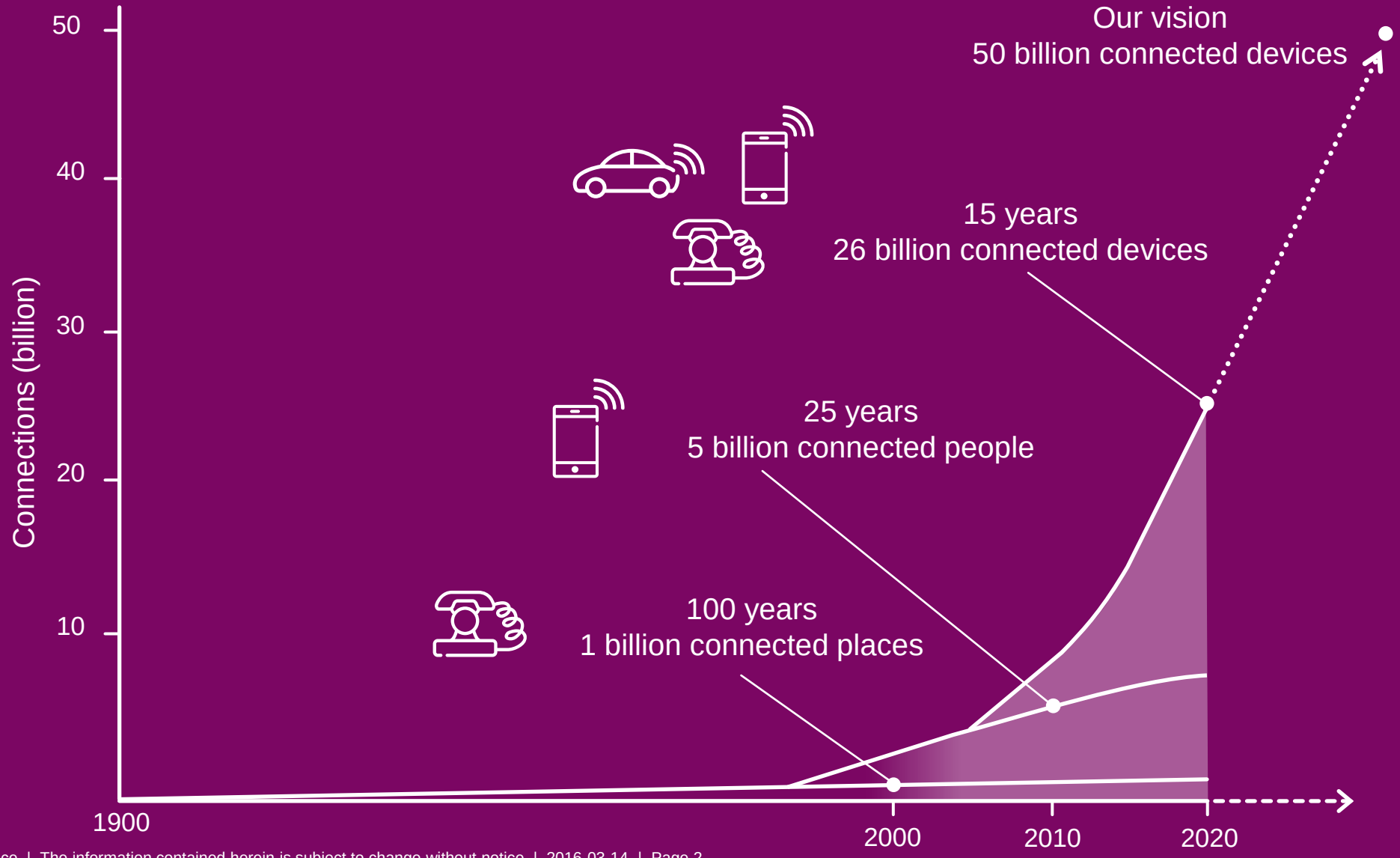
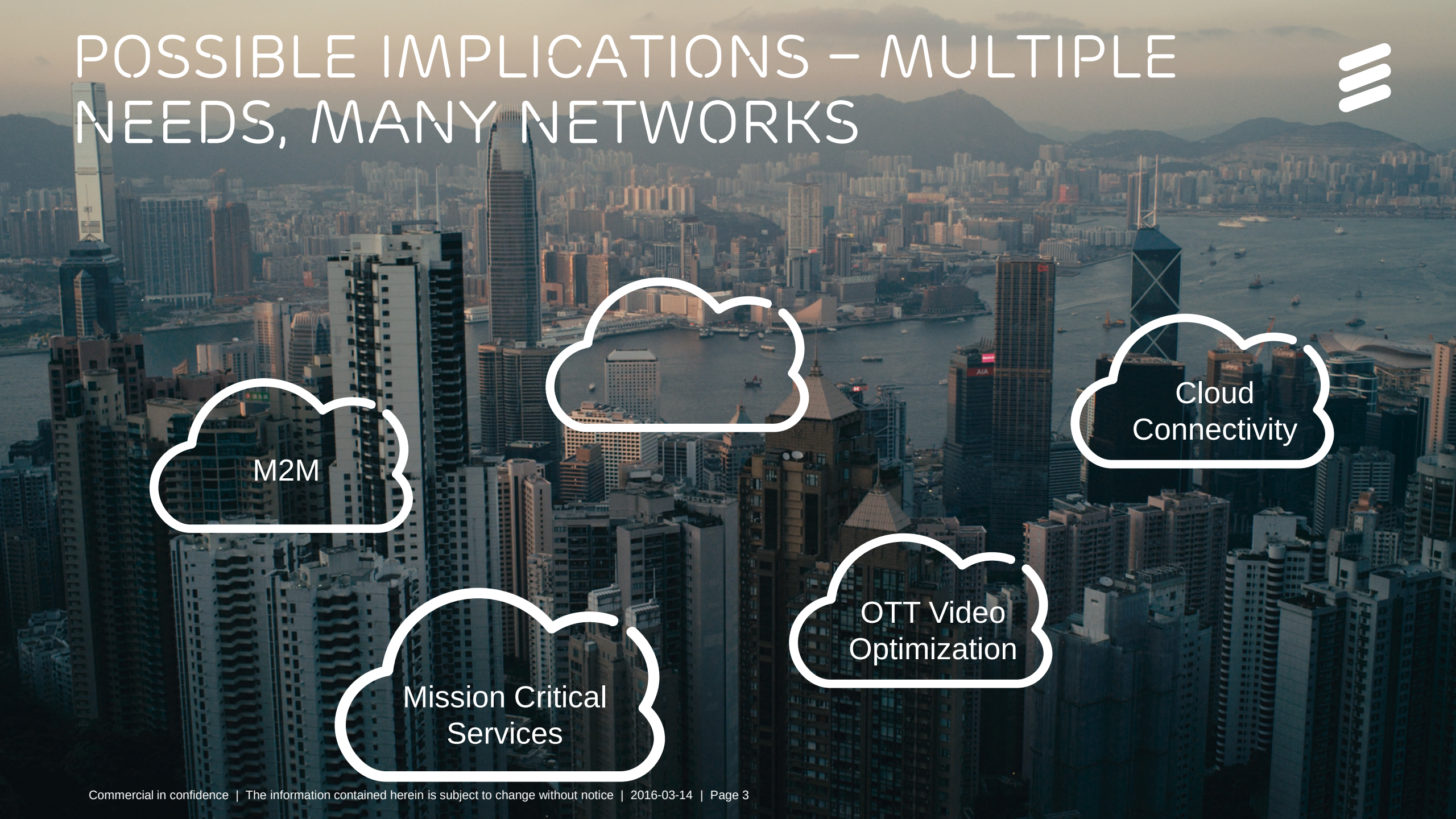
SERVICE ASSURANCE & NETWORK ANALYTICS
A CATALYST FOR NFV AND SDN TRANSFORMATION

Balaji Ethirajulu
Director – Product Marketing, Ericsson Inc.

PACE OF CHANGE



POSSIBLE IMPLICATIONS – MULTIPLE NEEDS, MANY NETWORKS



ONE NETWORK – MULTIPLE INDUSTRIES

A common network platform with dynamic and secure Network Slices

NETWORKS CONSTANTLY CHANGING

SERVICE ASSURANCE & NETWORK ANALYTICS IS VITAL MORE THAN EVER

THE CHALLENGE

- NFV & SDN has changed the dynamics of service assurance
- Network function is separated from the traditional infrastructure
- Automation & agility is key
- Network consists multiple layers, multiple domains, multiple vendors and delivering services to multiple industries

HYBRID NETWORKS

THE SOLUTION

- Network analytics that covers multivendor and multi domain – Legacy, NFV, SDN and 5G ready.
- Proactive & Predictive analytics providing actionable intelligence based on e2e network KPI and co-relate data from multiple domains
- Closed loop automation across hybrid networks.

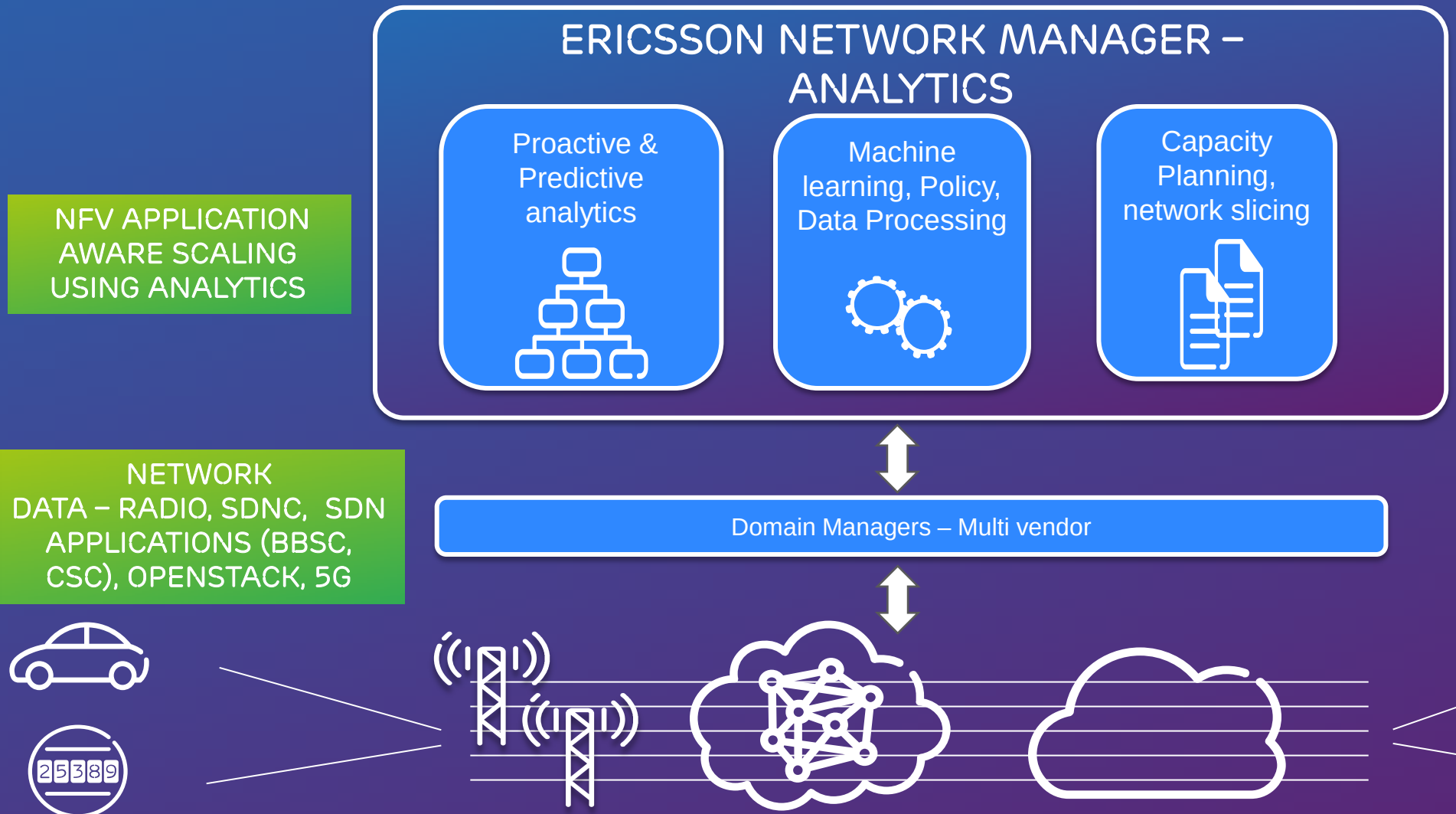
NFV, SDN, LEGACY, MULTI-VENDOR

THE RESULT

- An optimized network environment for each and every service.
- Dynamic hybrid network that is automated and ready for the changing needs of users across several vertices.

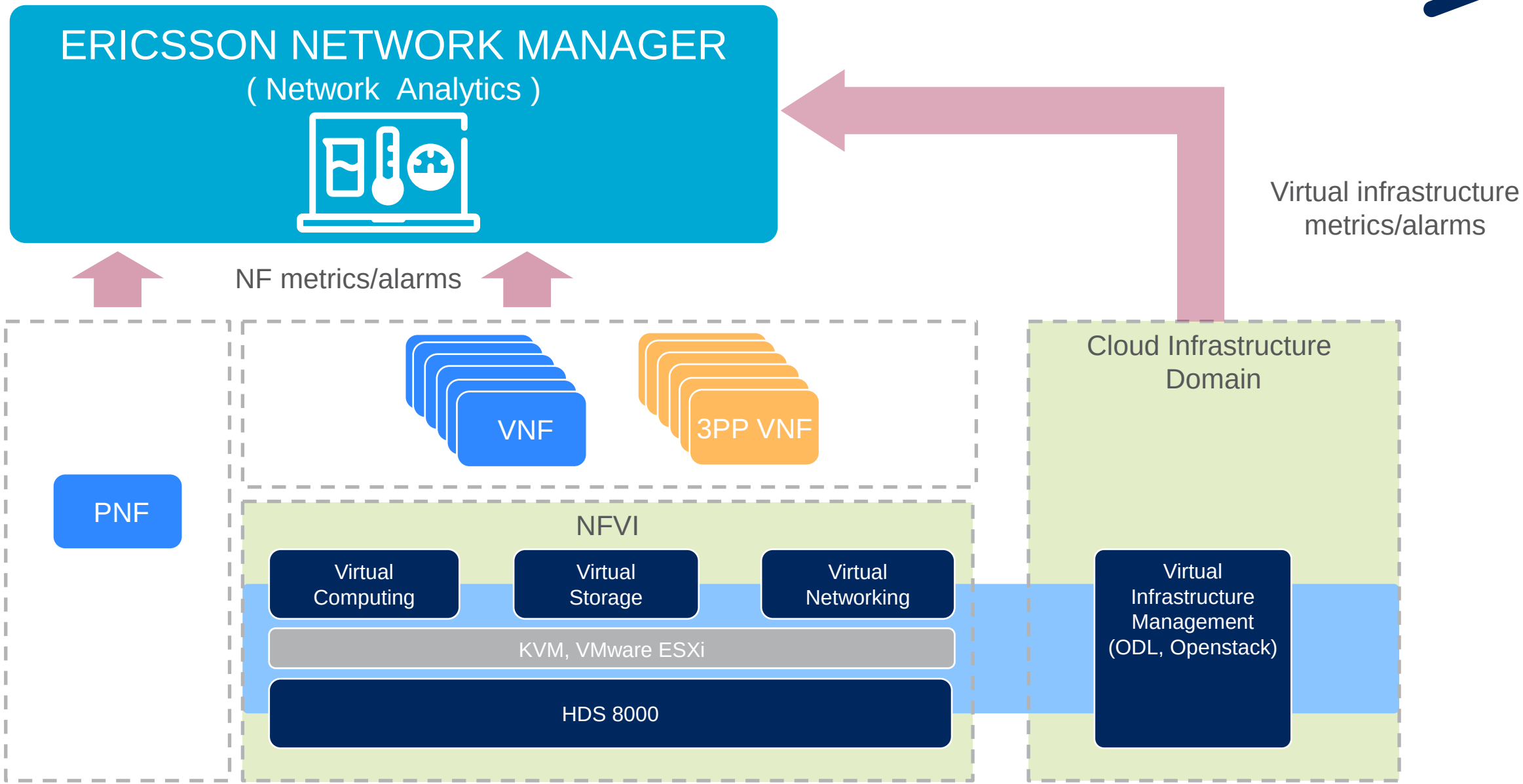
AUTOMATED, AGILE, OPTIMIZED, BEST PERFORMING NETWORKS.

NFV AND SDN ANALYTICS

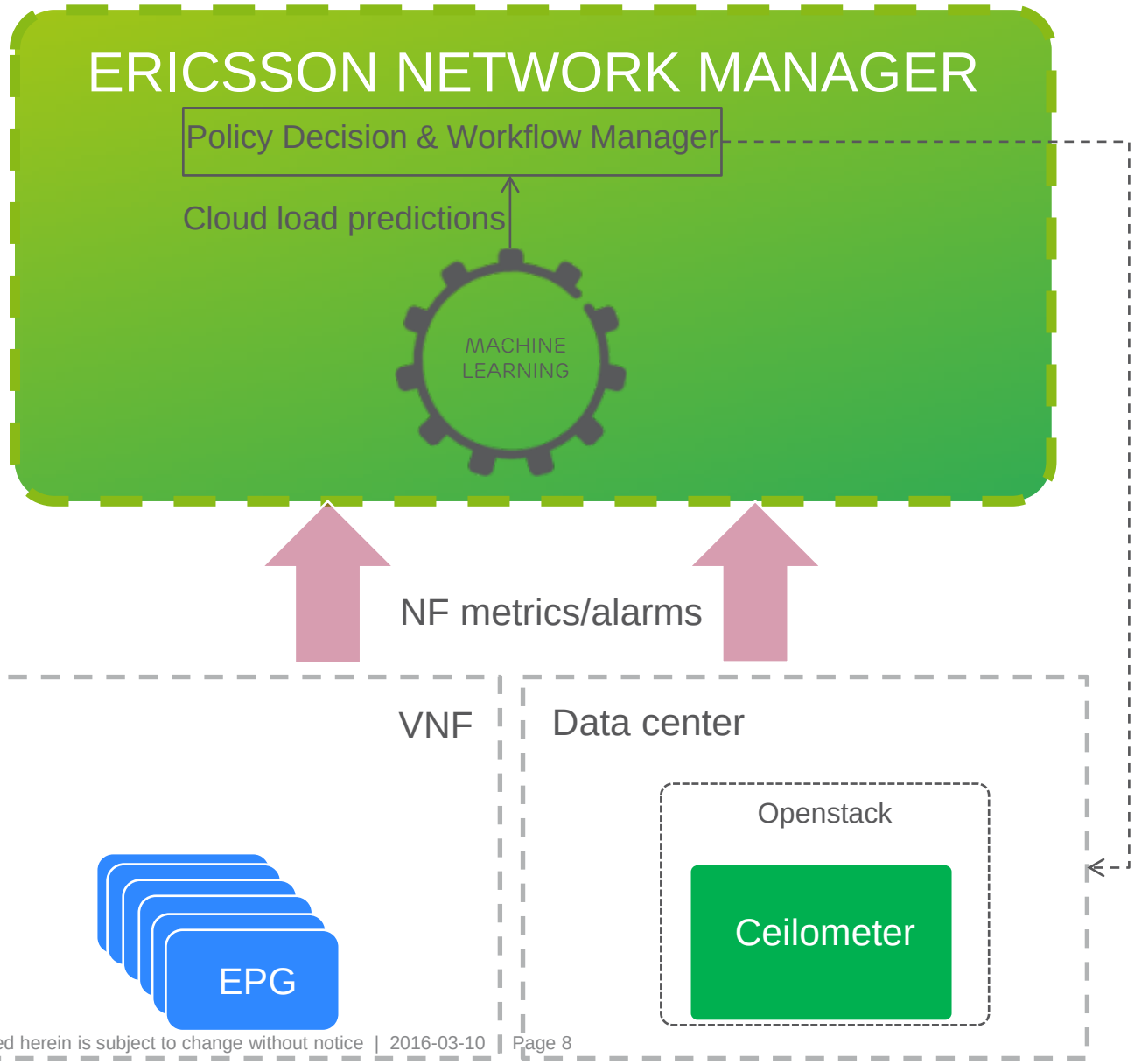


- Automation
- Visualization
- Machine learning
- Network insights

PREDICT THE CLOUD LOAD USING VNF INSIGHT



NFV ANALYTICS DEMO



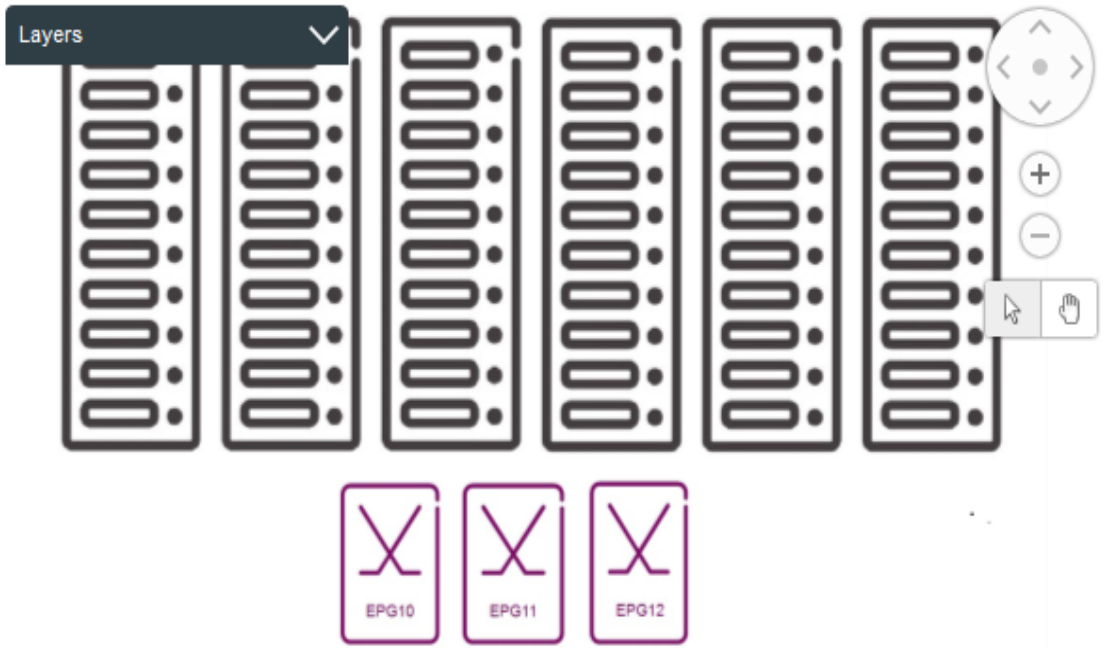
Automation
“Close the loop”

File Edit View Insert Tools Help

Home | Topology Navigator | Topology History | Dashboard | VNF Counter Analysis | Adhoc VNF Counter Analysis | VNF KPI Analysis | Adhoc VNF KPI Analysis | Data Relationships | Manage Triggers

vEPG					
vEPG01			vEPG03		
host101	host102	host103	host107		
10111	10114	10117	10311	10312	
vLC	vSSC	vLC	vLC	vRP	
10112	10115	10118	10313	10314	
vRP	vRP	vSSC	vSSC	vSSC	
10113	10116	10119	10315	10316	
vSSC	vSSC	vSSC	vRP	vSSC	
vEPG02			10317	10318	
host104	host105	host106	vSSC	vSSC	
10211	10214	10217			
vLC	vSSC	vLC			
10212	10215	10218			
vRP	vRP	vSSC			
10213	10216	10219			
vSSC	vSSC	vSSC			

#MANAGED FUNCTION TYPES	1
#PNFS	0
#VNFS	3
#RUNNING VMS	26

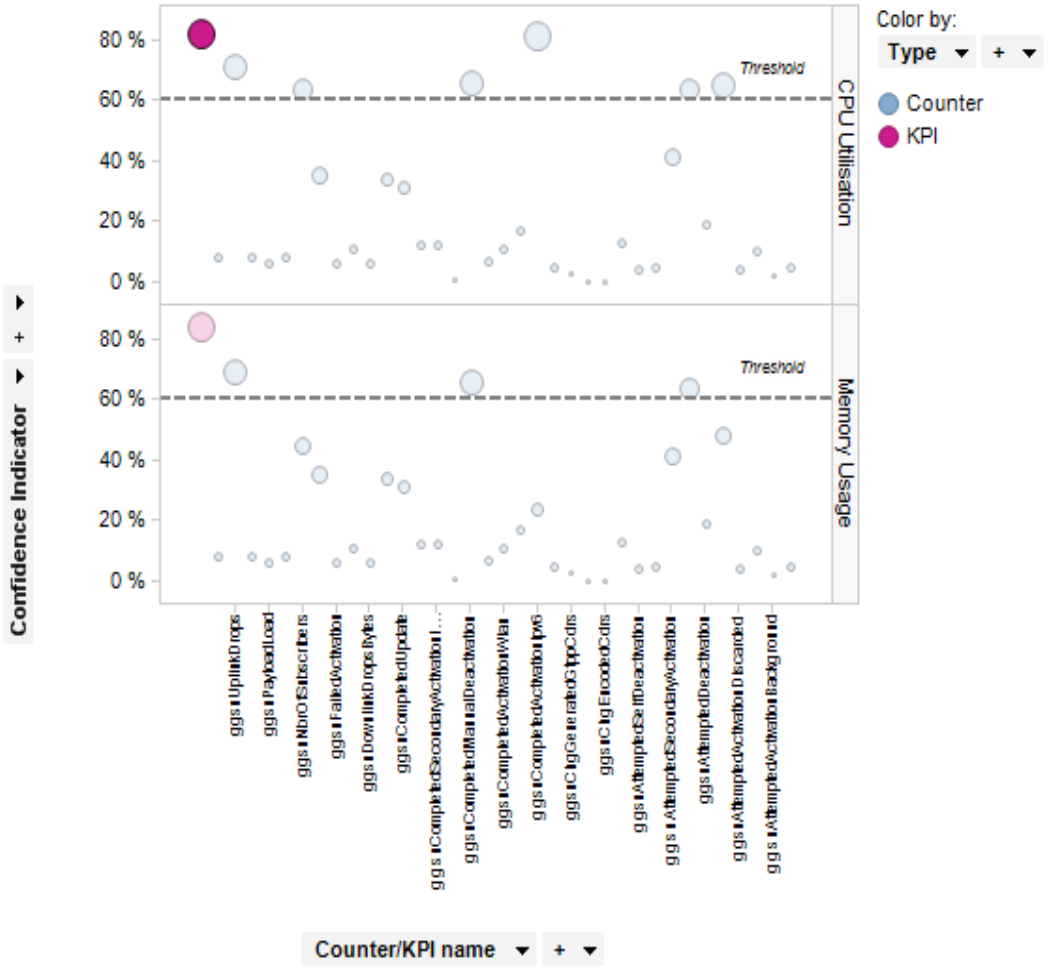


File Edit View Insert Tools Help

Home | Topology Navigator | Topology History | Dashboard | VNF Counter Analysis | Adhoc VNF Counter Analysis | VNF KPI Analysis | Adhoc VNF KPI Analysis | Data Relationships | Manage Triggers

PUBLISHER CUTOFF THRESHOLD 0.60

VNF metrics that most drive VM system resources



VNF PM Metrics Triggered

id	Tstamp	NE INSTANCE	KPI/COUNTER NAME	VALUE		Drives
1	11/19/2015 9:00:00 AM	vEPG01	PDPCtxtCreateFailureRate	0.22	↑	CPU
2	11/19/2015 9:00:00 AM	vEPG01	PDPCtxtCreateFailureRate	0.22	↑	Memory
3	11/19/2015 12:15:00 ...	vEPG03	ggsnUplinkDrops	0.12	↓	CPU
4	11/19/2015 12:15:00 ...	vEPG03	ggsnUplinkDrops	0.12	↓	Memory
5	11/20/2015 12:00:00 ...	vEPG01	PDPCtxtCreateFailureRate	0.21	↑	CPU
6	11/20/2015 12:00:00 ...	vEPG01	PDPCtxtCreateFailureRate	0.21	↑	Memory
7	11/21/2015 2:00:00 PM	vEPG02	ggsnNbrOfSubscribers	450000	↓	CPU
8	11/21/2015 2:00:00 PM	vEPG02	ggsnNbrOfSubscribers	450000	↓	Memory
9	11/22/2015 10:00:00 ...	vEPG01	ggsnNbrOfActivePdpContexts	145000	↓	CPU
10	11/22/2015 10:00:00 ...	vEPG01	ggsnNbrOfActivePdpContexts	145000	↓	Memory
11	11/22/2015 10:00:00 ...	vEPG03	ggsnCompletedActivationIpv6	13000	↑	CPU
12	11/22/2015 10:00:00 ...	vEPG03	ggsnCompletedActivationIpv6	13000	↑	Memory

id

File Edit View Insert Tools Help

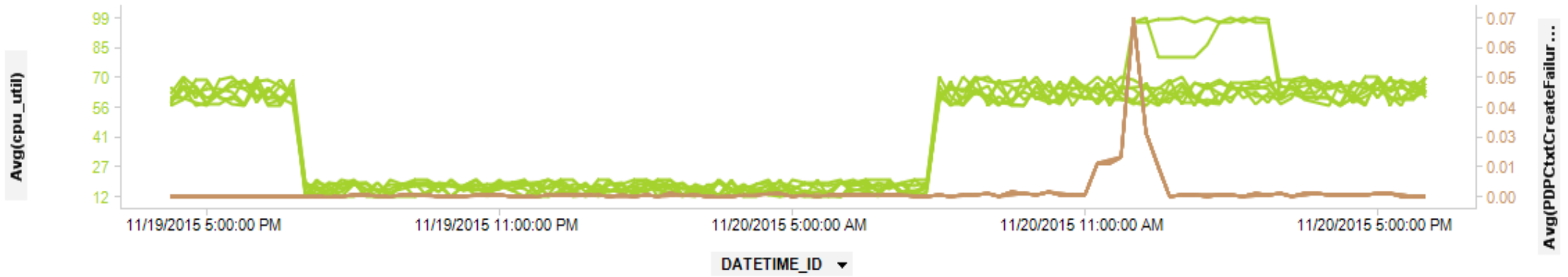
Home | Topology Navigator | Topology History | Dashboard | VNF Counter Analysis | Adhoc VNF Counter Analysis | VNF KPI Analysis | Adhoc VNF KPI Analysis | Data Relationships | Manage Triggers

SELECT VNF KPI PDPCtxtCreateFailureRate FORECAST 16 SELECT VM METRIC CPU Utilisation 11/19/2015 ... 11/20/2015 ...

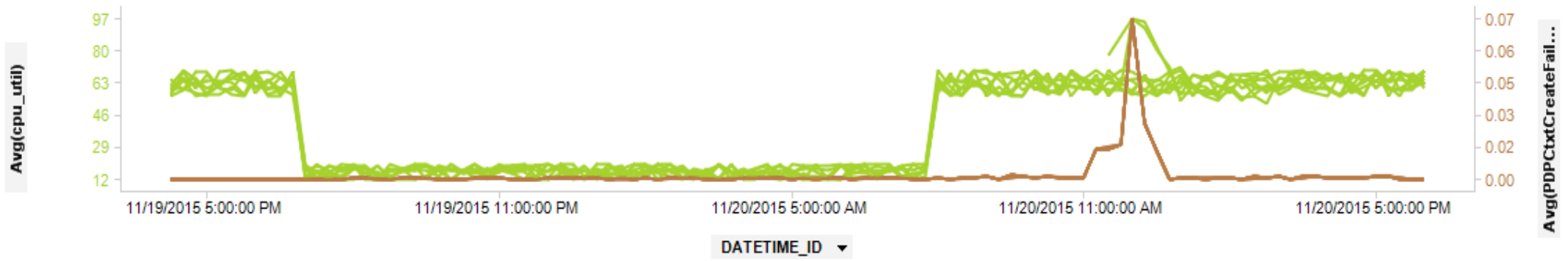
vEPG01
vEPG02
vEPG03

vEPG01
host101
10111
10112
10113
host102
10114
10115
10116
host103
10117
10118
10119

[Scenario 1 - without VNF performance trigger]: PDPCtxtCreateFailureRate(VNF) v cpu_util(VM)

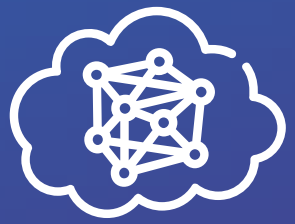


[Scenario 2 - with VNF performance trigger]: PDPCtxtCreateFailureRate(VNF) v cpu_util(VM)



SERVICE ASSURANCE & NETWORK ANALYTICS
AN ENABLER OF NFV AND SDN TRANSFORMATION

A catalyst for NFV and SDN transformation
- Automation & Network agility, a corner stone of NFV & SDN



Provides proactive & predictive actionable intelligence
- By leveraging ceilometer, ODL data along with VNF & legacy network information to provide next generation network analytics solution

Service Assurance & Network Analytics
- We have analytics solution that will be integrated with 800 plus OSS systems.

ERICSSON