

SDN AND NFV NETWORK SERVICES SCALING

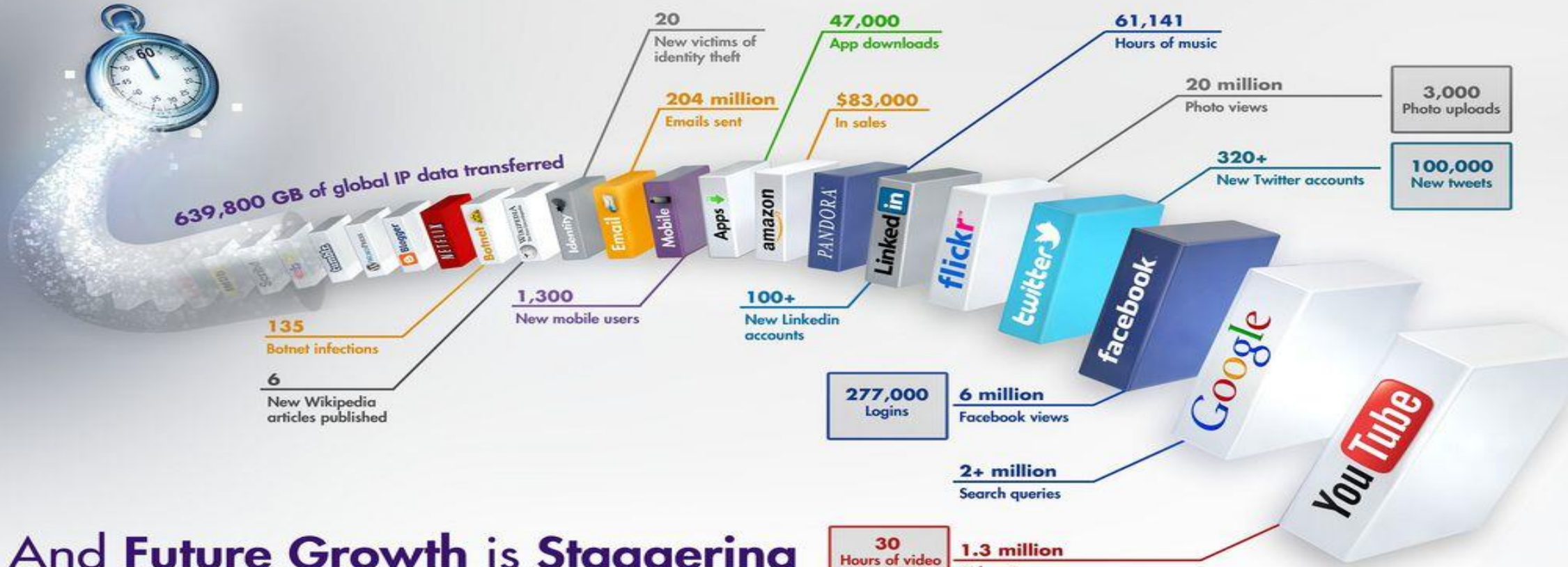
The High IQ network –

Automate – Scale – Create

Uwe Richter, SE Director DACH / Eastern Europe

20.MAY 2014, BUCHAREST

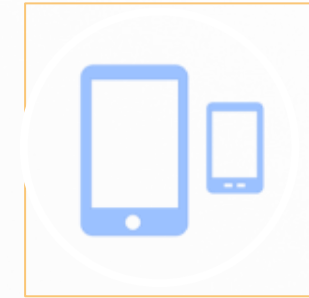
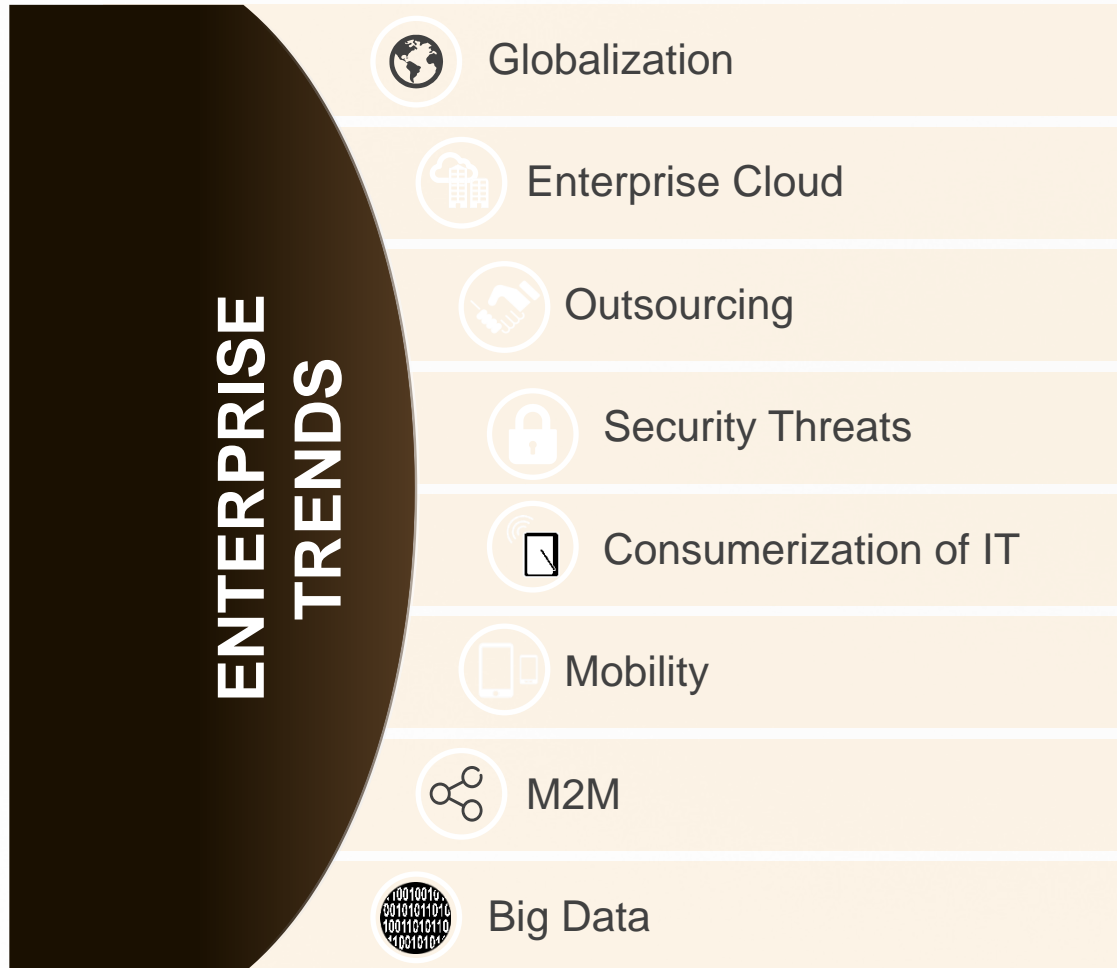
What Happens in an Internet Minute?



And Future Growth is Staggering



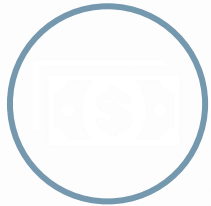
CUSTOMER EXPECTATIONS HAVE CHANGED ...



- Anywhere, anytime, any device
- On-demand
- Pay-as-you-use

...AND OTT PROVIDERS ARE INNOVATING FASTER

Dynamic network service automation is the key priority for Service Providers



OPERATING EXPENSES

Servers managed per admin

GOOGLE: 1 per 15,000 servrs
Each admin can operate ~15,000 servers

TELCO: Less than 100

Operator DC: Each admin can manage up to ~100 servers = large headcount



TIME TO SERVICE DEPLOYMENT

Code to production launch

AMAZON: Few seconds
Every 11 seconds; Avg 10K or max 30K servers at a time

TELCO: 6-7Months

China Mobile Quote: 6-7 months per service; mostly manually



OPERATIONAL COMPLEXITY

of SKUs to manage

GOOGLE: 10 Configs
Google: ~10 shared hardware system bundles

TELCO: Thousands configs

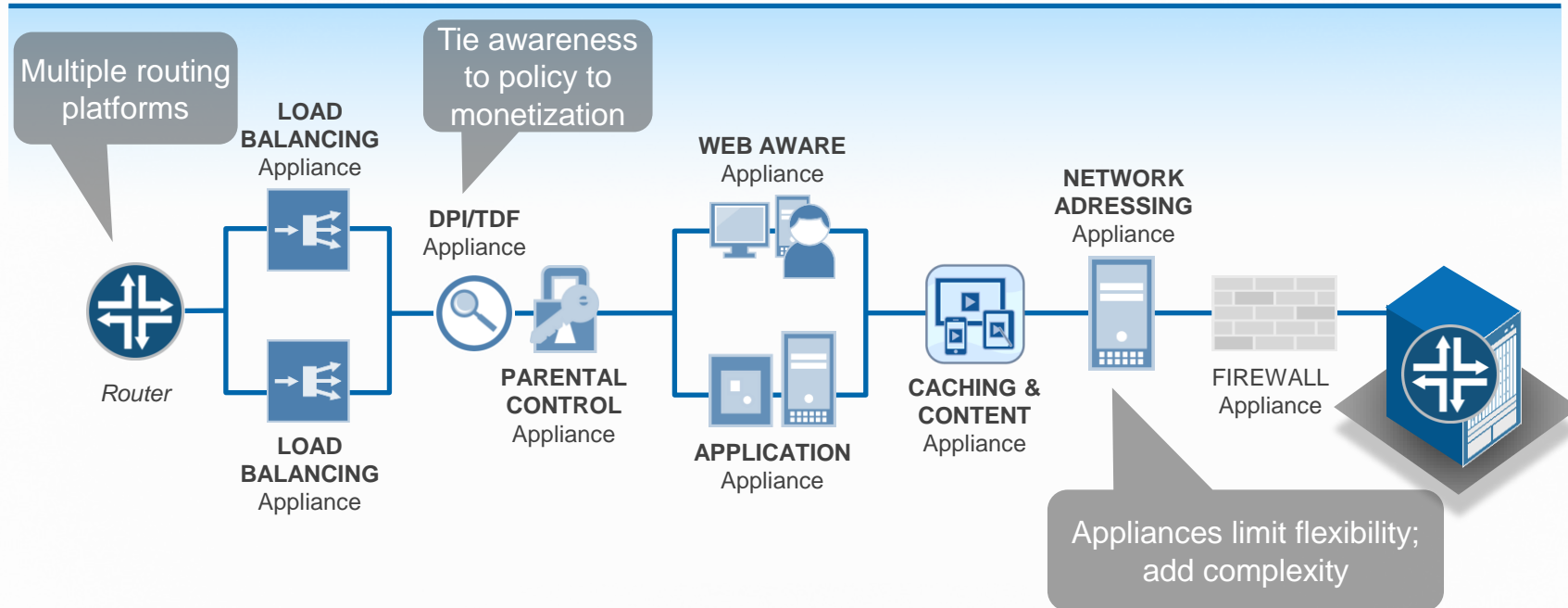
NSN: 1000's of SKUs to manage makes IT overly complex



Opportunity for accelerating TTM, reducing costs and optimizing operations

SERVICE COMPLEX TODAY

How to insert a new service or function?

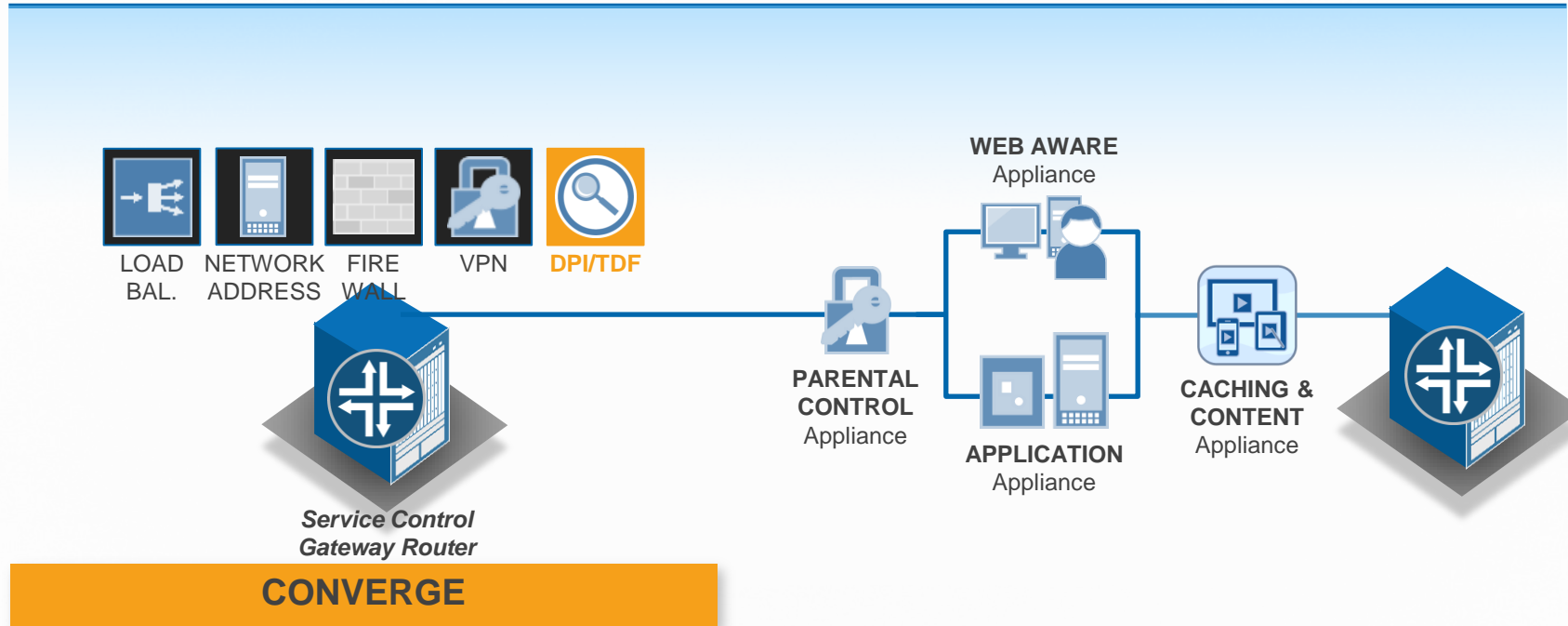


LIMITATIONS

- Even coarse service chains are complex
- Over provisioned network appliances to meet total demand
- Simplified tenant isolation for security and regulation compliance
- Inefficient chains with duplicate packet processing

SIMPLIFY SERVICE ARCHITECTURE

Converge subscriber awareness, routing, network services into single platform

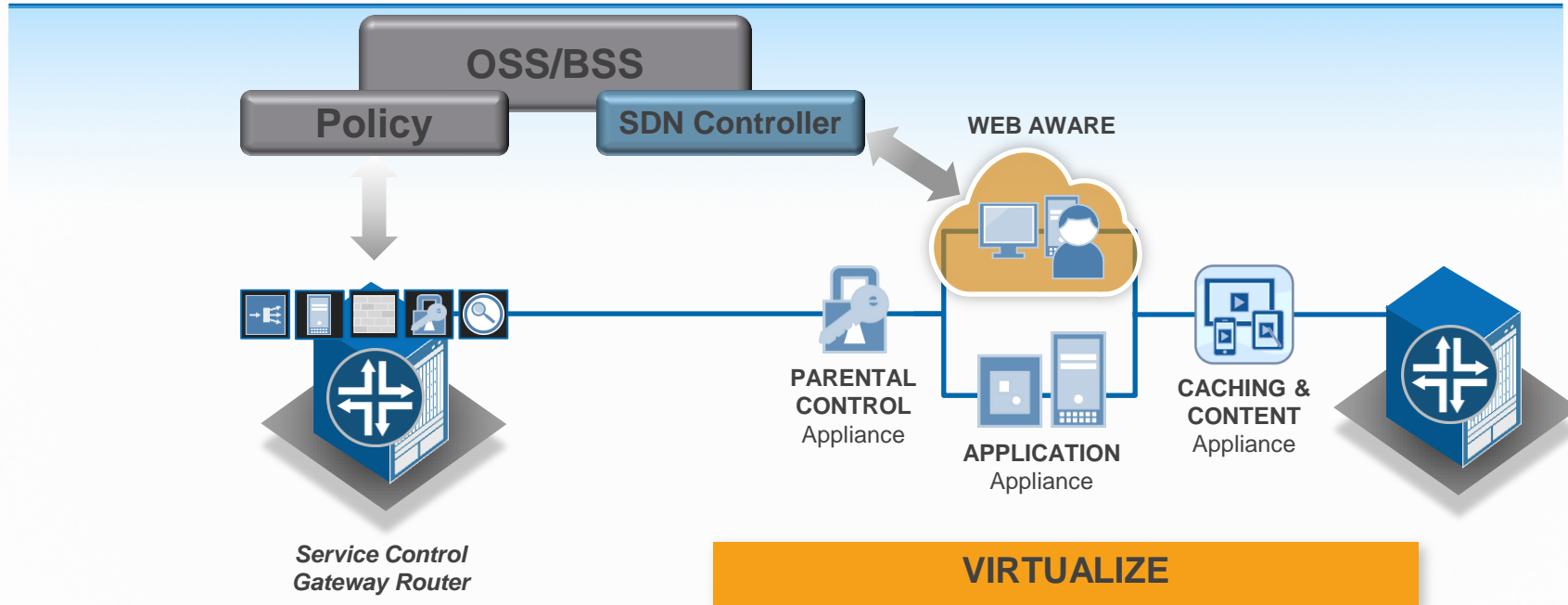


BENEFITS

- Consolidate network functions into existing router platform
- Lower operational, capital expenses by minimizing network elements
- Efficient use of routing resources

VIRTUALIZE THE APPLIANCES

Create virtualized network functions to facilitate scalability

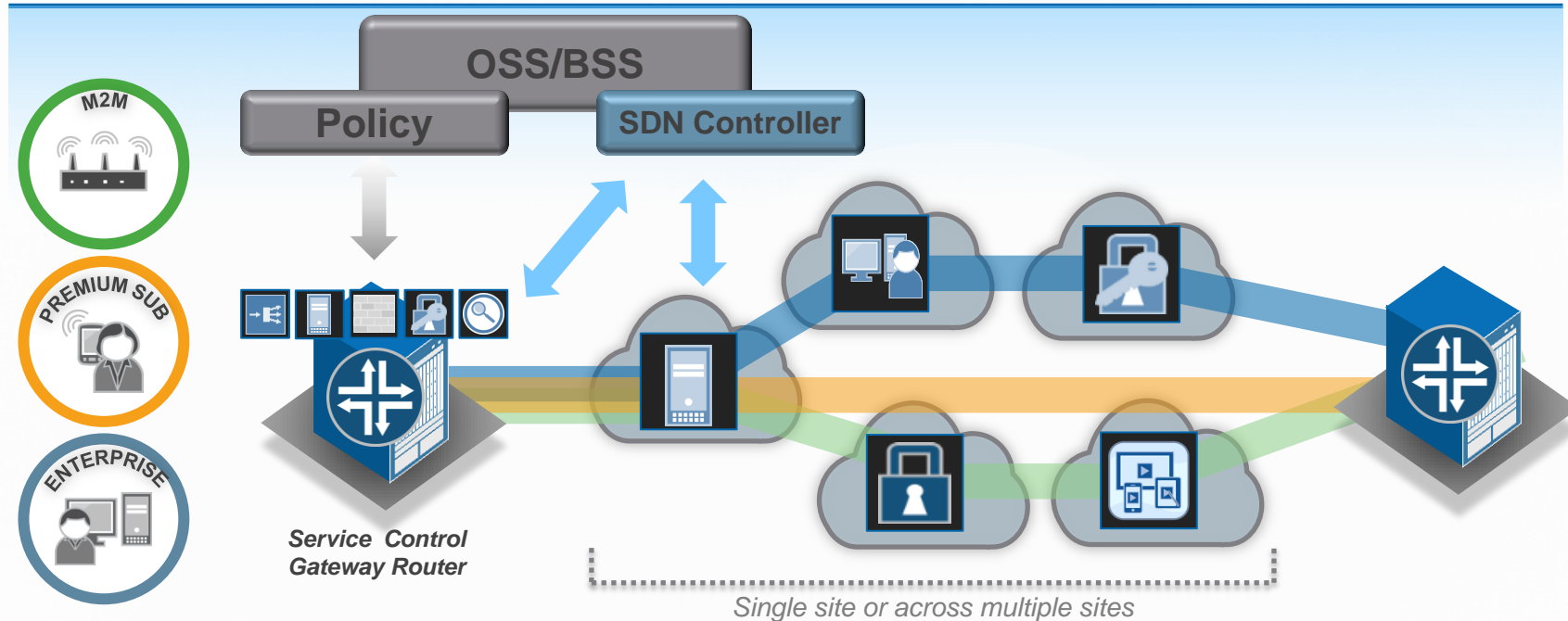


BENEFITS

- Link subscriber awareness to policy and service delivery
- “Service Pools” of network functions
- Common x86 hardware architecture

OPTIMIZE SERVICE DELIVERY

Subscriber and application-aware service chaining

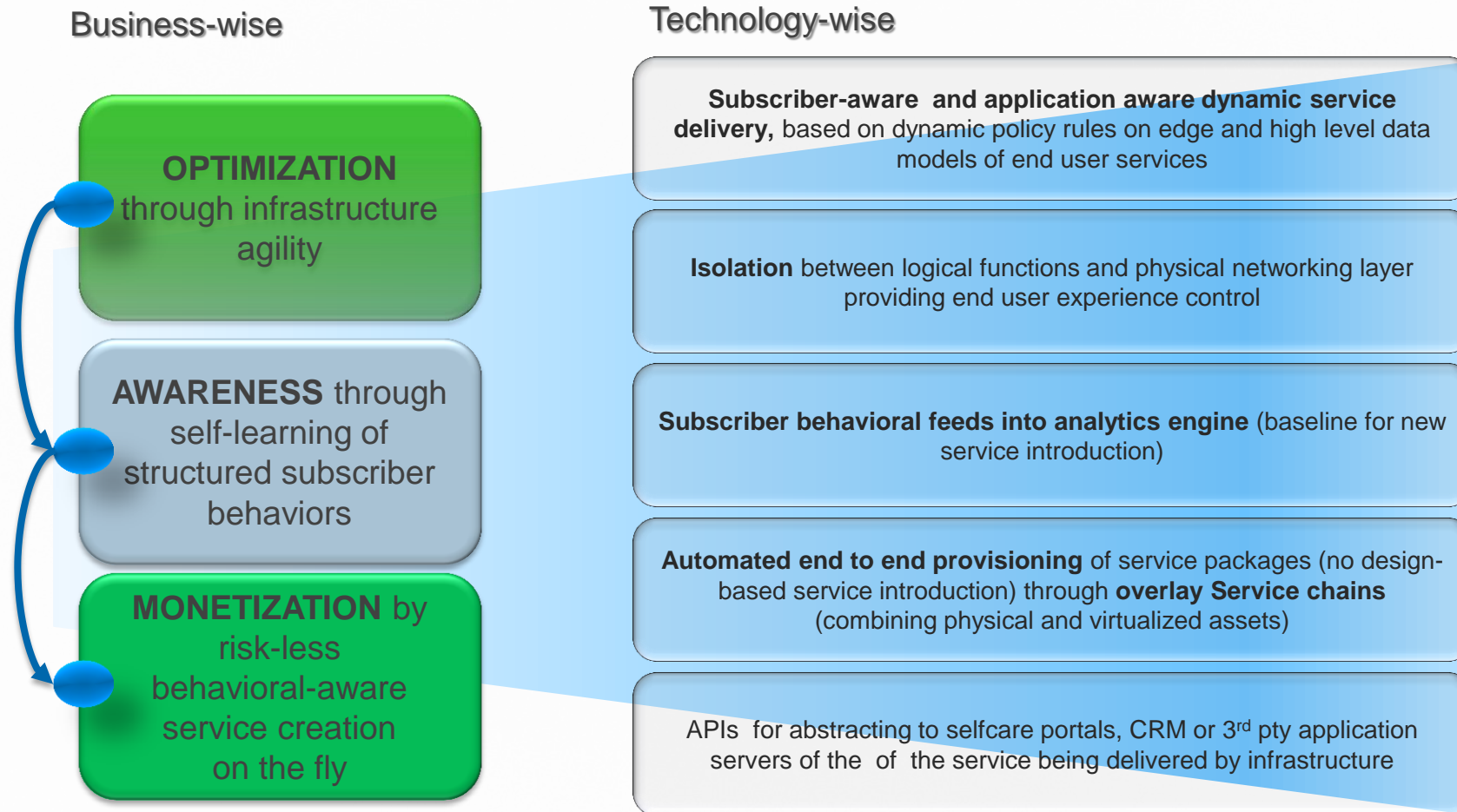


ADVANTAGE

- Create a custom network experience for different subscriber types
- Adapt network to subscriber demands, requirements
- Flexibility in service chains enables greater network reliability

WHAT PROBLEM DO WE WANT TO SOLVE

MARKET DRIVEN PHASING



We need to rethink our approach to the network

Stop

Thinking in silos



Building around limiting proprietary architectures



Thinking of the network as a series of closed systems



Start

Thinking in terms of comprehensive intelligence



Investing and building around open, industry solutions



Thinking of the cloud and the network as synonymous



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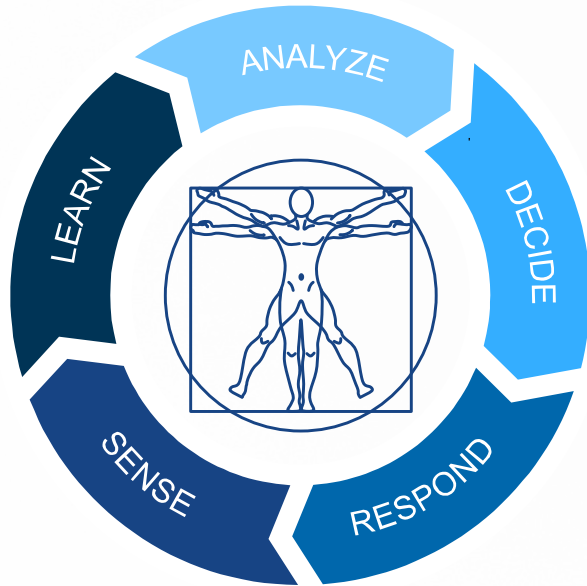
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A company with the leadership and drive
to deliver a truly transformational
architecture

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