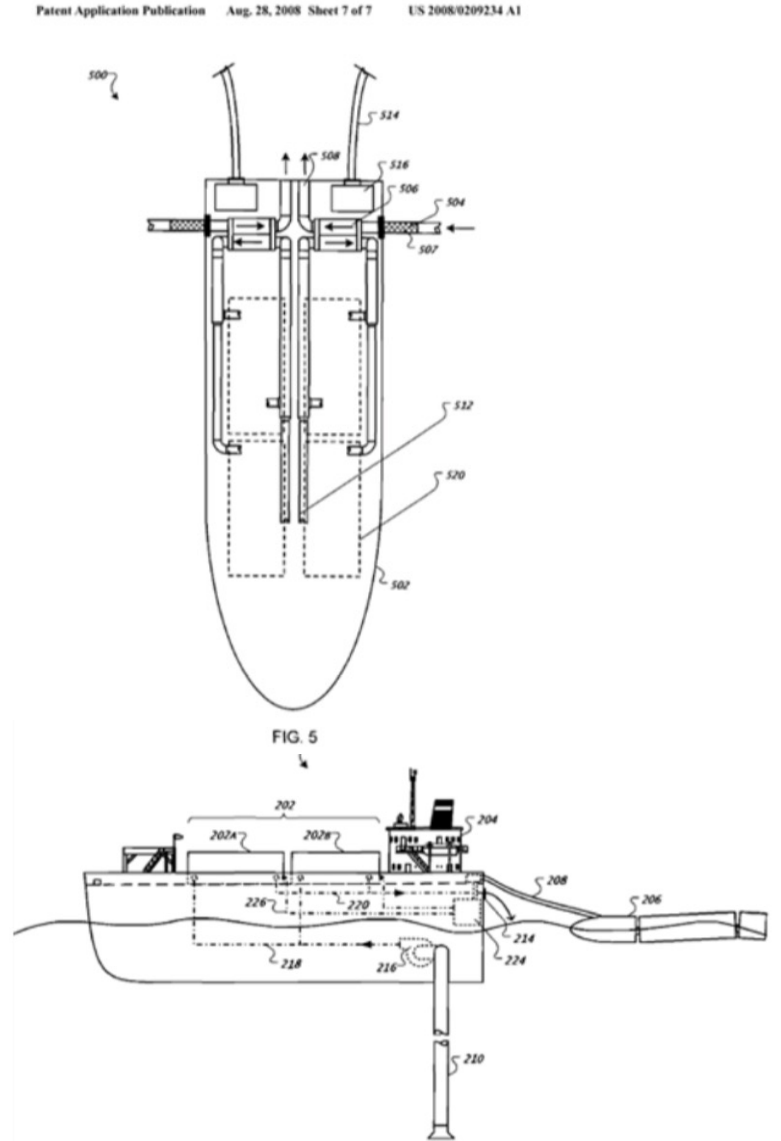


More than just Space & Power

Some reflections from a 21st Century Data Centre Operator

Martin Atkinson
Senior Manager, Peering & Interconnection
January 2023



[Google floating data centre design 2008](#)

Colocation



Lima LM1



Amsterdam AM3



Sao Paulo SP5



Dublin DB4



Jakarta JK1



Santiago ST1



Silicon Valley SV11



Lagos LG4



Melbourne ME1



Singapore SG5



Tokyo TY12



London LD10

247*

Equinix South Africa – Johannesburg JN1

RFS June 2024



Phase 1:

- 4MW
- 690+ cabinets
- +/- 1,900 sqm

Additional Phases:

- Up to 20MW
- 3450+ cabinets
- +/- 9,300 sqm



Equinix Services:

- Equinix Fabric
- Equinix Internet Access
- Equinix Network Edge



Equinix Fabric®



Network Edge



Equinix
Internet Access



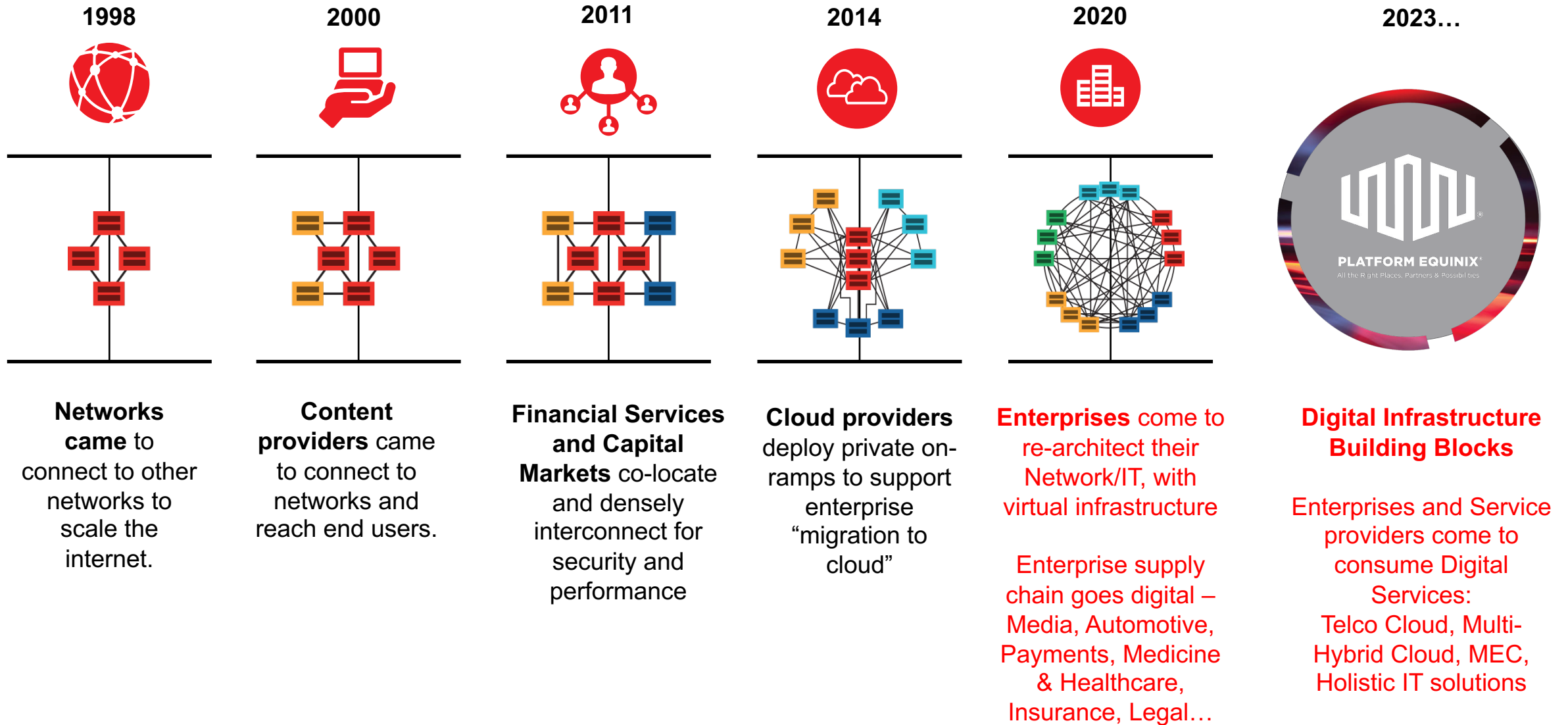
Ecosystem Partners:

- Suite of Connectivity Providers:
 - IX's
 - Fibre Provider access to CLS / Sea Cables / additional Metros
 - ISPs, Carriers and MNO's



Interconnection

From Interconnection to Digital Infrastructure Services



Interconnection Products



Digital Infrastructure Services



Network
Edge



Equinix
Metal®



Equinix
Precision Time®



Interconnection Services



Equinix
Fabric®



Equinix Internet
Exchange®



Equinix Internet
Access



PNI

Internet Services = B2C

“Internet Services are the B2C channel of the Digital Economy”

Hosted and operated Internet Exchanges

1-IX • AMS-IX • Amsterdam • Ashburn • Atlanta • Barcelona • B-BIX • B-IX • BIX.bg • BGP.Exchange • Bogota • CATNIX • Chicago • CIXP • Dallas • DE-CIX • Dublin • ECIX • EdgeIX • EPIX • ERA-IX • ESPANIX • France-IX • Frankfurt • Frys-IX • Geneva • GIBIRIX • TPIX PL • GigaNET • Helsinki • Hong Kong • INEX • INTERIX • IXManchester • IXPN • JPIX Tokyo • Jeddah • JPIX Osaka • JPNAP Tokyo • JPNAP Osaka • KINX • KleyReX • LINX • LONAP • Lisbon • London • Los Angeles • LSIX • Madrid • Manchester • MegalX • Melbourne • Miami • Milan • Muscat • MIX-IT • NetIX • NETNOD • New York • NL-IX • NSW-IX • NYIIX • ONIX • Osaka • Palo Alto • Paris • PIT Chile • PTT.br Sao Paulo • PTT.br Rio de Janeiro • Sao Paulo • Seattle • Seoul • SFMIX • SGIX • Silicon Valley • Singapore • SIX • SOLIX • Speed-IX • STHIX • Stockholm • SWISS-IX • Sydney • THINX • TOP-IX • TORIX • Toronto • Tokyo • TPIX PL • UAE-IX • WAF-IX • VIC-IX • Vienna (U.S.) • Warsaw • Zurich

+

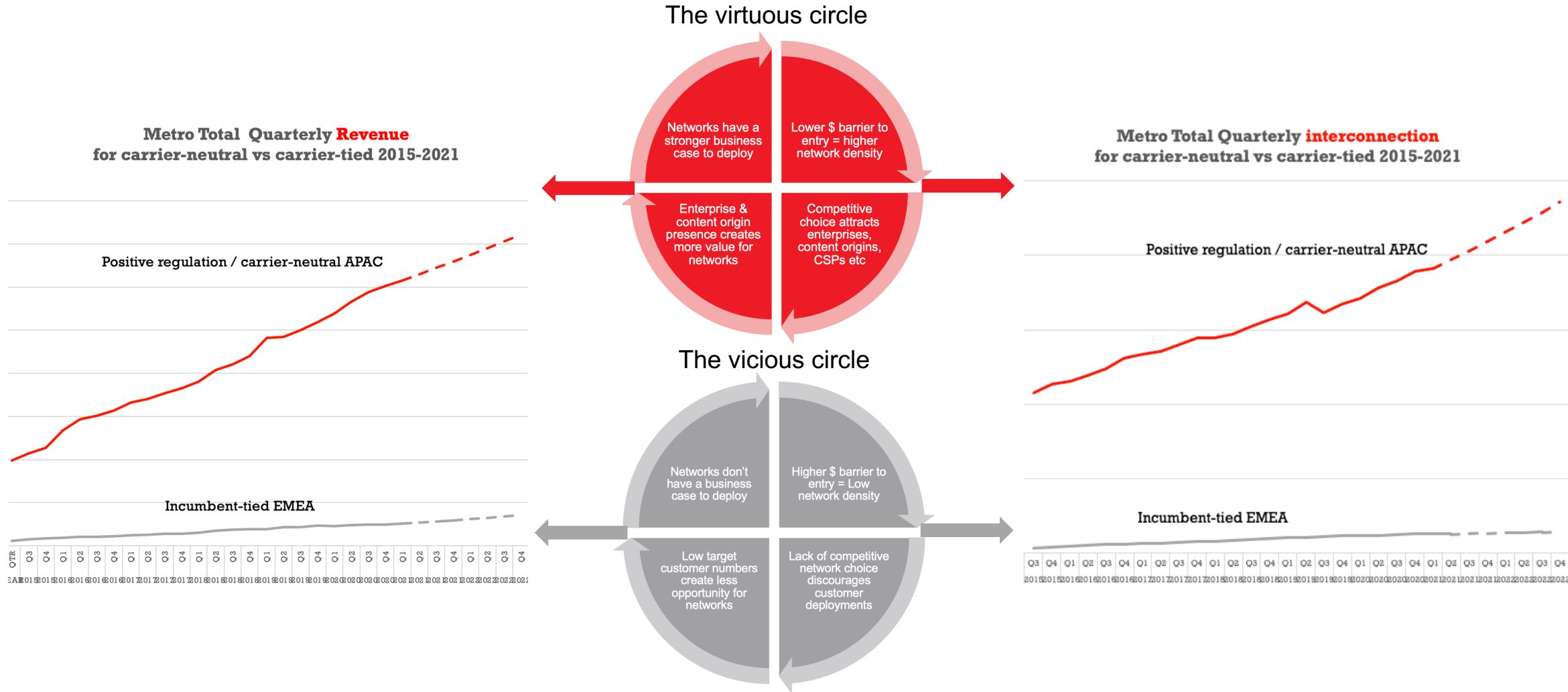
1,970 hosted ISPs & Carriers

2,820 hosted Cloud & Content providers

List is not exhaustive – apologies to anyone I missed

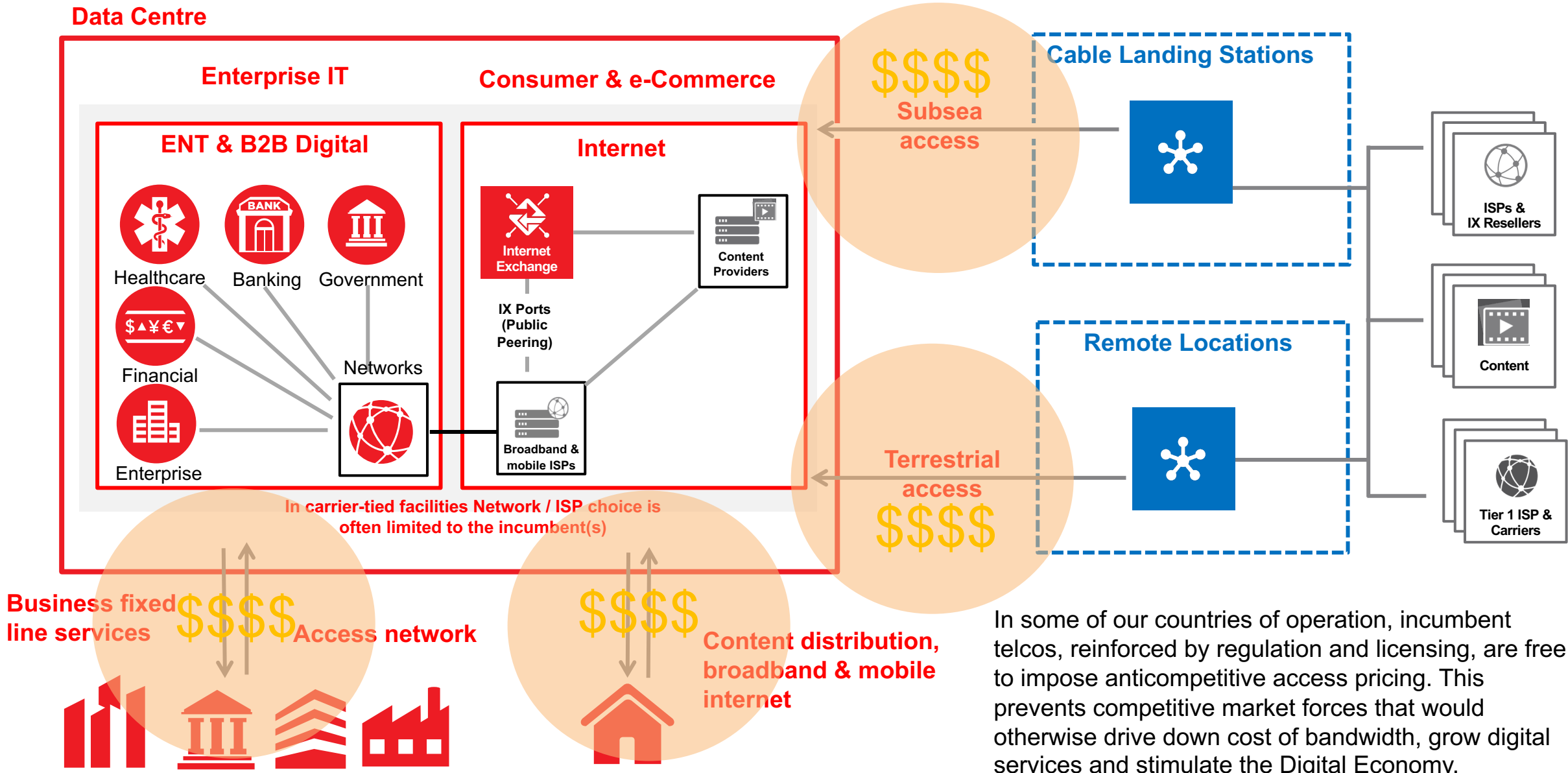


Data Center Carrier-Neutrality & Interconnection Growth



Charts plot ACTUAL revenue and cross-connect quarterly totals Q3 2015 to Q1 2021 for Two Equinix IBX Data Centers - one in EMEA, one in AP

Data Centre Access and Connectivity in Challenging Markets



In some of our countries of operation, incumbent telcos, reinforced by regulation and licensing, are free to impose anticompetitive access pricing. This prevents competitive market forces that would otherwise drive down cost of bandwidth, grow digital services and stimulate the Digital Economy.

Digital Services Products

B2B / Digital Infrastructure



Digital Infrastructure Services



Network
Edge



Equinix
Metal®



Equinix
Precision Time®



Interconnection Services



Equinix
Fabric®



Equinix Internet
Exchange®



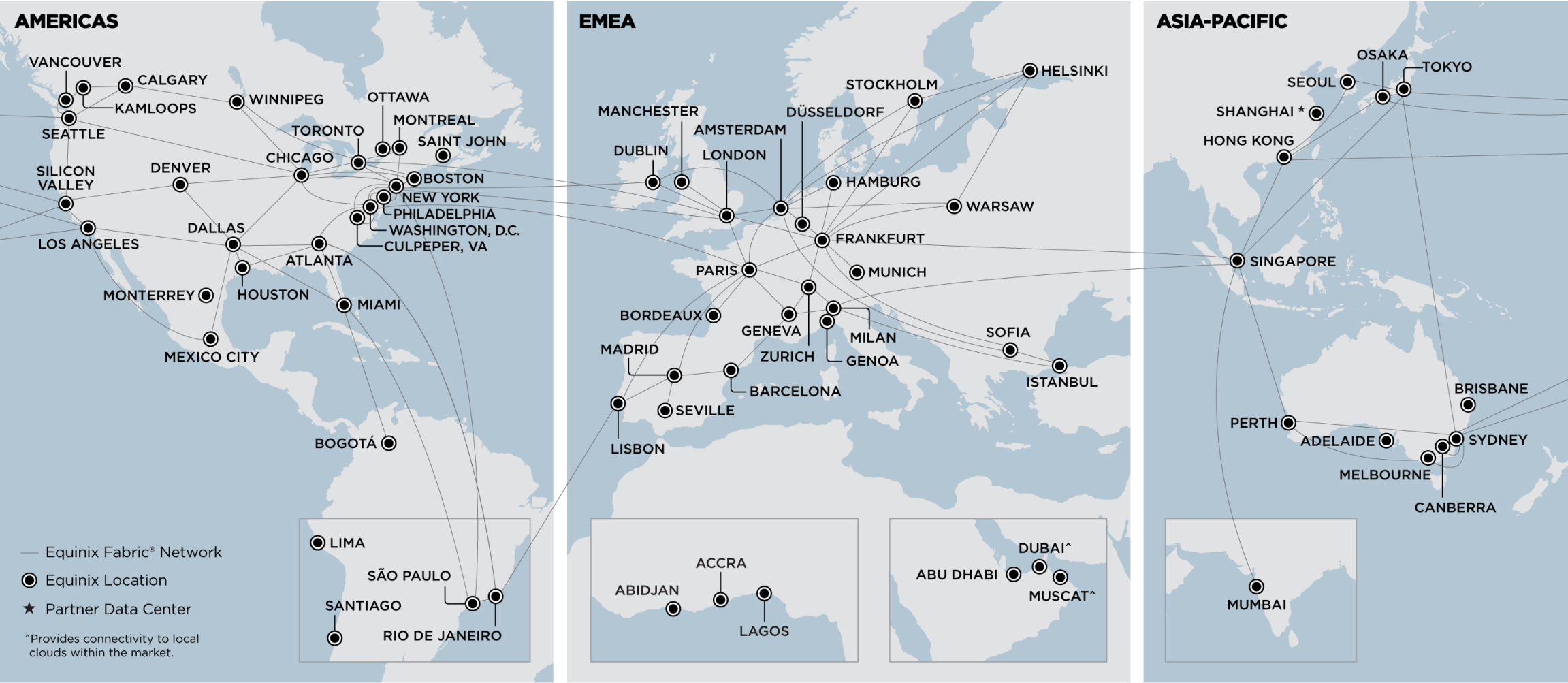
Equinix Internet
Access



PNI

Equinix Fabric

The lines on this map represent Fabric Backbone: EoMPLS links between Equinix Fabric nodes worldwide
Underlying diverse MPLS services are provided by multiple carrier partners



Equinix Metal and Network Edge

Global availabiiliities as of 10th March 2023

M Equinix Metal

F Equinix Fabric

N Network Edge

AMERICAS

ATLANTA	F M N
BOGOTA	F
BOSTON	F
CALGARY	F
CHICAGO	F M N
CULPEPER	F
DALLAS	F M N
DENVER	F
HOUSTON	F
KAMLOOPS	F
LIMA	
LOS ANGELES	F M N
MEXICO CITY	F
MIAMI	F M N
MONTERREY	

MONTREAL	F M N
NEW YORK	F M N
OTTAWA	
PHILADELPHIA	F
RIO DE JANEIRO	F
SANTIAGO	
SAINT JOHN	
SAO PAULO	F M N
SEATTLE	F M N
SILICON VALLEY	F M N
TORONTO	F M N
VANCOUVER	F N
WASHINGTON, D.C	F M N
WINNIPEG	F

EMEA

ABIJAN	
ABU DHABI	
ACCRA	
AMSTERDAM	F M N
BARCELONA	F
BORDEAUX	F
DUBAI	F
DUBLIN	F N
DUSSELDORF	
FRANKFURT	F M N
GENEVA	F
GENOA	
HAMBURG	F
HELSINKI	F M N
ISTANBUL	F

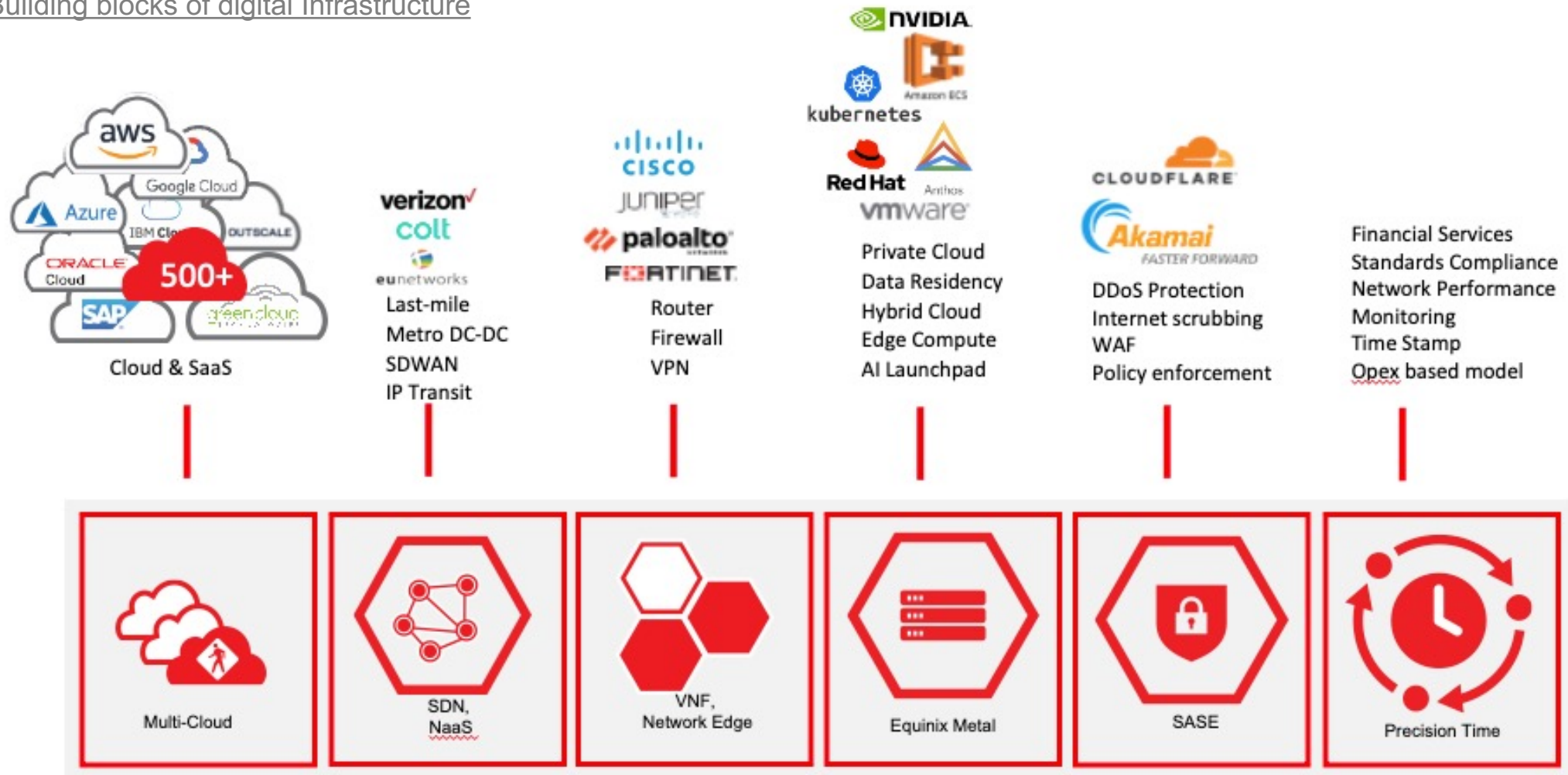
LAGOS	
LISBON	F
LONDON	F M N
MADRID	F M N
MANCHESTER	F
MILAN	F N
MUNICH	F
MUSCAT	
PARIS	F M N
SEVILLE	
SOFIA	F
STOCKHOLM	F M N
WARSAW	F
ZURICH	F

ASIA-PACIFIC

ADELAIDE	
BRISBANE	
CANBERRA	F
HONG KONG	F M N
MELBOURNE	F N
MUMBAI	F
OSAKA	F N
PERTH	F
SEOUL	F M
SHANGHAI	
SINGAPORE	F M N
SYDNEY	F M N
TOKYO	F M N

Equinix Fabric – the Building Blocks of Digital Infrastructure

The Building blocks of digital Infrastructure



Equinix Fabric is a software-defined Multi-Service self-provisioning platform supporting private access to transformative Digital Services and Infrastructure on-demand

”Musings” on Digital Services Trends

Equinix Fabric, Metal and Network Edge

Fabric & Equinix Service Provider partnerships

1. [Orange and Equinix Bring Cloud Agility to Telco Infrastructure](#)
2. [BT launches next generation multicloud connectivity solution](#)
3. [Equinix and Colt Deliver an Intelligent Network at Software Speed](#)
4. [How Equinix and Verizon Power Digital Ecosystems in Los Angeles](#)
5. [Equinix and euNetworks: Digital Transformation in Healthcare](#)
6. [Telstra-Equinix Alliance Partnership](#)

5G / MEC services and partnerships

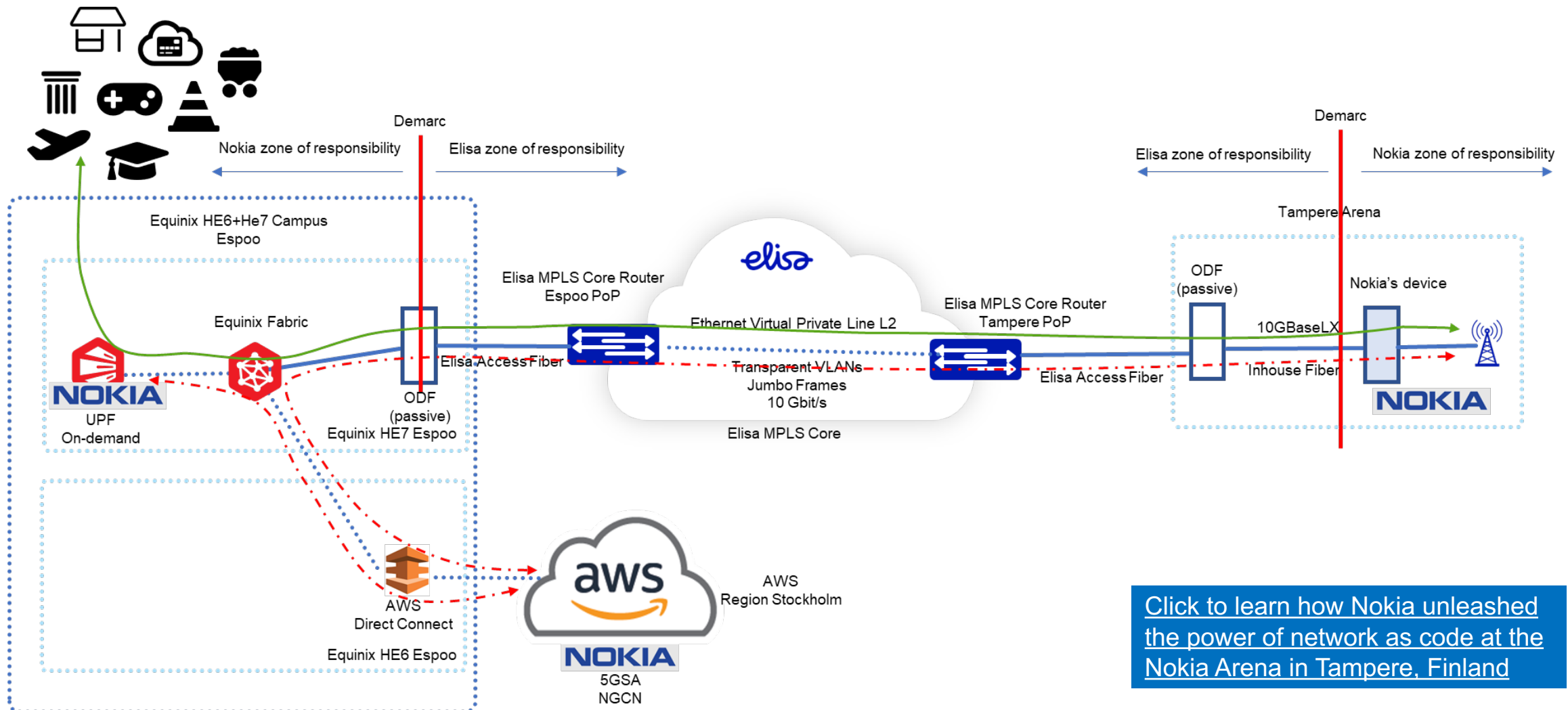
1. [Automotive V2X: MEC4Auto](#)
2. ["UPFaaS" and MEC Service Federation](#)
3. [Equinix Global Edge Developer Test-Bed](#)
4. [eMBB – optimizing QoE for user and costs for provider](#)

Blog Articles

- [The Building blocks of digital Infrastructure](#)
- [Unlock the True Potential of 5G With Edge Infrastructure](#)

Nokia MWC 2023 8k streaming showcase with Elisa and Equinix

<https://www.linkedin.com/feed/update/urn:li:activity:7031989045203263488>

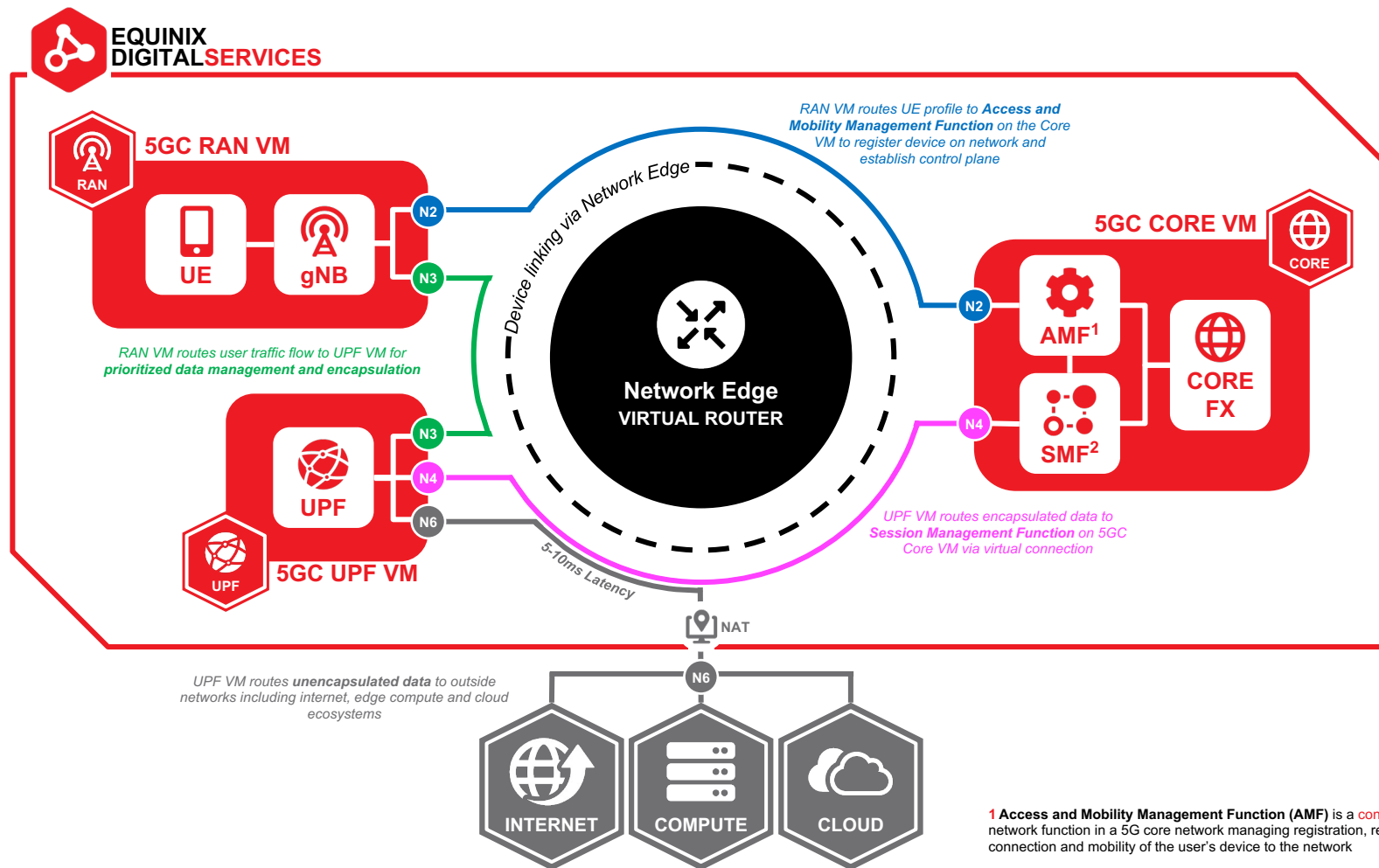


[Click to learn how Nokia unleashed the power of network as code at the Nokia Arena in Tampere, Finland](#)

The 5G Edge Developers Platform on Equinix

Free5GC-Enabled Solution for Application Developers Across All Ecosystems

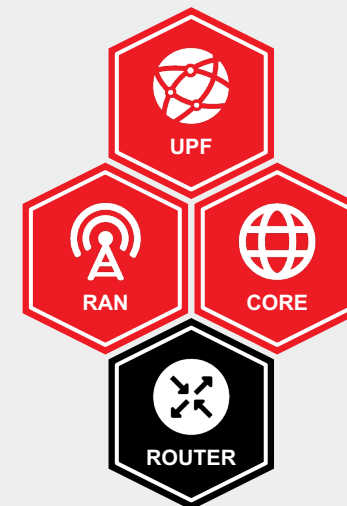
<https://blog.equinix.com/blog/2023/02/23/unlock-the-true-potential-of-5g-with-edge-infrastructure/>



¹ Access and Mobility Management Function (AMF) is a control plane network function in a 5G core network managing registration, reachability, connection and mobility of the user's device to the network

² Session Management Function (SMF) is a data plane network function in a 5G core network managing PDU sessions, IP address allocation, tunneling and downlink notifications

FOURFUNCTIONS ONEPLATFORM



Test and run Applications and Frameworks in a real-world environment from a simulated User Edge to the Multi-Cloud hosted application with all the advanced features and functions of 5G Stand Alone

✓ 3 HOSTED VIRTUAL DEVICES
SIMULATING 5G RAN, UPF & CORE

✓ 1 VIRTUALIZED ROUTER TO DIRECT
TRAFFIC FLOW ACROSS PLATFORM

✓ AVAILABLE TO BE SPUN UP ON DEMAND
IN 28 GLOBAL METRO MARKETS

"The Slicing Must Go On" – Oleg Berzin, PhD.

eMBB

5G / 6G eMBB will have to address challenges that Broadband ISPs have long since resolved: optimization of end-user experience for millions of consumers simultaneously at acceptable cost as internet content volume increases with exponential CAGR.

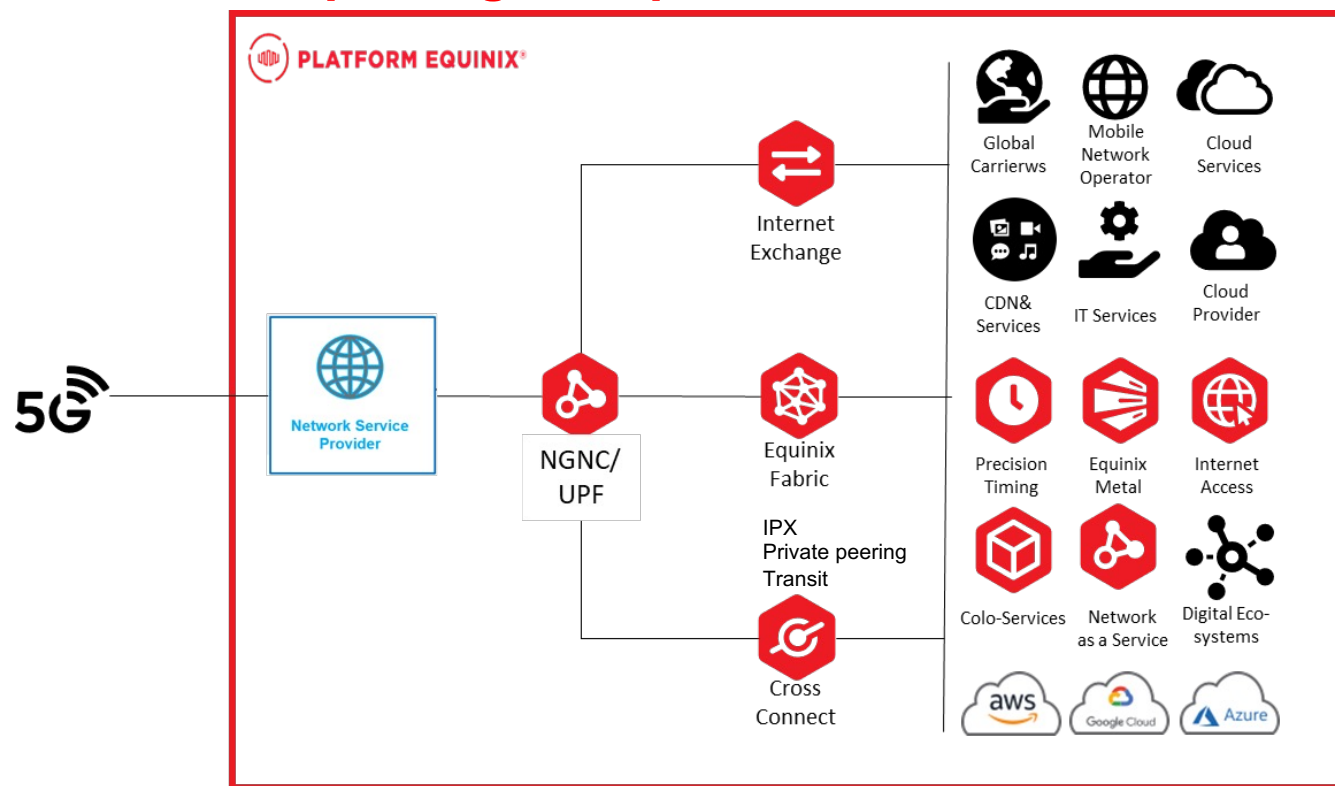
B2C Internet services.

Content Delivery, Streamed Media, Gaming, AR & VR applications, Automotive entertainment services, Social Media, Collaboration Tools, Remote/Mobile Workforce, E-Commerce, Mobile Payments, Mobile Apps,

B2B Internet/Private services.

End to end network slice, from RAN to service provider. API enabled interconnection and on demand UPF to support network as a code. Collaboration Tools, Remote/Mobile Workforce, E-Commerce, Mobile Payments, Mobile Apps,

Internet Exchanges and Internet ecosystems – Equinix global platform



ESG

Sustainability – A vision of a Better Future

Do what it takes to protect the planet

Environment

Environment

Achieve our climate targets

Drive emissions reductions across our global operations and value chain

Reach 100% renewable energy

Scale renewable energy purchasing globally to move from 95% to 100%

Design for the environment

Invest in resource conservation strategies and data center of the future innovation

ESG Framework Alignment



Governance

Do what's right to lead the way

Governance

Drive global responsibility

Promote global responsibility through unwavering values and ethical practices

Advocate for change

Forge partnerships to advocate for innovation and action

Integrate ESG

Integrate sustainability into all aspects and levels of our business

Social

Build a diverse & inclusive culture

Be a place where every employee can say "I'm safe, I belong, and I matter"

Promote health & wellness

Support the physical, mental and emotional wellbeing of all our employees

Connect our communities

Serve and connect our communities to opportunities of the digital world

Social

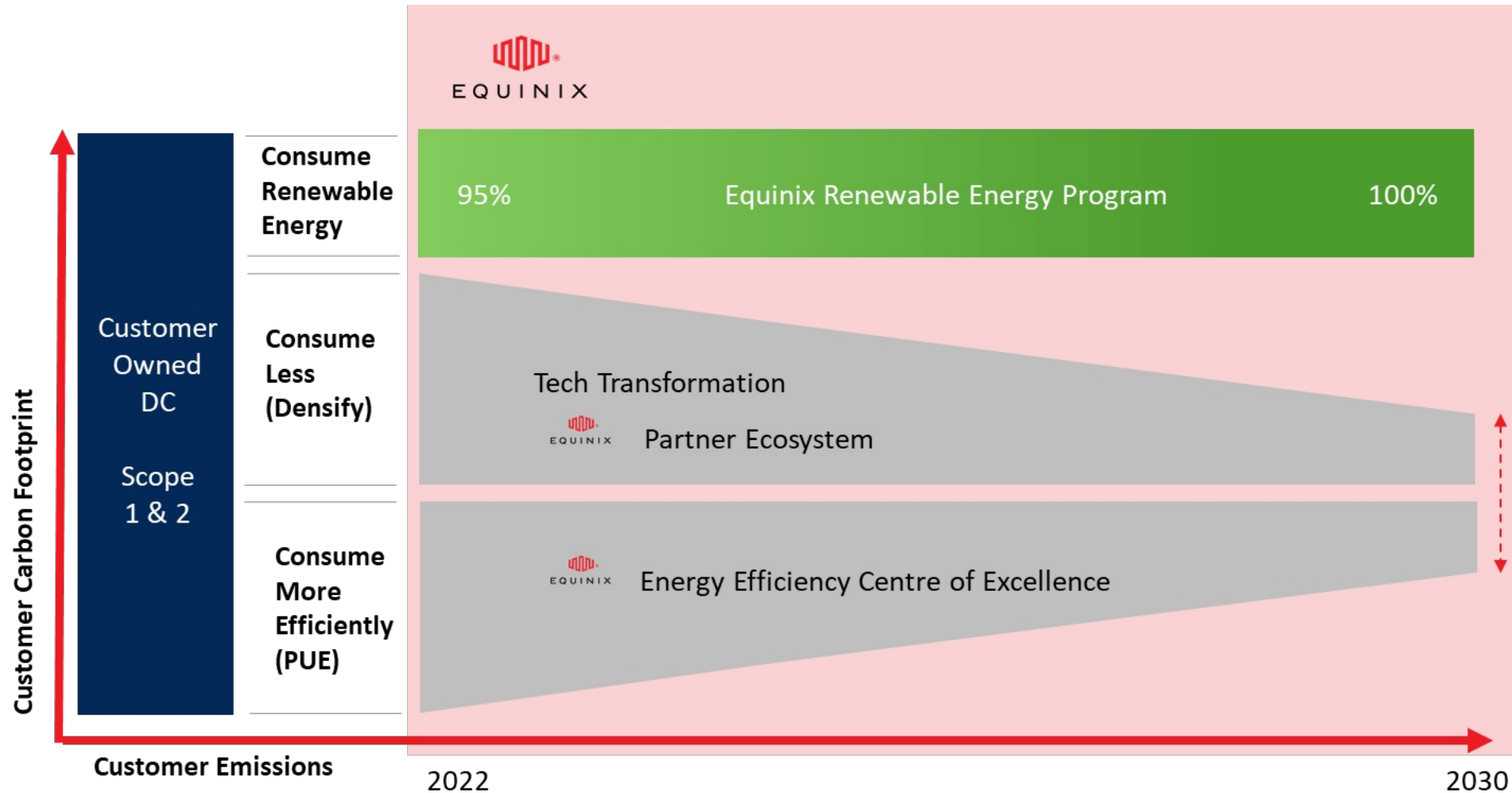
Do more for each other to unleash potential

Environment

Responsible targets for us and our supply chain

Goals towards 100% renewable Energy by 2030

Reducing our carbon footprint to achieve climate goals



Social

The true value of a company is its people

Commitment to Diversity, Inclusion and Belonging (DIB)

Equinix is committed to building and maintaining a culture where every employee, every day, can confidently say “I’m safe, I belong, and I matter.”

Gender Diversity

In 2021 Equinix:

Increased proportion of female employees to 25.3%,

Increased the number of manager positions held by women to 28%

Increased the number of women in senior leadership roles to 30.6%

Equinix Employee Connection Networks

25% employee adoption rate to date:

BlackConnect



FaithConnect



interASIANconnect

PrideConnect



YoungProfessionalsConnect

Building capabilities of aspiring leaders

In 2021, we sponsored 30 aspiring U.S. Equinix leaders to participate in McKinsey’s Black Executive Leadership Program. With the intention of accelerating the progression of Black leaders, this program focuses on building leadership capabilities and networks that distinguish successful leaders, and it is meant to help graduates achieve the next step in their careers. Upon program completion, participants received career coaching and mentoring. In 2022, we will extend the program to include individuals who identify as Black in EMEA. Additional Equinix employees will also participate, as McKinsey has expanded the U.S.-based program to include individuals who identify as part of the Asian and Latinx communities.

<https://sustainability.equinix.com/social/building-a-diverse-and-inclusive-culture/>

Governance

Responsibility, Ethics and Partnerships

....partnerships?

Q&A



EQUINIX