWMAN

Global Edge Computing
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CHRIS BARRACLOUGH

CEO

STL Partners



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STL Partners



Red Hat



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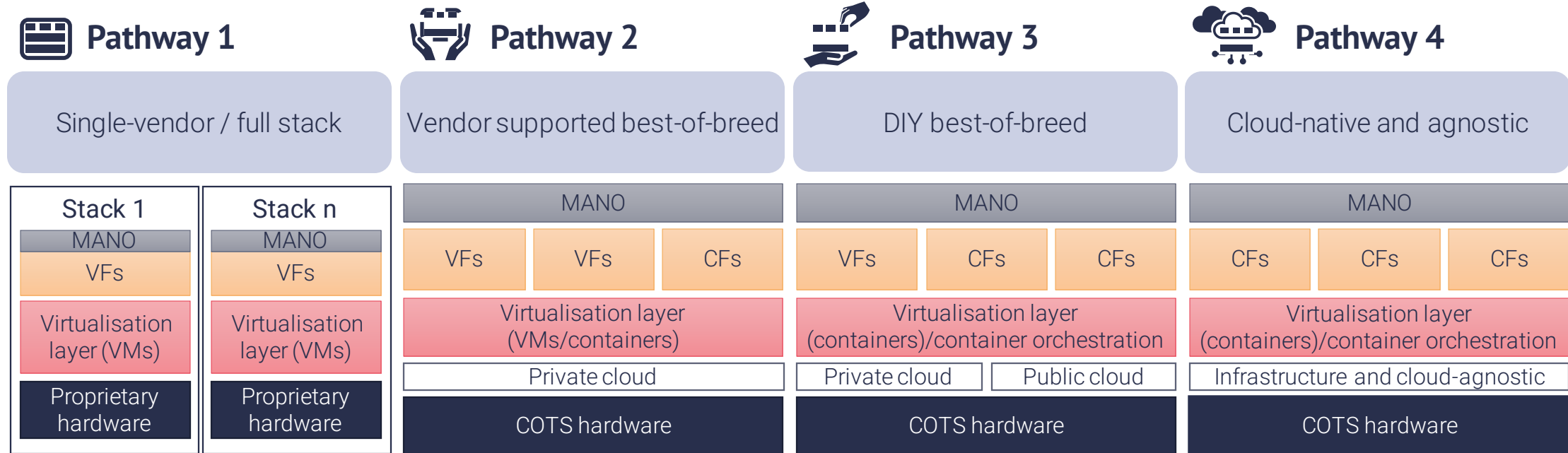
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2.2	Market trends and what do recent deployments tell us about the market's direction?	
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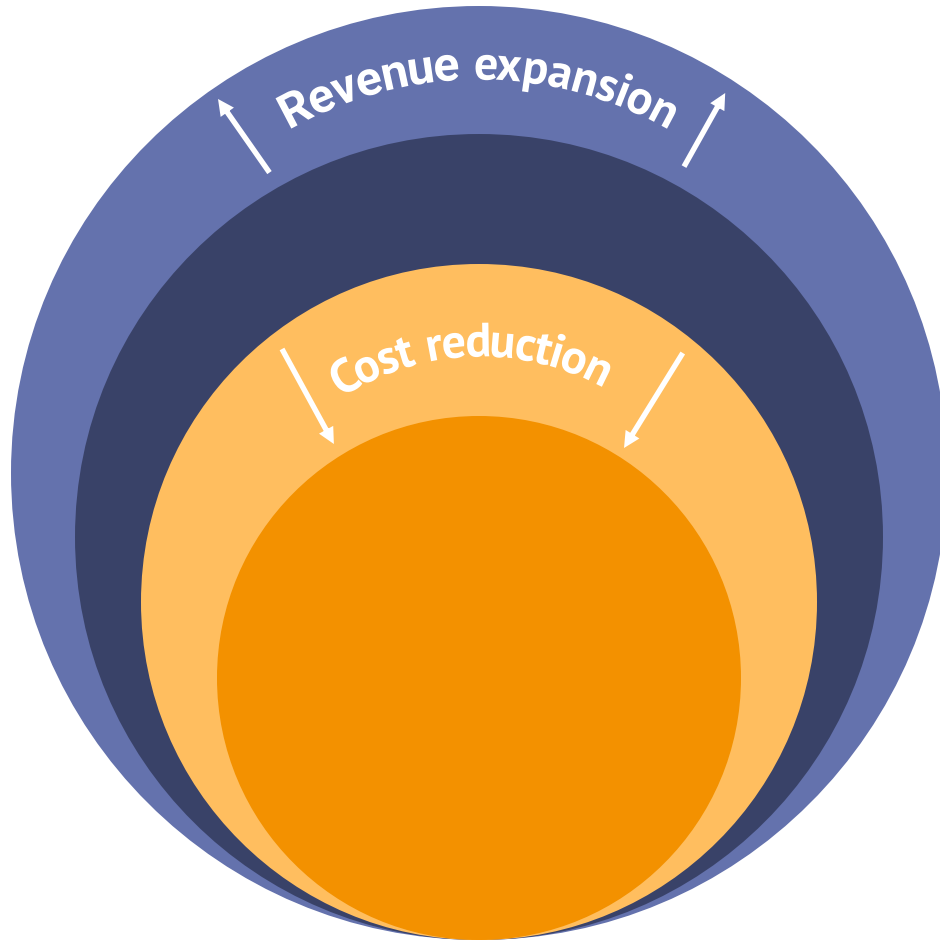
Many operators are cloudifying their networks but are adopting different pathways with different advantages



Majority of operators

(1) The virtualisation layer may be VMs or Bare Metal (containers only)
 (2) VF = virtualised function, CF = Cloud function

Telco cloud promises increased profitability for telcos



Telco cloud promises to mitigate network costs...

- Cheaper COTS hardware
- Reduced vendor lock-in
- More efficient network operations
- Buying NaaS & mitigating network duplication

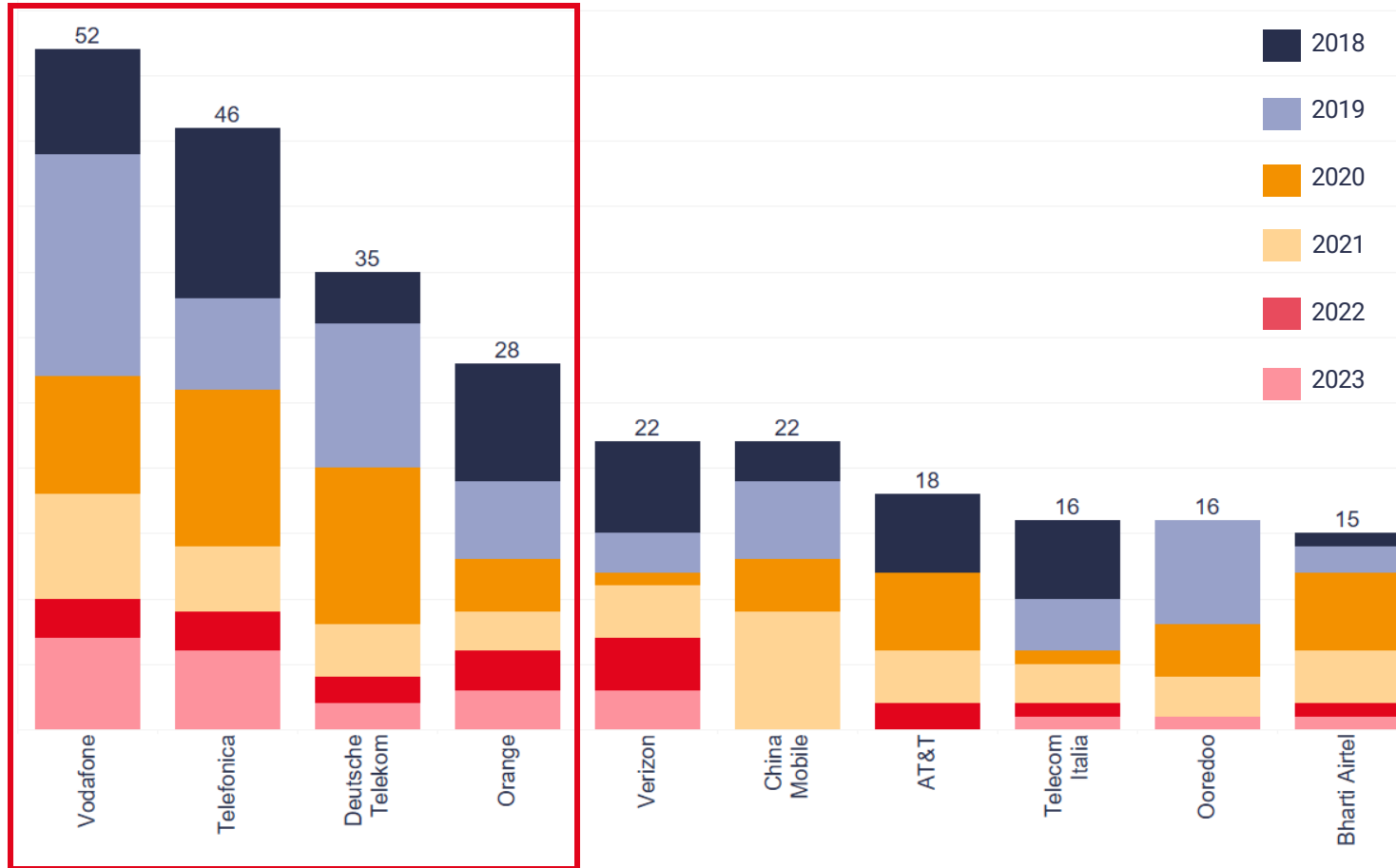
...whilst releasing new revenue streams.

- Faster time to market
- On demand services
- Data monetisation
- Supplying NaaS
- Enabling edge

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European telcos are leading in terms of deployments but have been tentative in rolling out open RAN and 5G SA



Source: Telco cloud deployment tracker, STL Partners 2023

- The large multi-national Europe based telcos dominate deployments
- 2022 was quiet with operators delaying 5G SA and ORAN deployments
- An uptick in deployments expected in 2023

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Poll for CSPs: Where are you on your telco cloud journey?

- We haven't virtualised or cloudified our network yet
- We're using a single-vendor full stack cloudified solution
- We're using a vendor/SI supported multi-vendor solution
- We have a DIY best-of-breed solution with VFs and CFs
- We've adopted a fully cloud native, multi-vendor solution

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Open RAN and network and edge APIs were the dominant telco cloud related topics at MWC

Telco cloud and hyperscalers

- AT&T using Microsoft's Azure Operator Nexus hybrid-cloud
- Telefonica collaborating with Microsoft, AWS and Google Cloud

Open RAN

- Many operators were illustrating energy efficiency benefits
- Rakuten showed they were top 5 globally for: 'Games experience', 'upload speed experience' and 'time spent on 4G/5G'

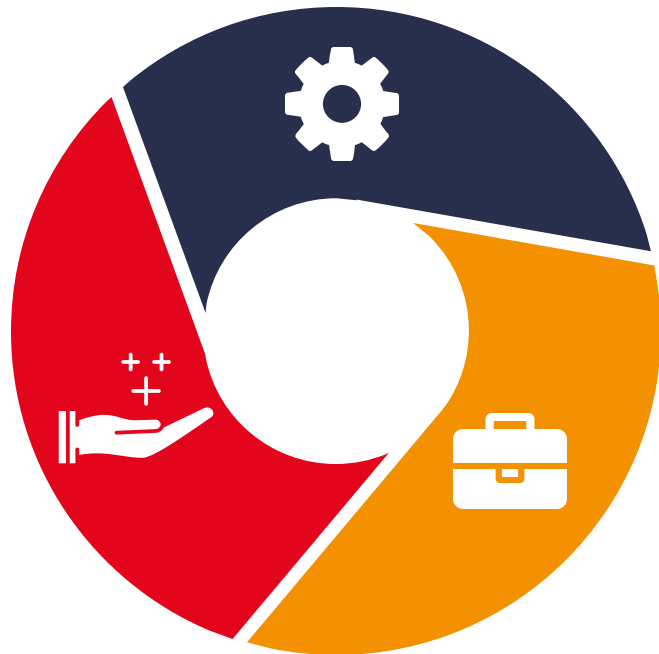
Network & Edge APIs

- Orange, Telefonica and Vodafone working with Ericsson Vonage, showcased network & edge APIs for Blacknut and Zoom
- Deutsche Telekom and T-Mobile US introduce Network APIs and a Joint Developer Platform in Germany and the US
- Telefonica, KPN & Cellnex spoke of their successes in sharing APIs with 'selected' start-ups in a broad range of industries

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Network & edge APIs represent a way for telcos to monetise their network assets and capture new revenue streams



1

What are network & edge APIs?

- Allow applications to access various network and edge compute assets, services, and data
- App developers can enhance the functionality and performance of their applications

2

What are their key benefits for telcos?

- Leverage existing network assets and new edge compute capabilities with limited further investment
- Play higher up the value chain to capture more revenue

3

Why are telcos so interested?

- Overcome commoditisation of connectivity and therefore stalling growth
- Realise the value of telco cloud investments

GSMA Open Gateway provides standardised APIs to give developers access to network functions in a scalable manner

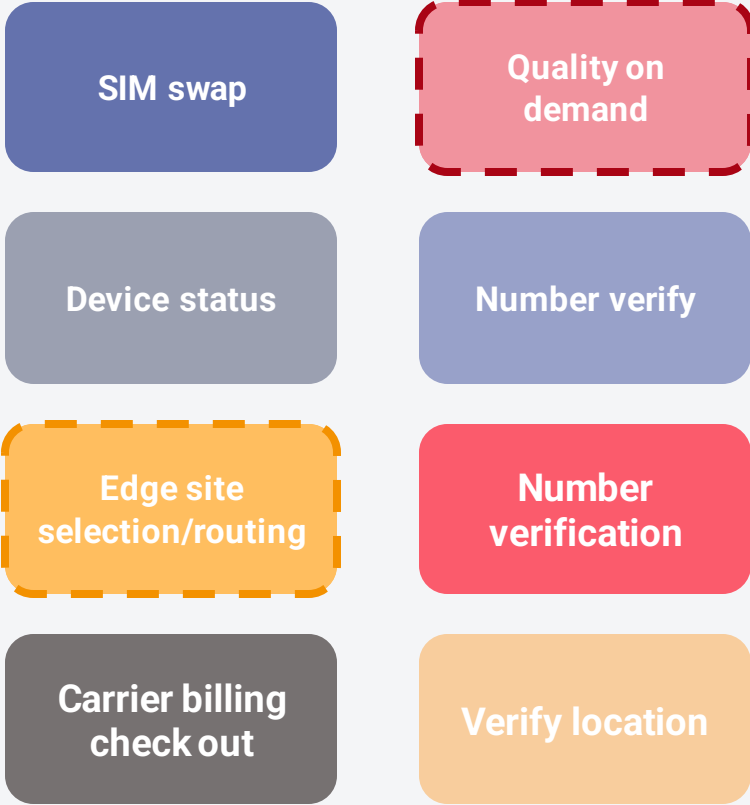
Open Gateway's 21 signatories



Telcos "know their networks and manage their deep complexity but they will offer a very simple and harmonised way to access its numerous functions, it's really the concept of earth computing..."
 Chrystel Heydemann (CEO)

The GSMA Open Gateway is "a platform that offers simplicity above the complexity" of the telecoms business and as a new mechanism that "bonds telcos, the industry, big techs and developers to create the digital future together"
 José-María Álvarez-Pallete (CEO)

8 API's ready at launch



On display at MWC

QoD APIs can guarantee excellent user experience in bandwidth heavy and latency sensitive applications

MWC Quality on Demand API Displays



Zoom Video Call Use Case

Boost performance when video and audio quality degrades



Blacknut Cloud Gaming Use Case

Boost network performance when gaming experience deteriorates

Despite the tech blueprint being ready in Spain, telco go-to-market strategies need defining

- Focus on partnerships providing applications with the largest addressable market
- Adopt adaptive customer pricing strategies that are resilient to market ambiguity
- Adopt platforms that can scale and cope with increased complexity as adoption grows



Ericsson anticipates QoD should be market ready by the end of 2023

Edge APIs allow applications to dynamically discover and connect to optimal edge nodes for improved performance

Exemplified by Verizon, Rogers and Vodafone during their jam session...



The live jam session leveraged edge derived latency and bandwidth capabilities



The optimal edge node connection API was enabled by a cross-telco collaboration

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A more open ecosystem requires vigilance from operators; disintermediation is a risk that must be considered

Strengths

- Network owners
- Upcoming 5G SA roll outs
- Established enterprise relationships

- Operators are fragmented
- Unfamiliar business models
- Weak developer relationships

Weaknesses

Opportunities

- New revenue streams, NaaS solutions
- Scale quickly with hyperscalers
- Combine network and edge offering

- Disintermediation by hyperscalers
- Inability to be agile – pivot, react quickly
- Cede control to supply side aggregators

Threats

Operators need to collaborate to deliver valuable APIs to developers through attractive commercial models



1. Distribution

- Direct and indirect models



2. Collaboration

- Aggregate APIs across operators and present a simple tech AND commercial solution



3. Clear and flexible commercial models

- Agile approach, ability to spin up new APIs and commercial models fast

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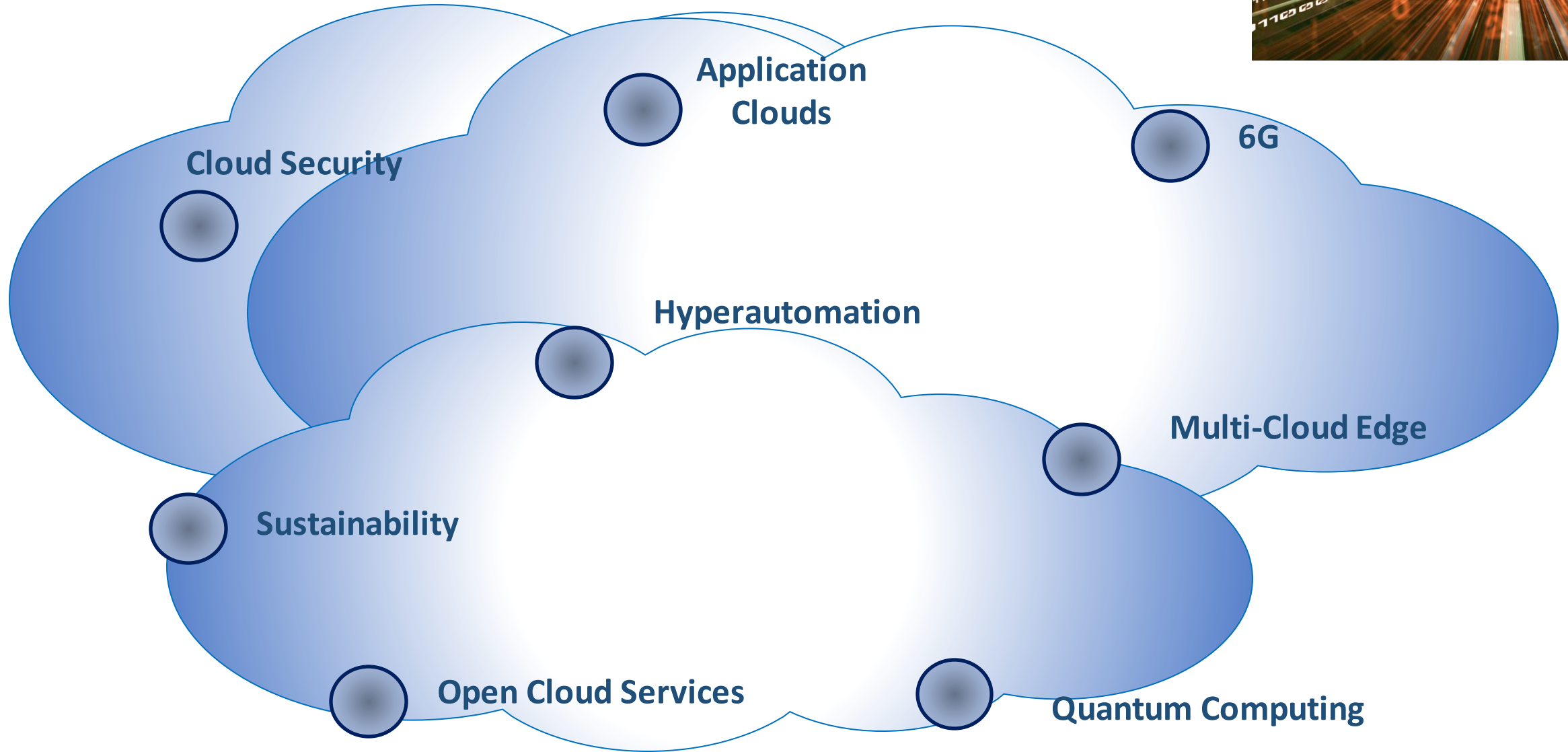
Accelerating Innovation Shaping Operator Strategies

Ian A. Hood, P. Eng.

Chief Strategist - Global Industries

March 2023

Open Innovations Drive Our Digital World



Key MWC 2023 Demonstrations / Themes

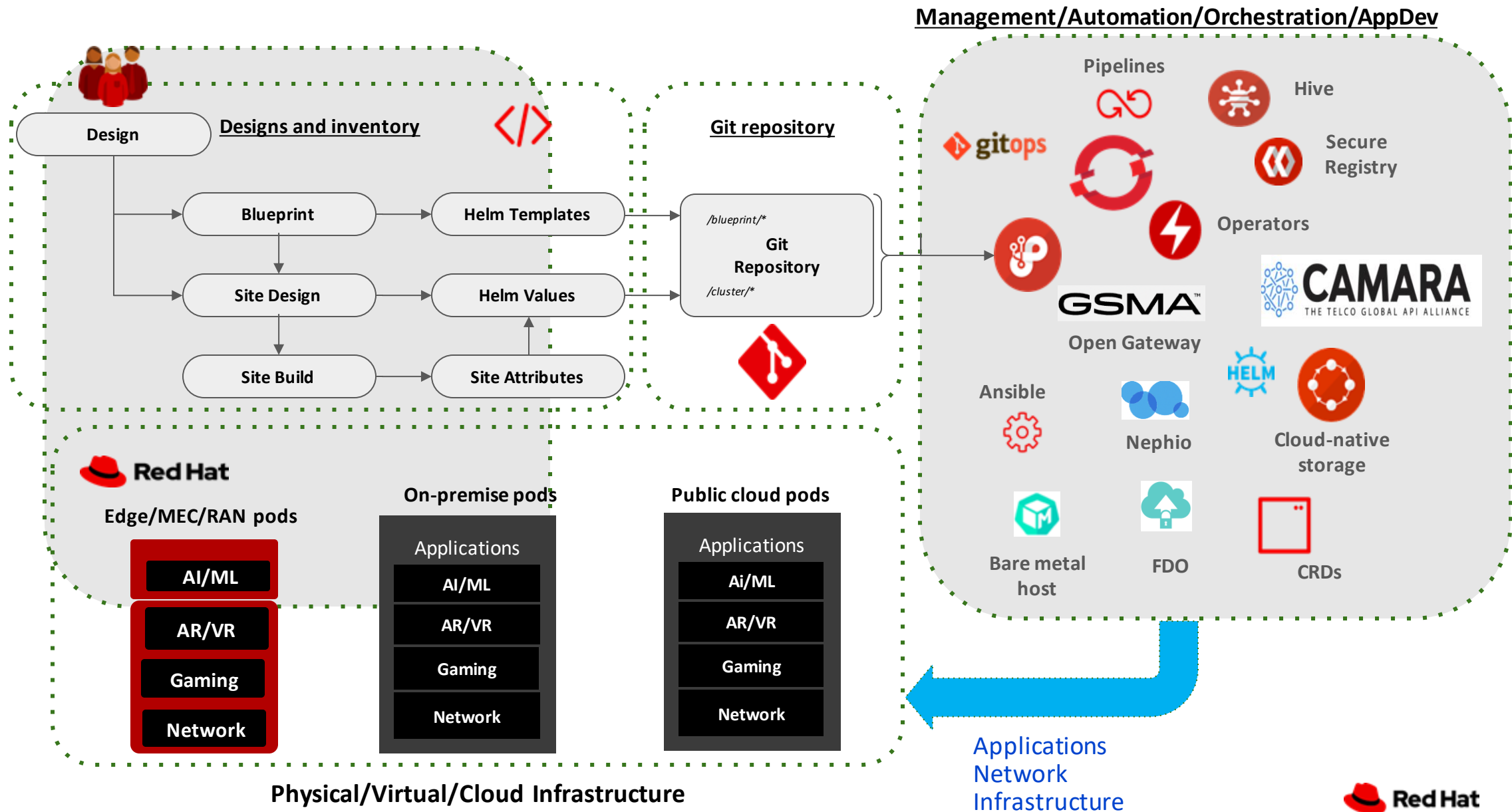


- **Network Slicing** /Orchestration across Hybrid Cloud (Nokia/Telenor/Norwegian University)
- Ericsson **Cloud RAN** – Live 5G Call (Red Hat, HPE, Intel)
- Onboarding **5G Core on Open Hybrid Cloud**. (TechM/AWS)
- **Private 5G Edge** / AI Applications – Airspan/Druid
- NVIDIA **Cloud RAN** – inline GPU L1 perf/latency (Mavenir)
- **Red Hat Device Edge** – small form factor in retail / military / manufacturing (POC)
- **Sustainability** – Node Tuning / Telemetry / 5G Feedback
- Migration of Voice users to Cloud Native Platform (DT)
- [Migration of OSS/BSS Applications to Hybrid Cloud](#)
- **MEC/Edge Applications** >> Kalam Edge Router
- [Global Telco API Alliance / GSMA Open Gateway](#)
- NTT OREX Combinations – RH/HPE/NEC/Qualcomm – Added 5 more Operators

[“Open Source Software is the brain behind could native 5G/RAN networks”](#)



Hyperautomation – enabling autonomous deployments



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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:

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- Ian Hood, ihood@redhat.com
- Joanna Newman, joanna.newman@vodafone.com

