SERVICE PROVIDER SDN WITH CLOUD TRANSFORMATION

조인숙팀장
Ericsson-LG

AGENDA

› Service Provider SDN with Cloud
  - SDN Service Chaining
  - SDN and Cloud integration
  - Virtual Enterprise Service Platform
› Conclusions

NETWORK TRANSFORMATION

SP-SDN, NFV AND CLOUD SOLVE KEY CHALLENGES

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Cost and Time Pressure drives Innovation

Ever increasing number of devices

Ever increasing bandwidth demand

Complexity

New revenue streams required

Simplification

Flexibility

Time to Market

Toolbox

- Service Provider SDN
- Network Function Virtualization
- Real Time Cloud

☑ Reduce Complexity ☑ Increase Flexibility ☑ Manage the Transition

SDN & NFV, CLOUD

Management & Orchestration

Cross Domain Control, Orchestration & Management

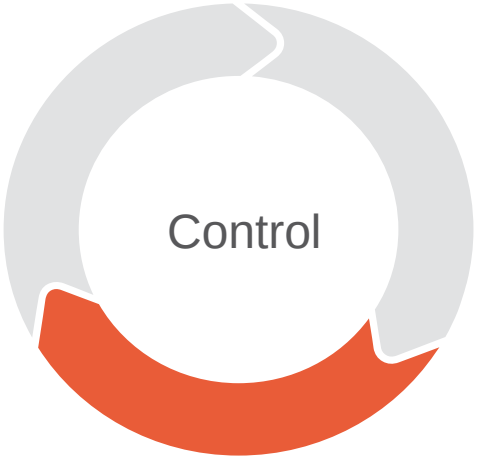
NFV

Virtualizing Network Functions

CLOUD

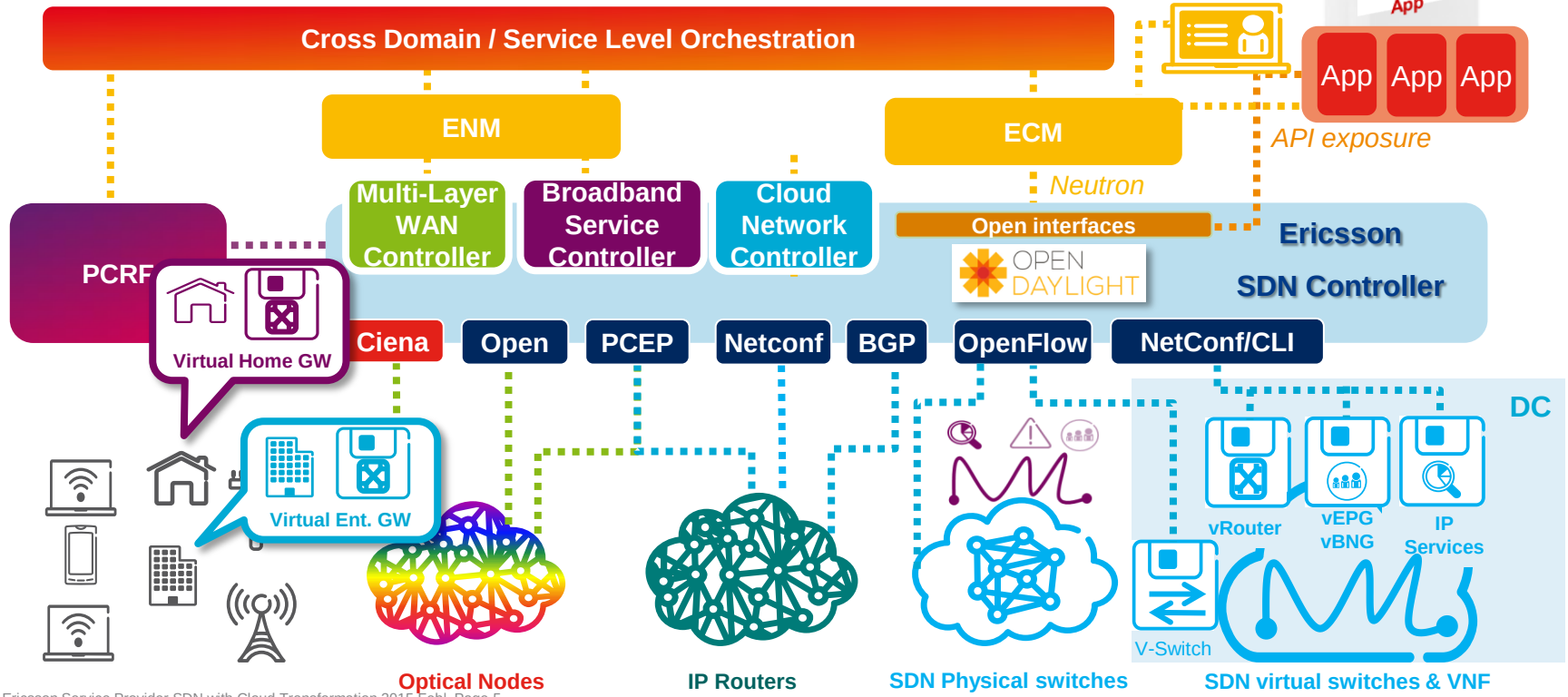
Scaling Network Functions to the Cloud

SDN



Network Connectivity and Programmable Transport

ERICSSON SDN & CLOUD UMBRELLA



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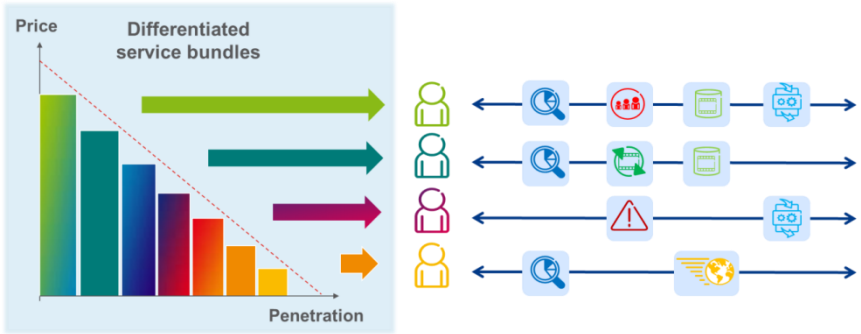
CHALLENGE & SOLUTION

THE CHALLENGE

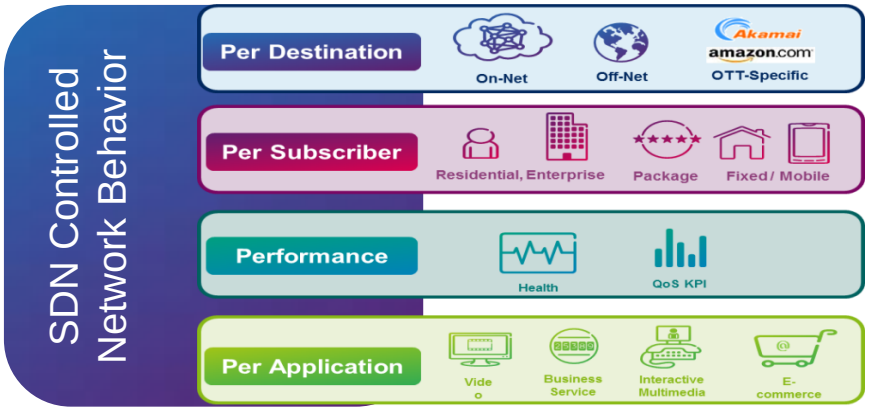
› Service Personalization leads to increased Cost and Complexity

› Where is the sweet spot of being a Smart operator

› Non SDN “service chaining” is often Inefficient, or Subscriber-unaware & Static



THE SOLUTION

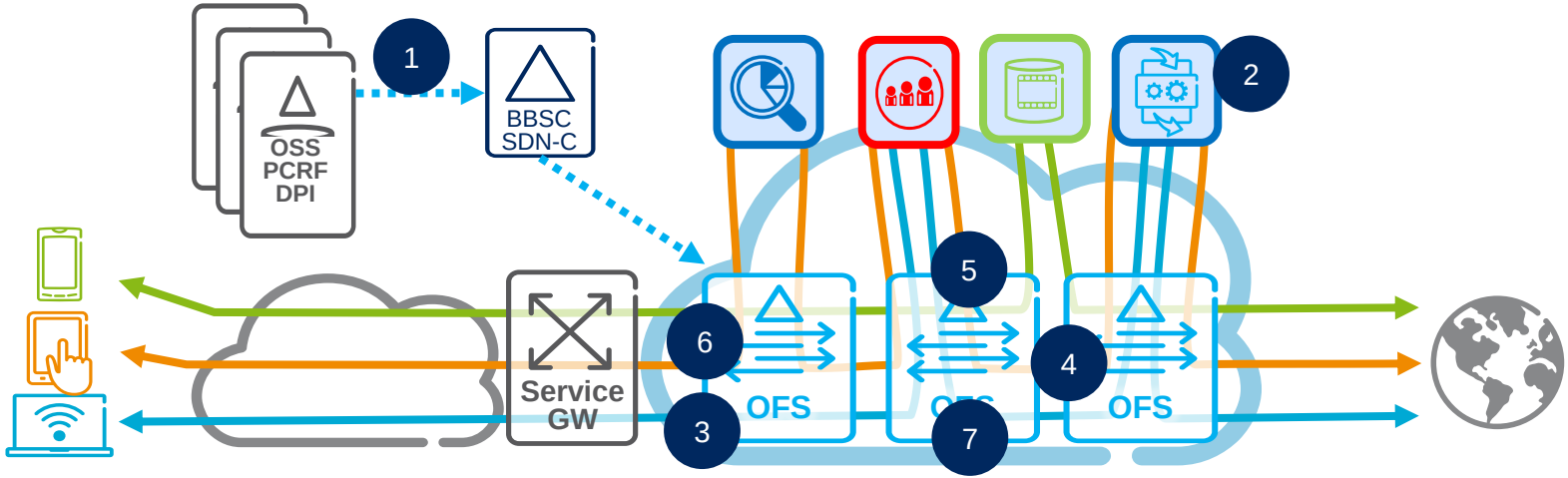


› *Service Chaining allows Real Time, Dynamic, Low Complexity and Scalable Service Personalization*

› The Results

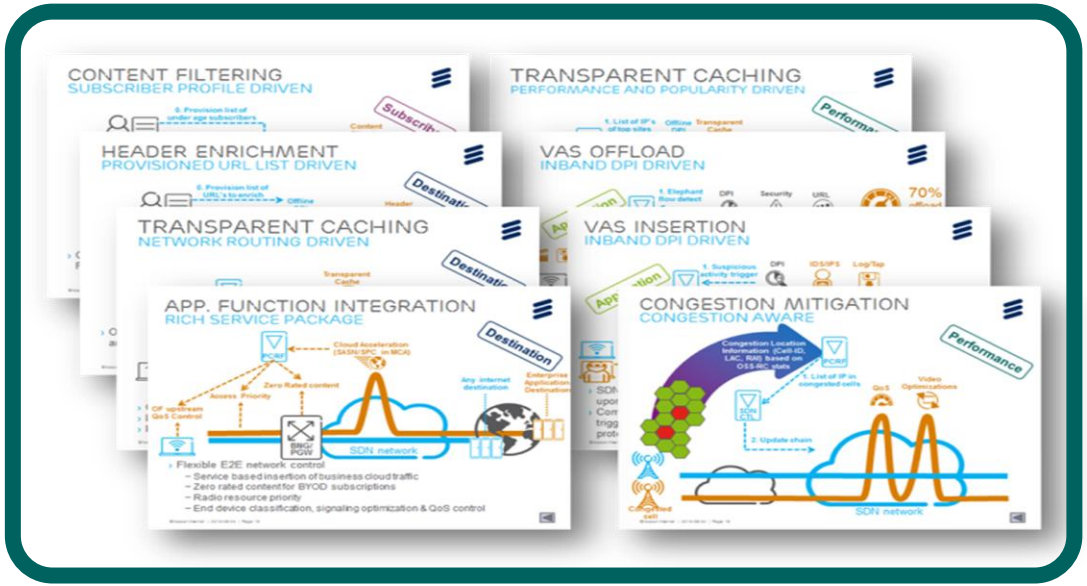
- Service Deployment in Minutes
- Operational Simplicity
- Carrying live traffic today

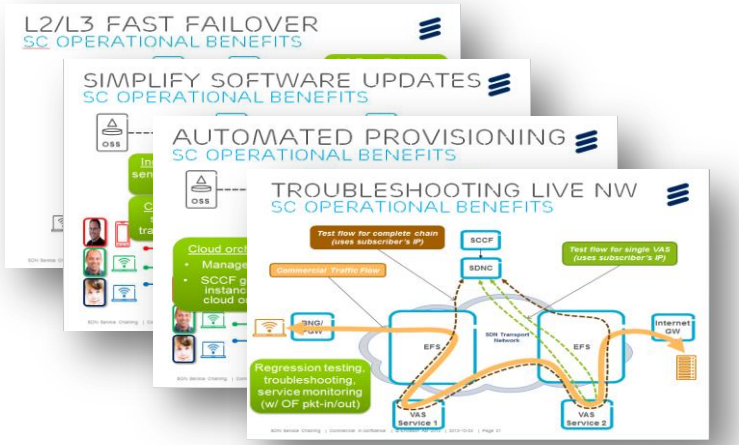
THE SOLUTION
ERICSSON SERVICE CHAINING



1. Open interfaces
2. No dependencies on VAS
3. Able to discriminate also on L4-7 characteristics
4. Integrated load balancing and fast failover
5. Embedded traffic classification
6. Dynamically switching traffic between different chains
7. Can be physical or virtual OFS

SERVICE CHAINING
USE CASES

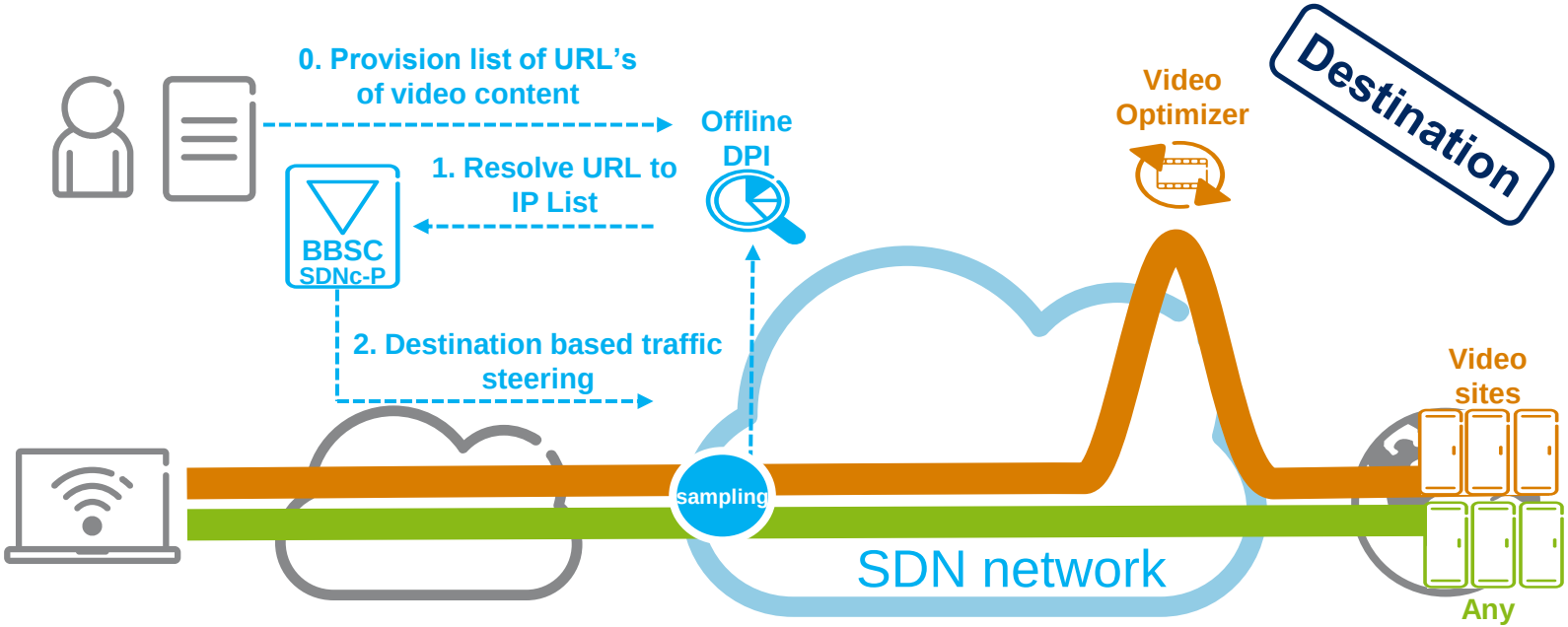




New Capabilities

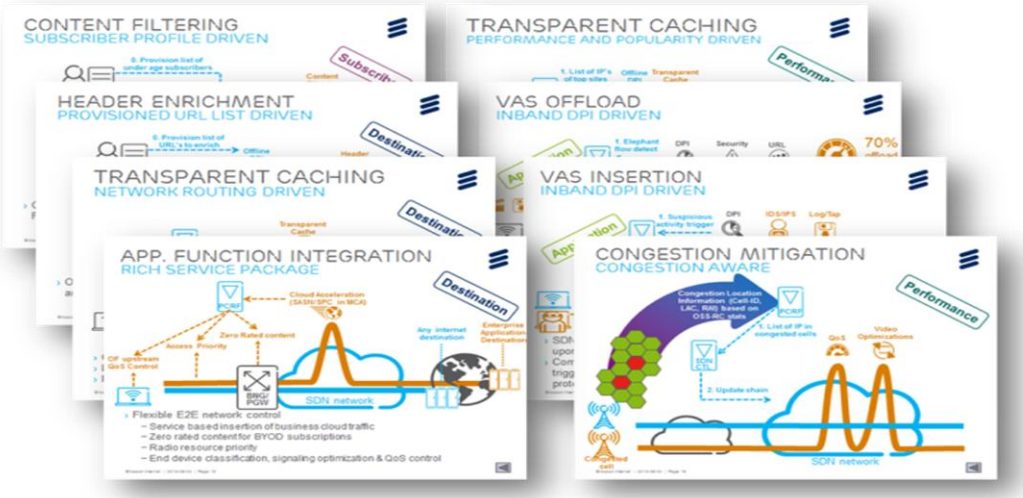
Operational Tools

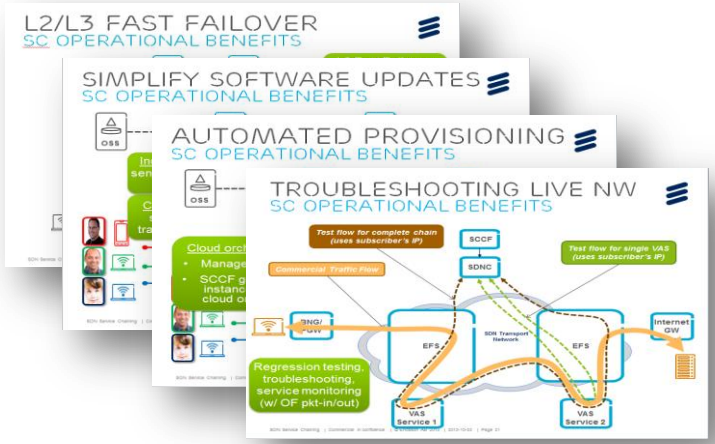
VIDEO OPTIMIZATION
PROVISIONED URL LIST DRIVEN



- Only the video sites go through the video optimization
- Potential enhancement to the NFV PoC using MSP as video optimization platform
- Supporting subscriber based and destination based Video Optimization

SERVICE CHAINING
USE CASES

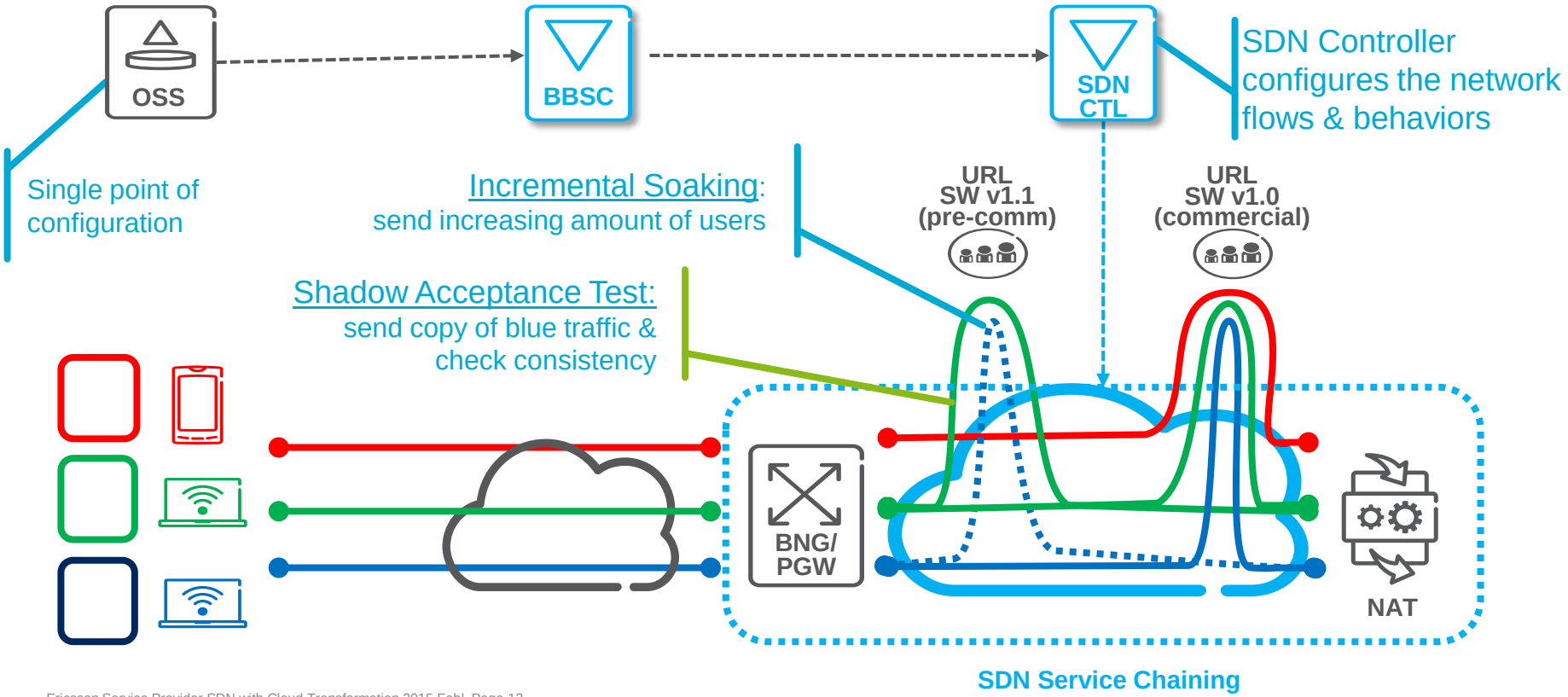




New Capabilities

Operational Tools

SDN ENABLED SOFTWARE UPDATES
SIMPLIFY VAS SW UPDATES



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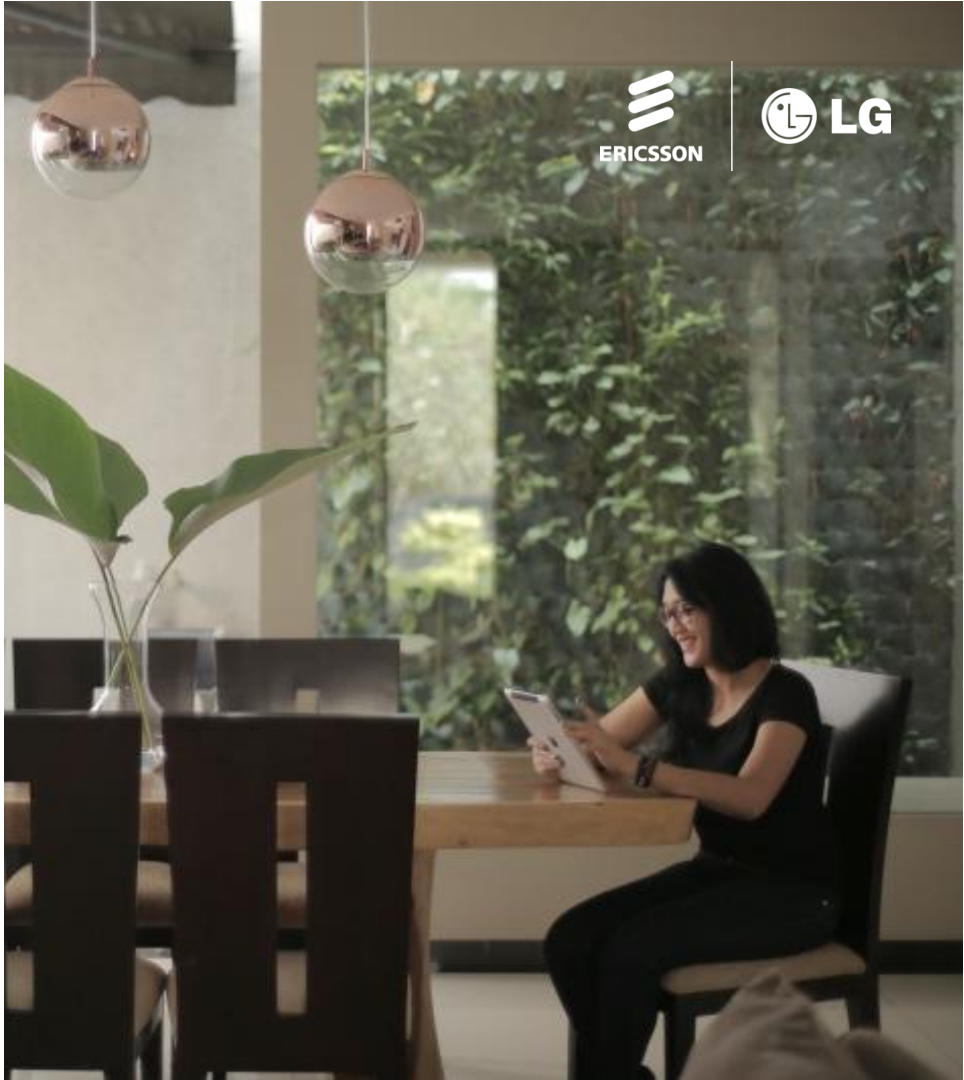
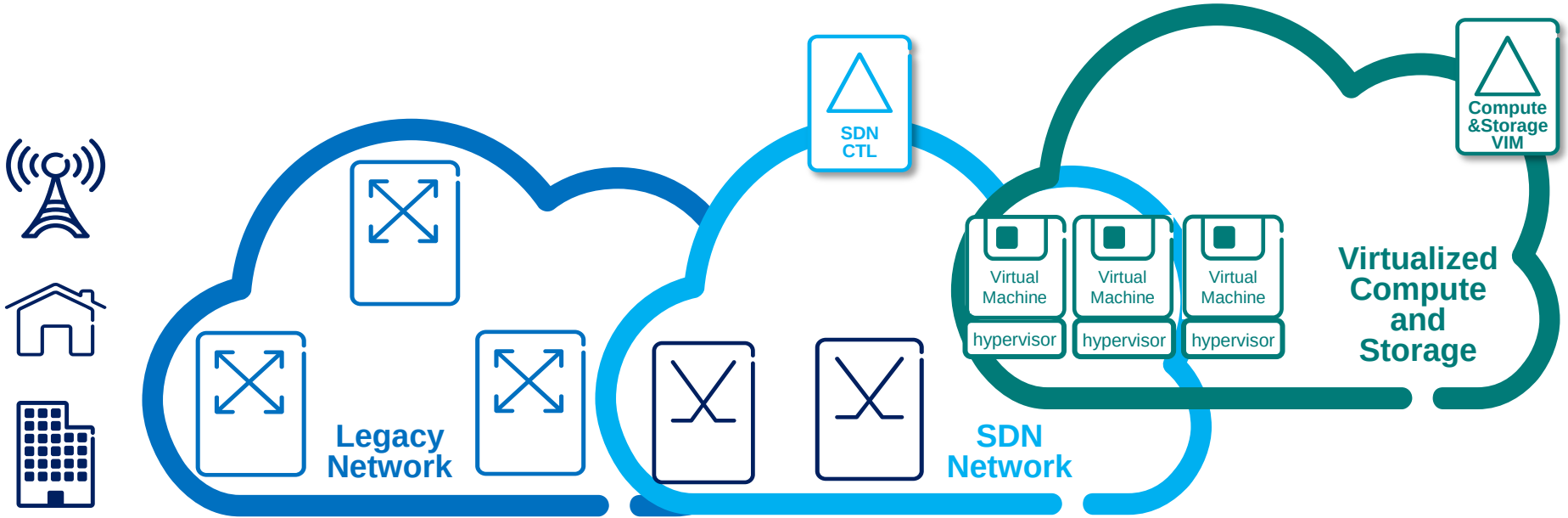
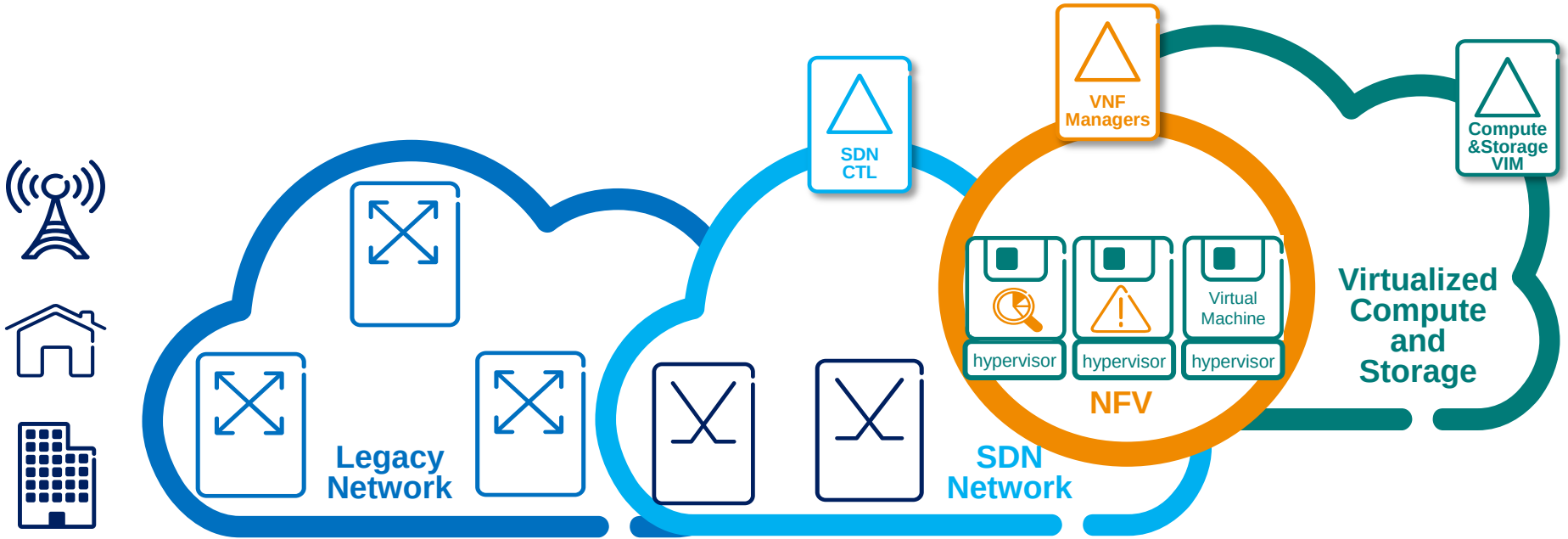


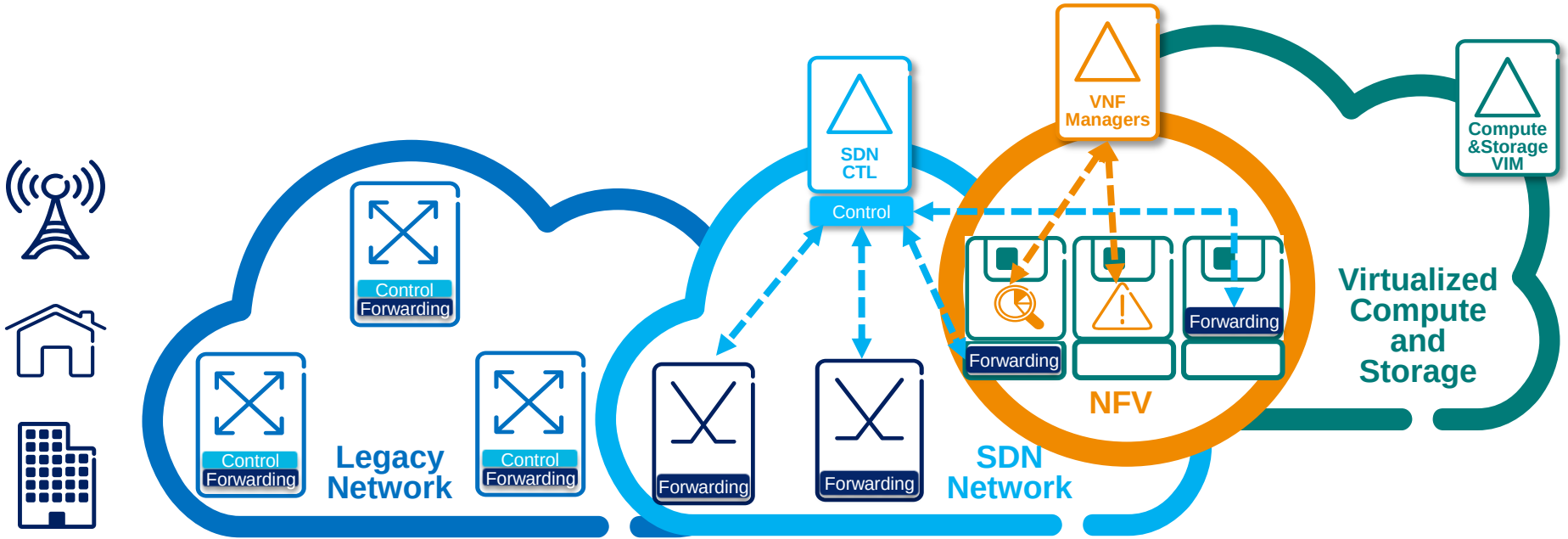
CLOUD, SDN & NFV
MANAGEMENT AND VIRTUALIZATION



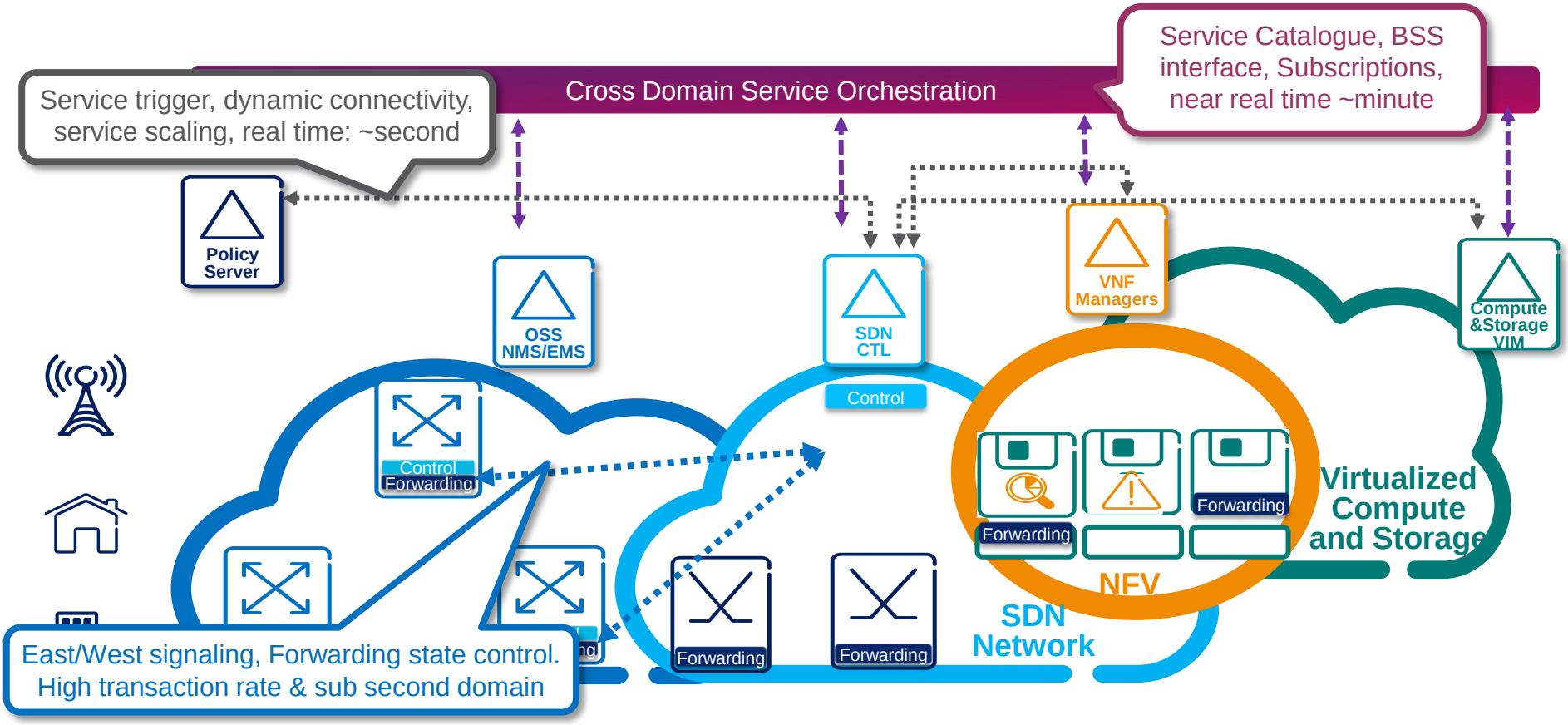
CLOUD, SDN & NFV
MANAGEMENT AND VIRTUALIZATION



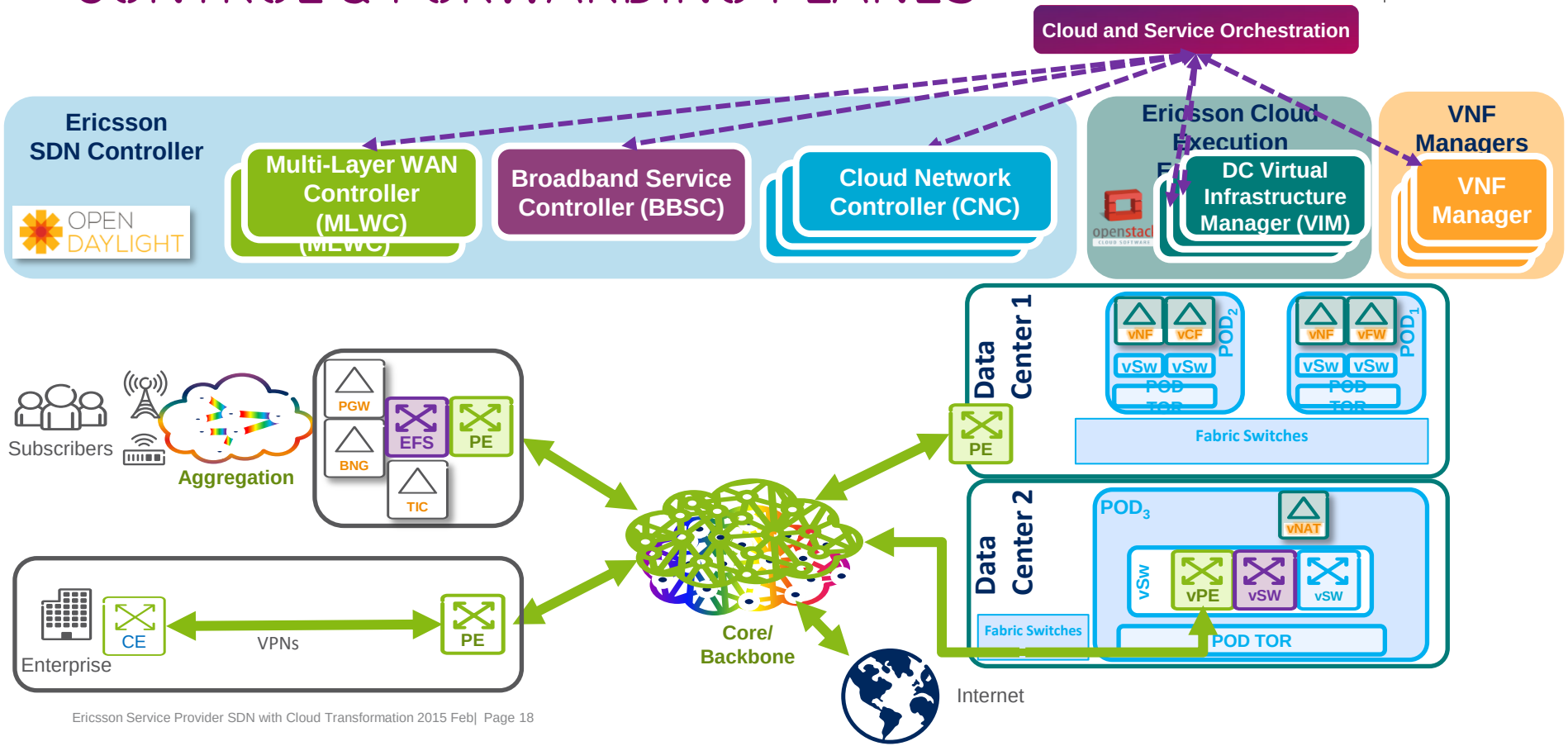
CLOUD, SDN & NFV
FORWARDING & CONTROL



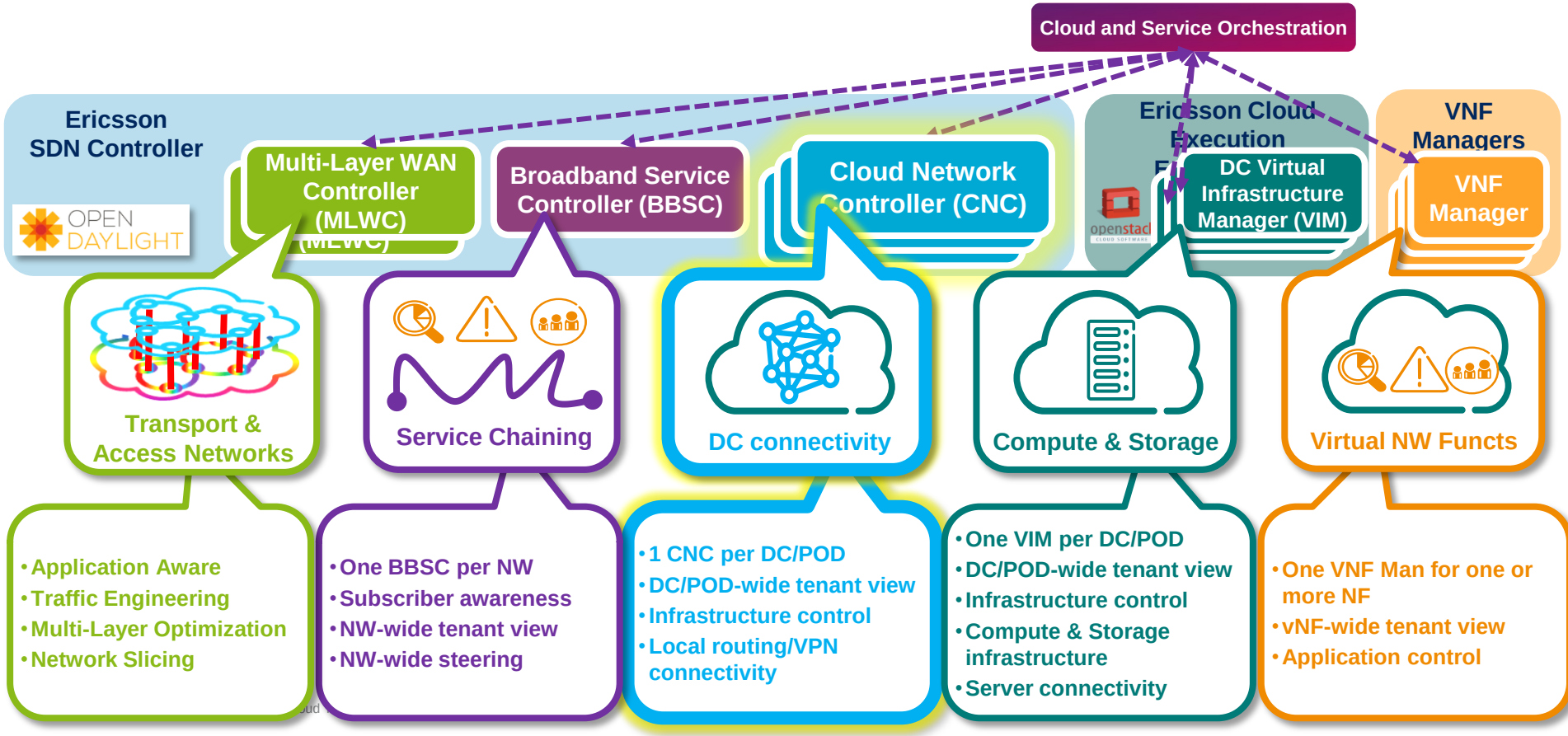
CLOUD, SDN & NFV
ORCHESTRATION AND SIGNALING



SDN, CLOUD AND NFV
CONTROL & FORWARDING PLANES



SDN, CLOUD AND NFV
CONTROL CAPABILITIES



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IT INFRASTRUCTURE VIRTUALIZATION
BARRIERS & OPPORTUNITIES

Operators

› Revenue growth opportunity from
- Cloud as a Service
- Networking-aaS
- Infrastructure-aaS
- Software-aaS
- BYOD

› However limited ability to service enterprise customers
- Logistics & scalability of current model of service
- Significant delay to deploying new services
- Competing against OTT cloud providers offering “similar” services

SMEs

› Owning an IT infrastructure is just expensive (e.g., high number of small branches)

› For fast growing startups, requirements change and scaling is hard with “box solutions”

› “Try and Buy” is compelling but can be too complicated

› Don’t have the time and resources to setup and maintain IT infrastructure

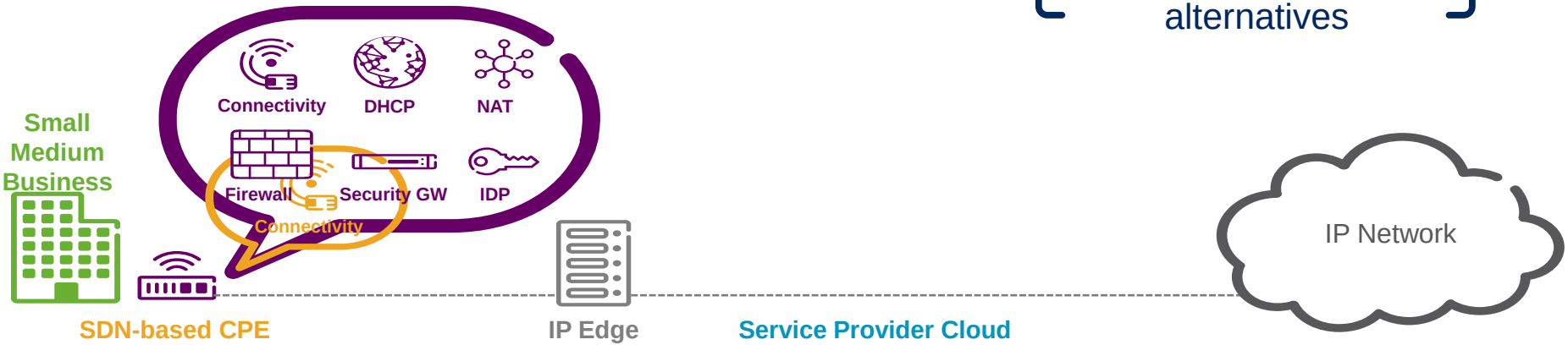
VIRTUAL ENTERPRISE SOLUTION
BENEFITS

- Operator reduces cost for CPE
- Enterprise outsources IP, Communication Services and Enterprise Applications to best-in-class provider
- Builds on Ericsson competence in Cloud, NFV and SDN
- Operator moves up in the value chain + Lock-in effect

Enterprises are becoming more mobile

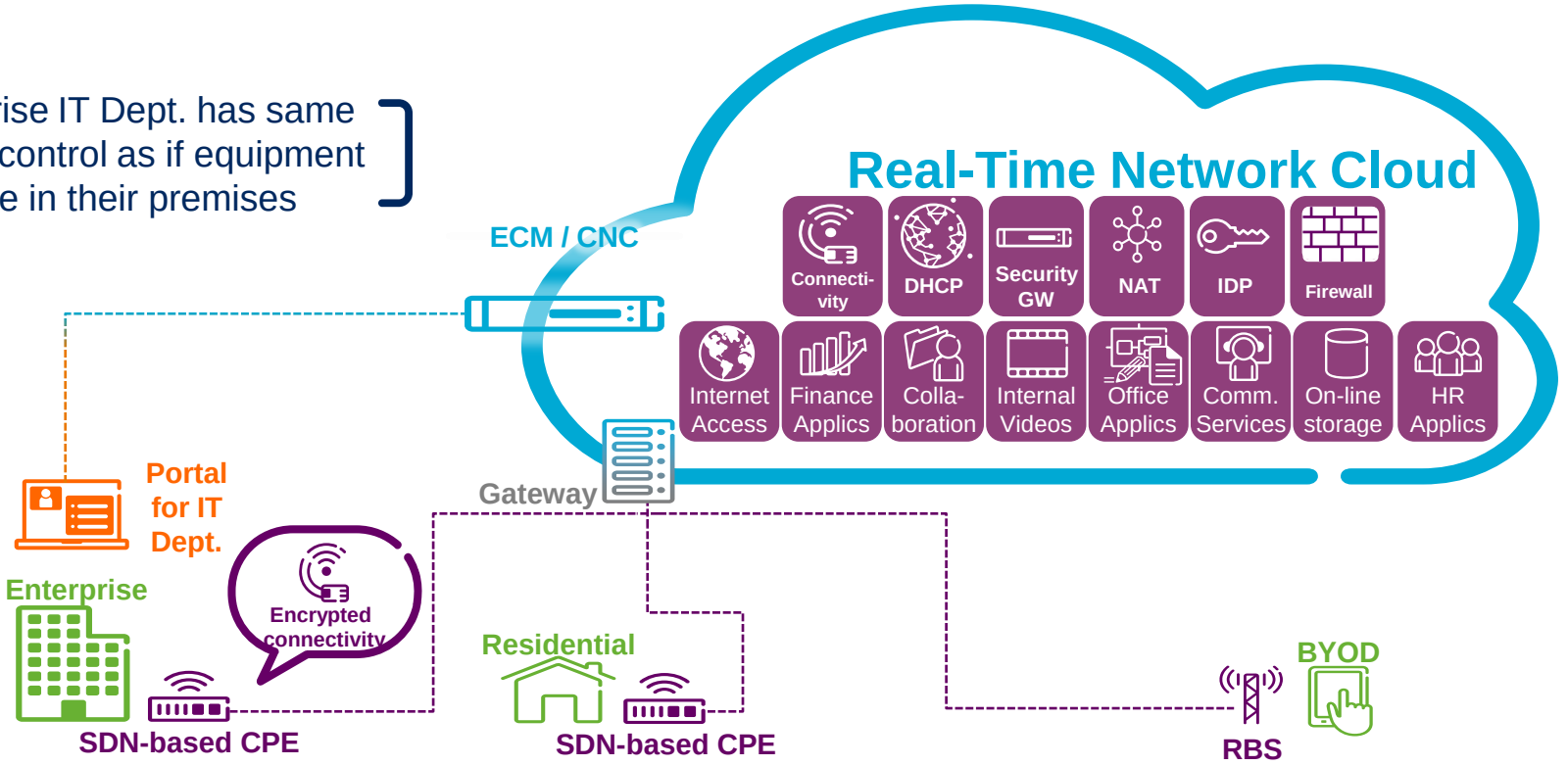
Enterprises want and need cloud services

IT seen as a cost & many are using alternatives

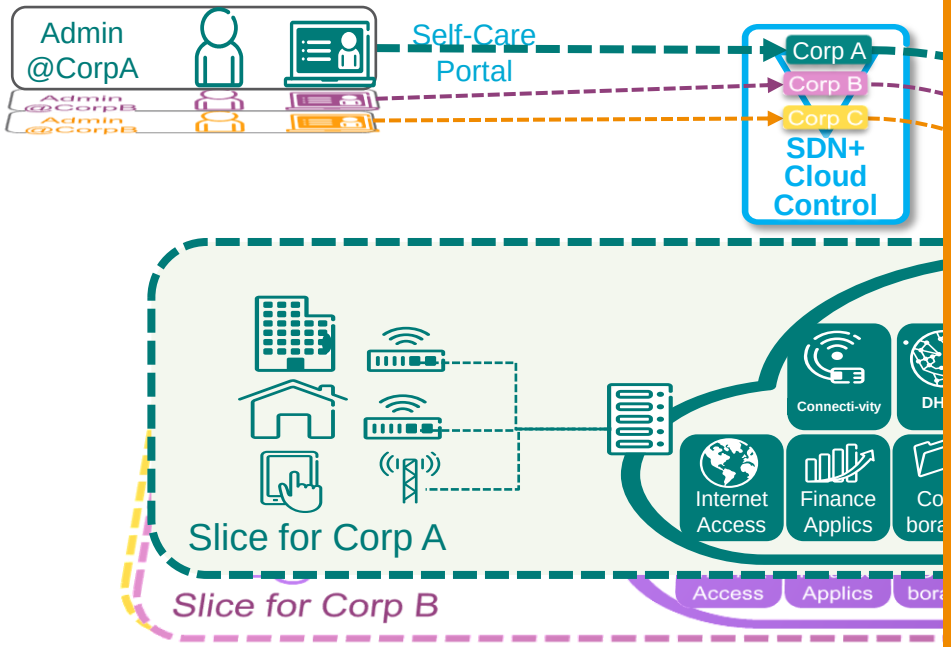


ENTERPRISE VIRTUAL GATEWAY
ARCHITECTURE OVERVIEW

Enterprise IT Dept. has same level of control as if equipment were in their premises



VENTERPRISE SOLUTION
ARCHITECTURE OVERVIEW

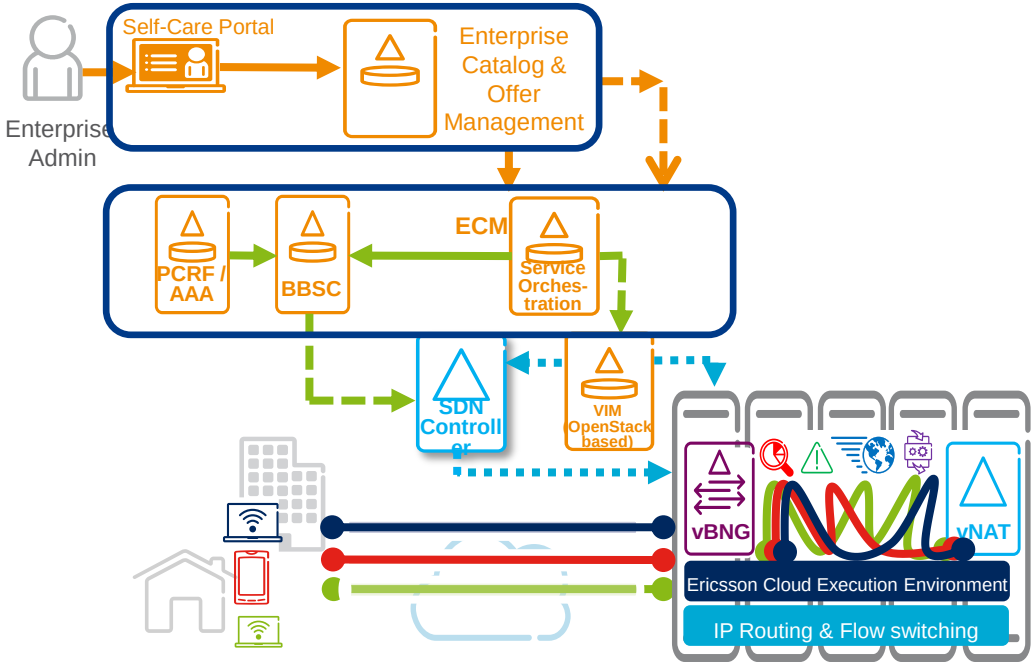


› Enterprise Considerations

- Maintain multiple isolated network slices
- Enforcing & Monitoring SLAs and KPIs
- Opening up networking services to the enterprise
- Providing a service catalogue to enterprises
- Requires a robust cloud platform to support, storage, voice and data services

VIRTUAL ENTERPRISE USE CACE

APPLIED TO ERICSSON CLOUD & NFV TARGET ARCHITECTURE



Business Layer

- Expose Services, SLA, KPIs to enterprise
- Triggers orchestration and network change
- A framework for efficient work flow for innovation

Services Layer

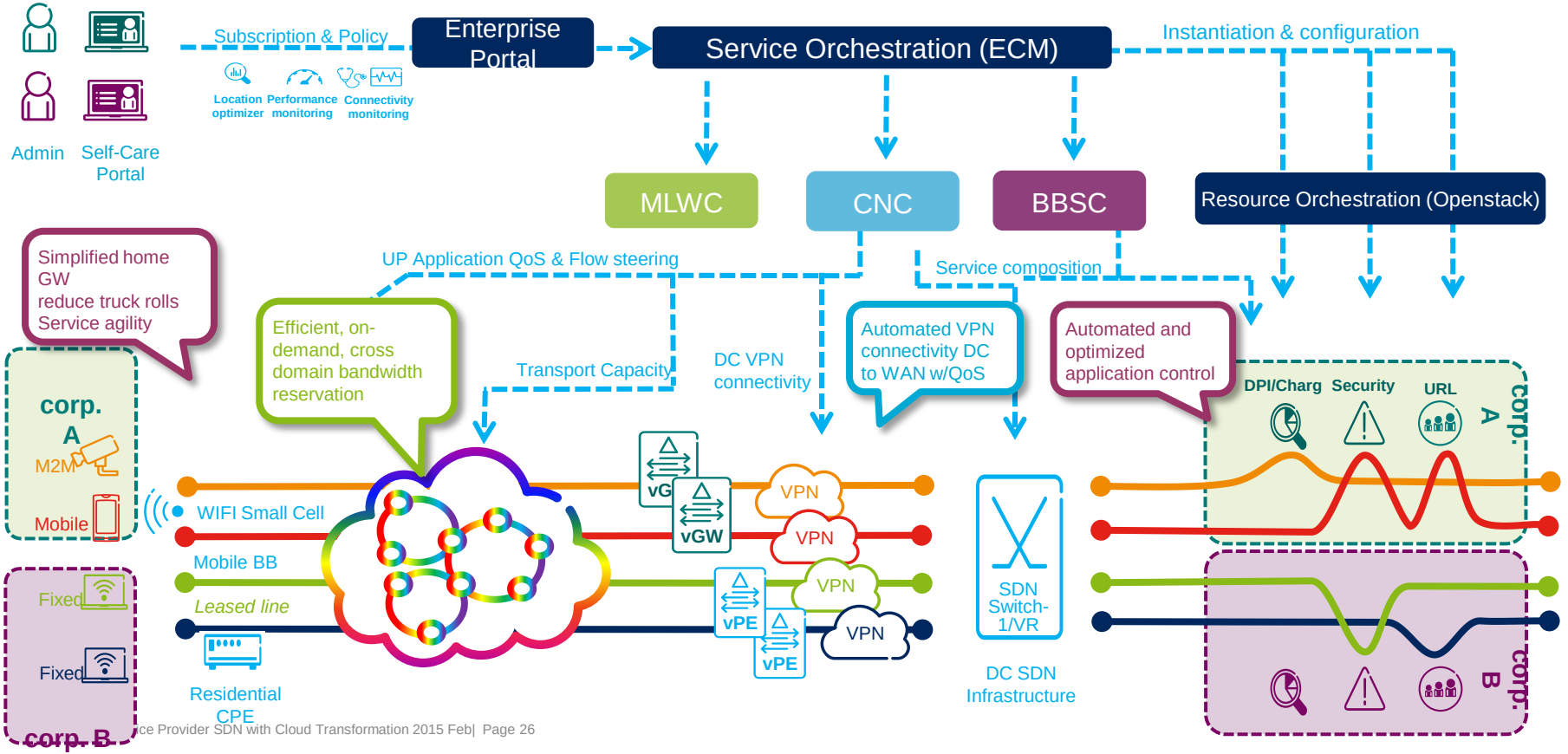
- Resource Orchestration
- Policy management and control
- Statistical and Analytical Reporting

Resource Layer

- Compute Resources
- Storage Resources
- Networking Resources
- Legacy Service chaining
- Granular Transport control

ALL TOGETHER…

VIRTUAL ENTERPRISE CPE/GW WITH DYNAMIC TRANSPORT SETUP



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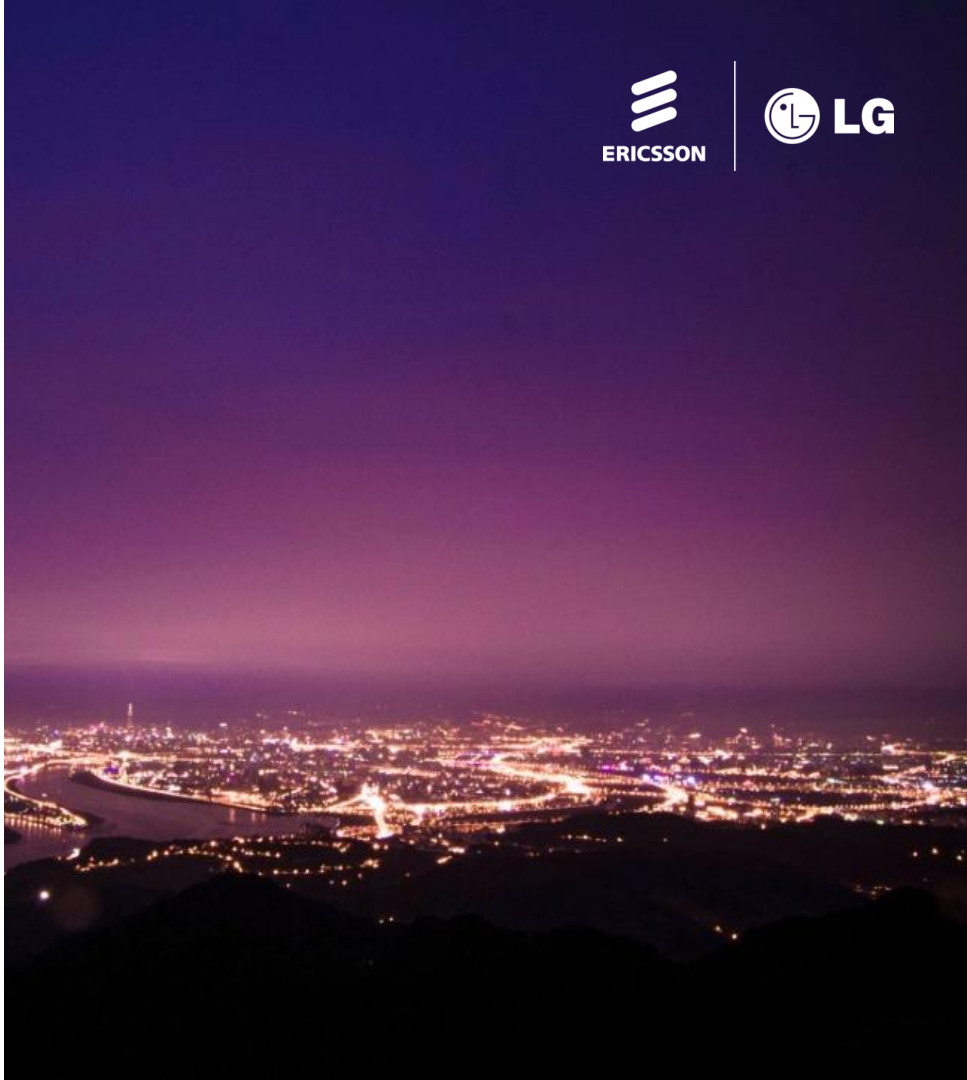

SDN VALUE

WHY SDN / WHY ERICSSON

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IP SERVICES

Service creation
- Fast deployment
- Application offload
- Operational efficiency

Intelligent
- Subscriber & application aware optimizations
- Virtual CPE solution
- Service orchestration and automation

CLOUD & NFV

Telco Cloud enabler
- **Routing infra for NFV**
- **Enterprise VPN support**
- **Application aware SLA**

IP interwork & openness
- Native interwork with IP routing domain – for Telco enterprise VPN and NFV
- Open SDN controller strategy

IP&OPTICAL TRANSPORT

Cost & Efficiency
- **Rapid service activation**
- **IP SLA for TDM migration**
- **Resource optimization**

IP interwork & openness
- Joint IP & Optical solution with Ciena
- Multi-vendor IP activation and control
- Open SDN controller

Neutral / integrator partner with Telecom expertise and complete portfolio

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