Mobile Strategy Update

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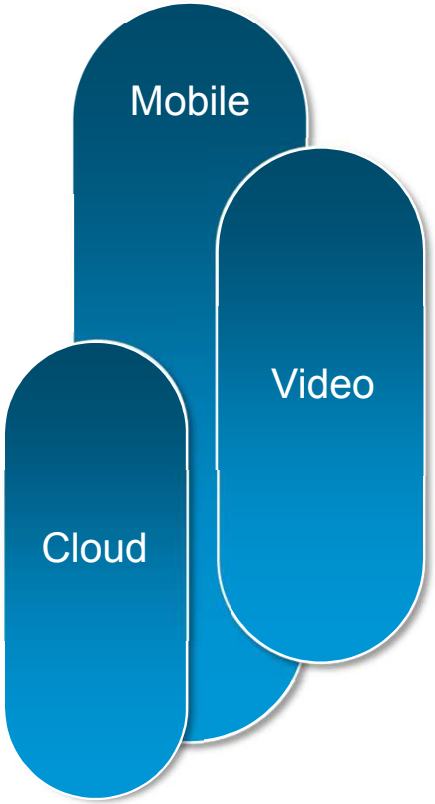
Cisco's Service Provider Approach

Next Generation Internet Drivers



Small Cell
Everywhere

Changing
Business
Models

2 years
of video
every second

100G
and beyond

4G/LTE
Emergence

19 Billion
devices

62%
workloads in cloud

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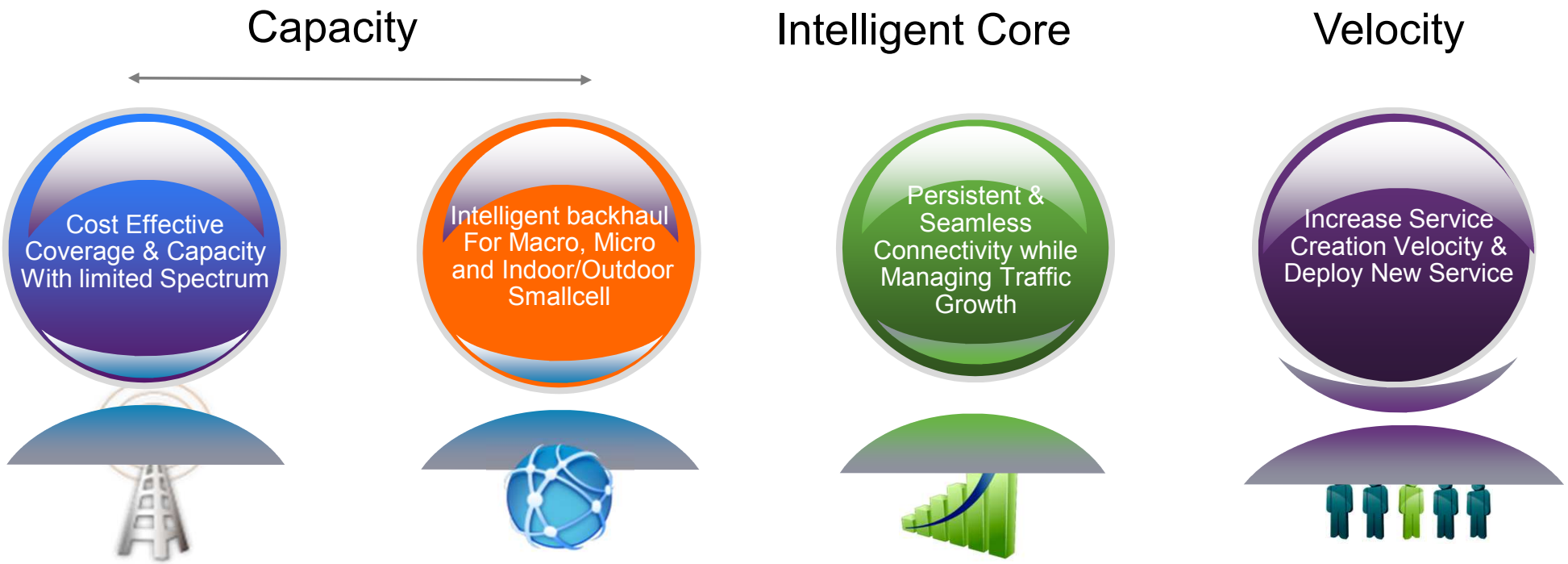
Mobility Opportunities & Challenges



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SP Mobility Customer Announcements - 2013

First to market with 4G LTE in France and over 300,000 3G small cells.
EPC for 4G + unified management of 2G & 3G. ASR5K + ASR901/903. 20 million mobile subs

ASR5000 - EPC for 4G + unified management of 2G & 3G

Czech Republic. ASR5000 - EPC for 4G + unified management of 2G & 3G

ASR5000 – EPC, 35 million subs

Managed service for Cisco Universal Small Cells. 100% Cisco
Enterprise wi-fi compatible
Cost effective solution for smaller operators and MVNOs

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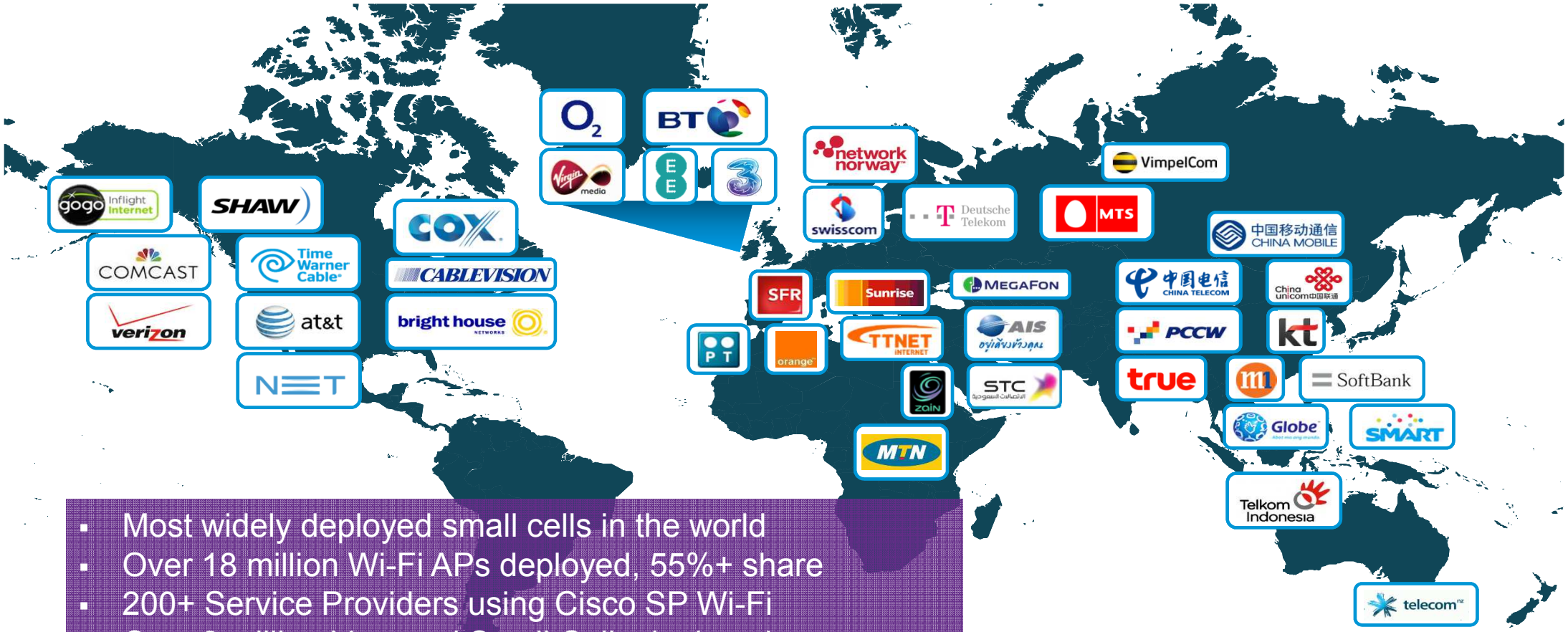
Small Cell: Built on Unrivaled Expertise



- Most widely deployed small cells in the world
- Over 18 million Wi-Fi APs deployed, 55%+ share
- 200+ Service Providers using Cisco SP Wi-Fi
- Over 2 million Licensed Small Cells deployed

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Mobile Backhaul Customer Engagements

- #1 in Mobile IP Infrastructure with 42% Market Share, Up 4.1% Y-Y

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Cisco's Mobile Packet Core Market Leadership

Over 300 Operators In More Than 75 Countries

1B Subscribers Across Mobile Packet Cores

Cisco Mobile Packet Core Powers
~50% Of Worldwide LTE Connections

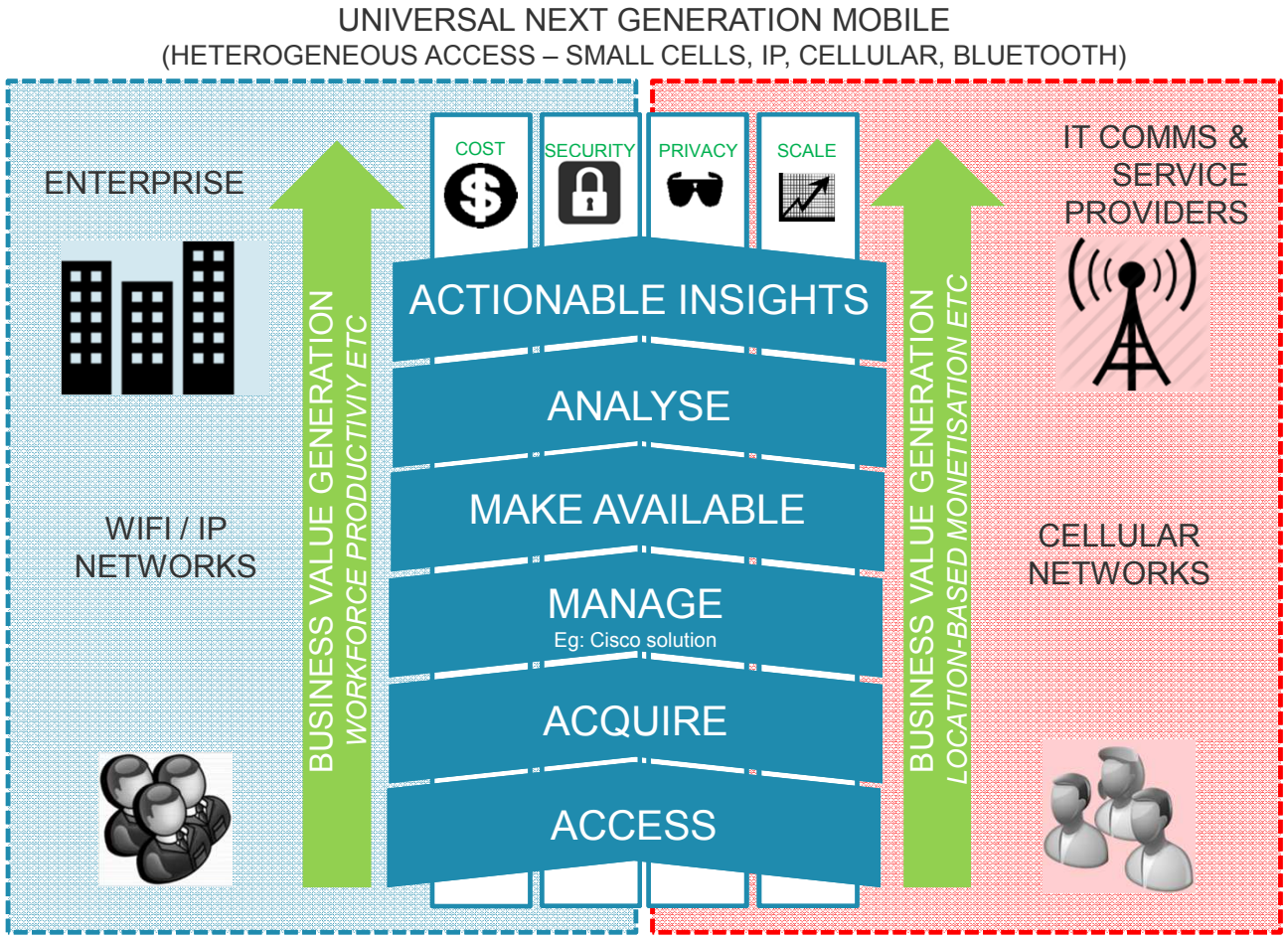
56 LTE Wins In 33 Countries

#1 EPC Market Share / #1 MPC Market Share

World's First Commercially-Deployed LTE Small Cell Gateway
(KT/Korea)

Winner of 2013 Best LTE Core Network Award

Cisco Enterprise Mobility Value Chain Model



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Cisco strategy for Service Provider Mobility

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EMEAR Mobility Architect

Distinguished Systems Engineer

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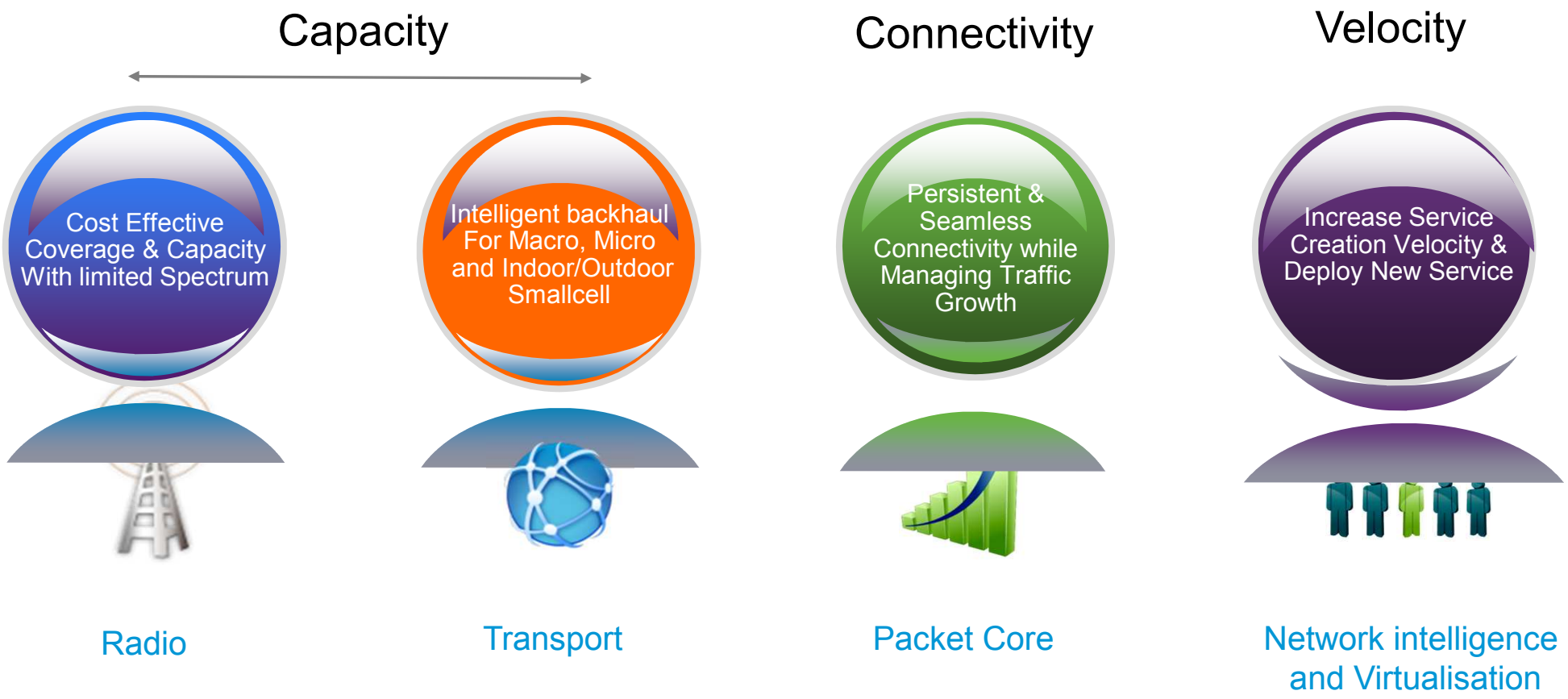
Cisco mobile end to end strategy



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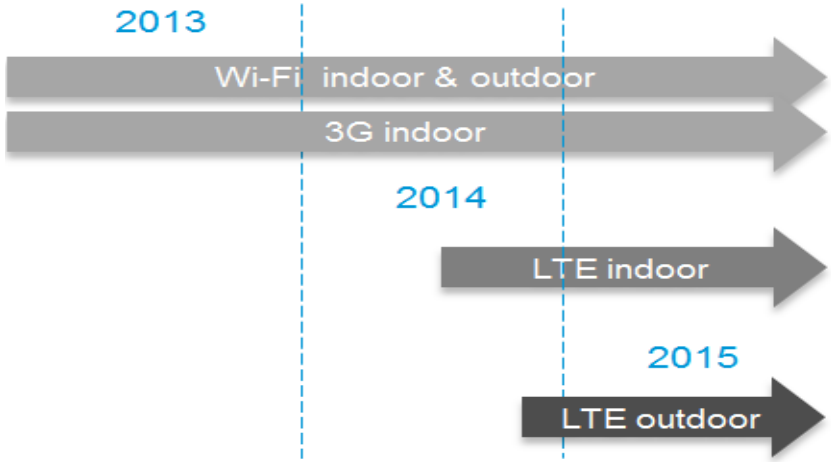
Cisco Radio strategy

- Build on Wi-Fi installed base for Enterprise and Hotspot along with enabling mobility (HS2.0 Passpoint) and network selection (ANDSF).
- Converged radio solutions Wi-Fi + 3G and later 3G + LTE and Wi-Fi + LTE.
- Avoid increasing rental, power and backhaul expenses by building on existing infrastructure. Enterprise integration to allow succesful operations in a mixed SP/Ent environment.
- Multi vendor SON to manage and Optimize heterogeneous radio network with limited and expensive spectrum in 3G, LTE and Wi-Fi.



3G module 100mW 16 user
Wi-Fi access point 801.11ac

LTE 32 call 2x250mW
3G 16 call 100mW

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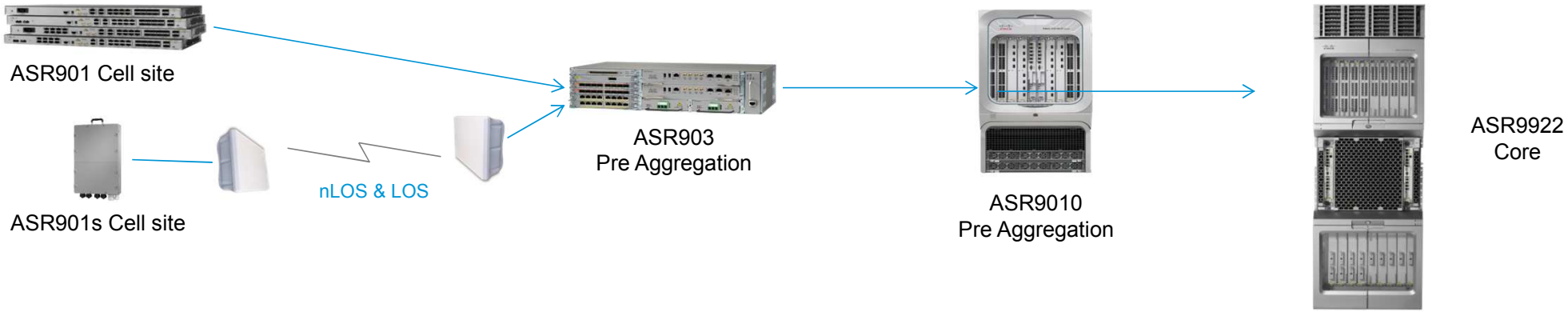
Cisco Transport strategy

- Converged core transport for Fixed and Mobile with close optical integration and enhanced traffic management
- MPLS enabled RAN backhaul providing multiservice transport and service innovation for TDM, ATM and IP VPN
- Service integration and ready for LTE-A with integrated Security GW, synchronization and low latency.



GE/10GE Density and throughput	Synchronization 1552, Sync Eth	Any service any port IP VPN, L2 VPN, Ethernet, ATM TDP	Integrated Sec-GW for LTE and Small cell

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Cisco packet core strategy

- All Cisco packet core gateways built on the same STAR-OS software.
- Scalable HW to provide performance and flexible growth, only adding capacity as required.
- Flexible use of resources depending on demand automatically allocated across throughput, sessions or transactions.

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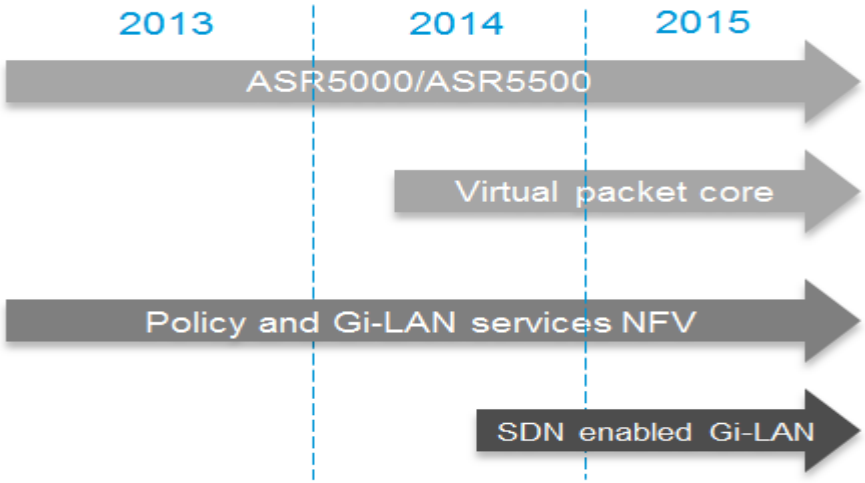
Cisco enabling service velocity with NFV

- Programmable for ease of creating and deploying new services/applications
- Elasticity to improve efficiencies as well as handle volatility
- Automate different parts of the network to speed up the ability to react to changing conditions
- Resiliency for improved availability and security



SGSN/GGSN	S-GW / P-GW
HNB-GW eHNB - GW	eWAG E-PDG
PCRF	FW
DPI	Video Optimization

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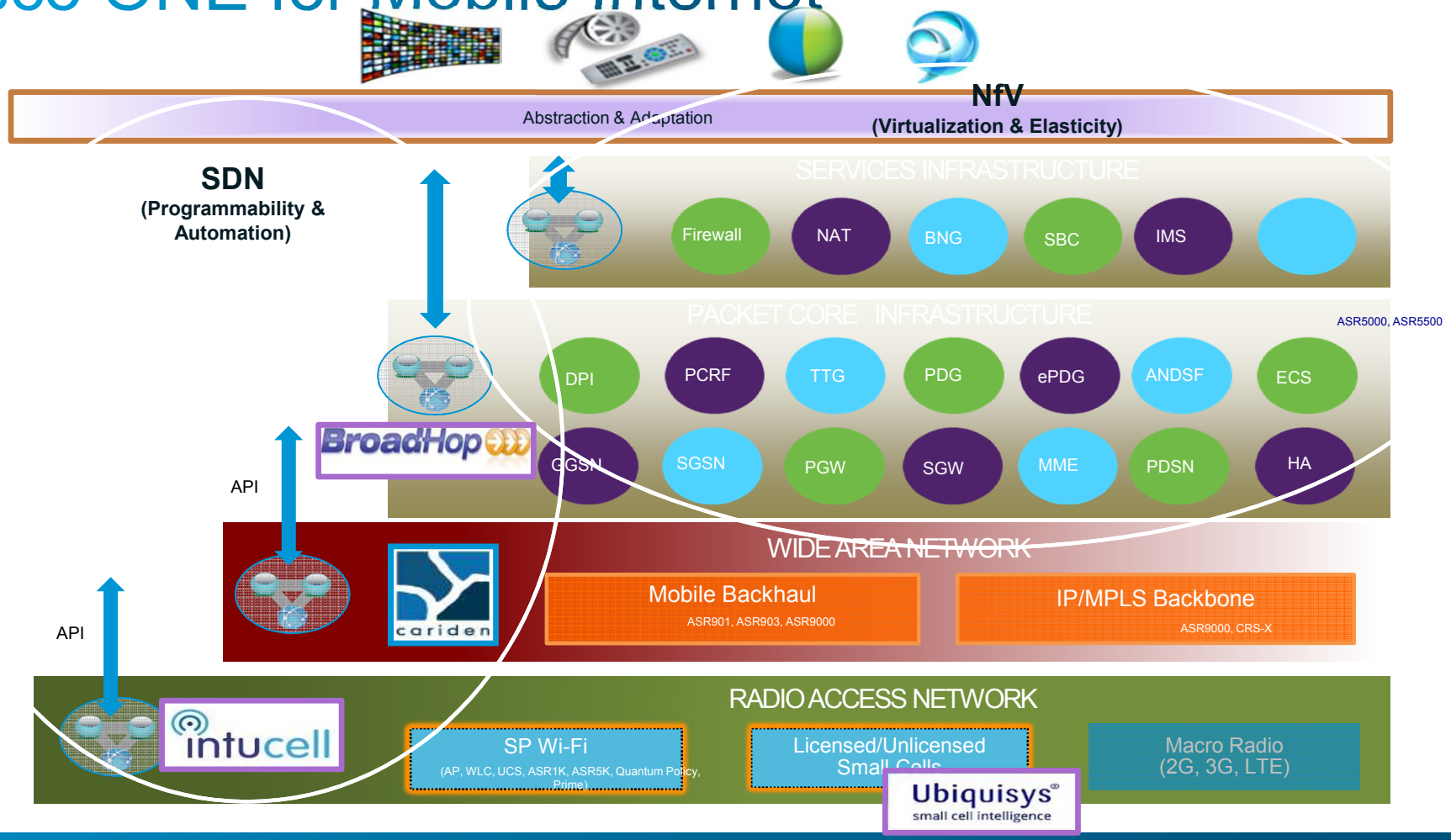
Cisco ONE for Mobile Internet



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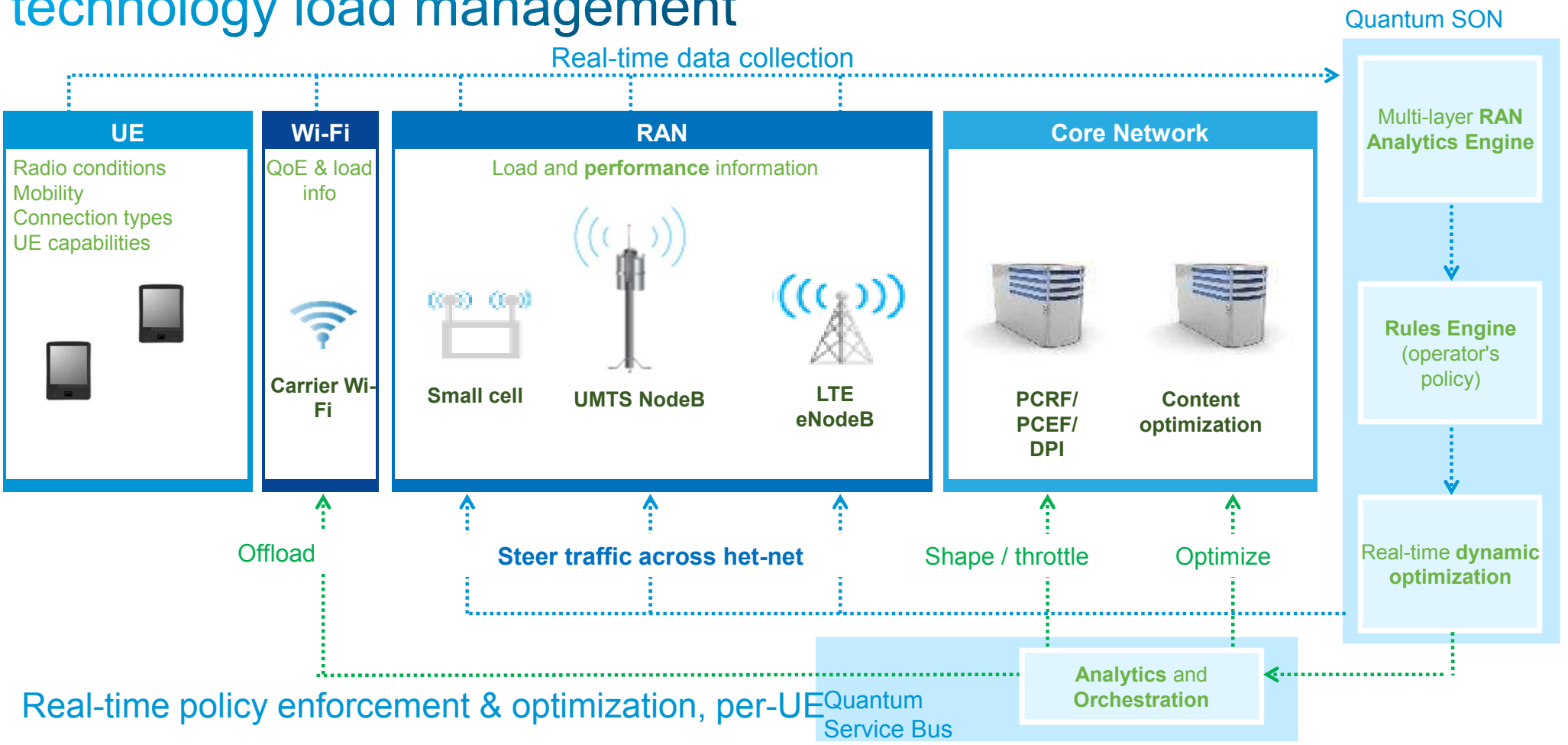
RAN Aware Optimization as part of multi-layer multi-technology load management



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Questions