



ATLANTA, GA
OCTOBER 11-14

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UNLEASH THE POWER OF LIMITLESS CONNECTIVITY



**2021 Fall
Technical Forum**
SCTE • NCTA • CABLELABS



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Operational Transformation

Enabling Scale through Advanced Automation

Bhanu Krishnamurthy

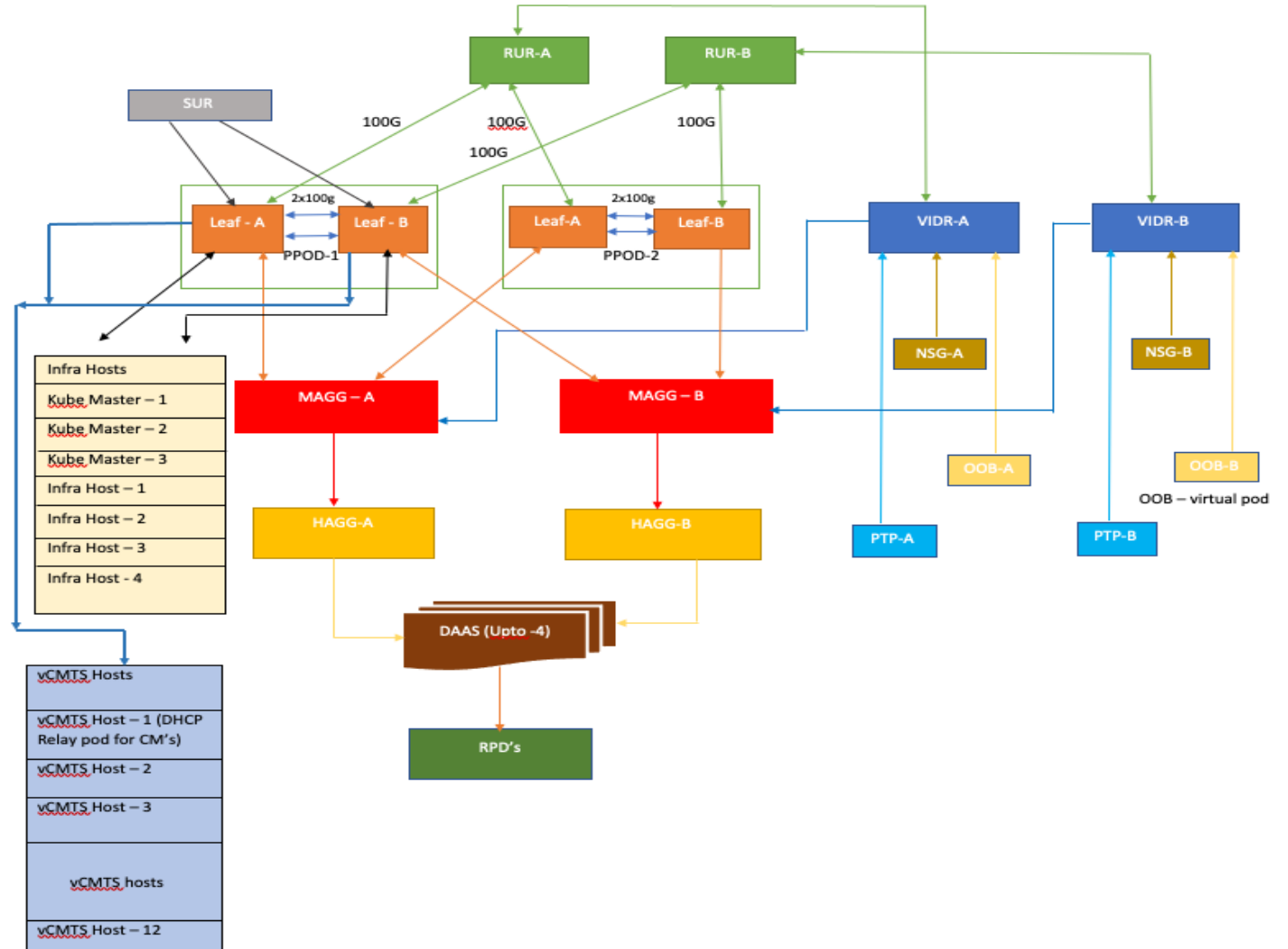
VP SW Dev and QA
Comcast



**VIRTUAL EXPERIENCE
OCTOBER 11-14**

Distributed Access Architecture with rPHY made virtualization possible and helped us to modernize our access network.

We moved to cloud native architecture using general purpose compute and leaf/spine network



Near real-time telemetry



Faster

Mean time to detect

Blast zones



Smaller

Via targeted SW upgrades

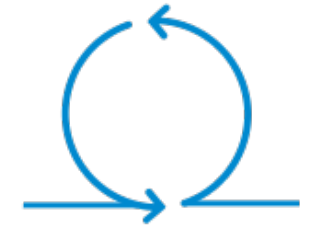
Leverage & build open source



Easier

Cost reduction, faster implementation time, easy to customize

Fast reactions to course correct



More

Software changes frequently; automation reduces the need for human intervention

Infrastructure as code

Configurations are code
Removes human error
Predictable behavior
Deploys faster

Software Deployments

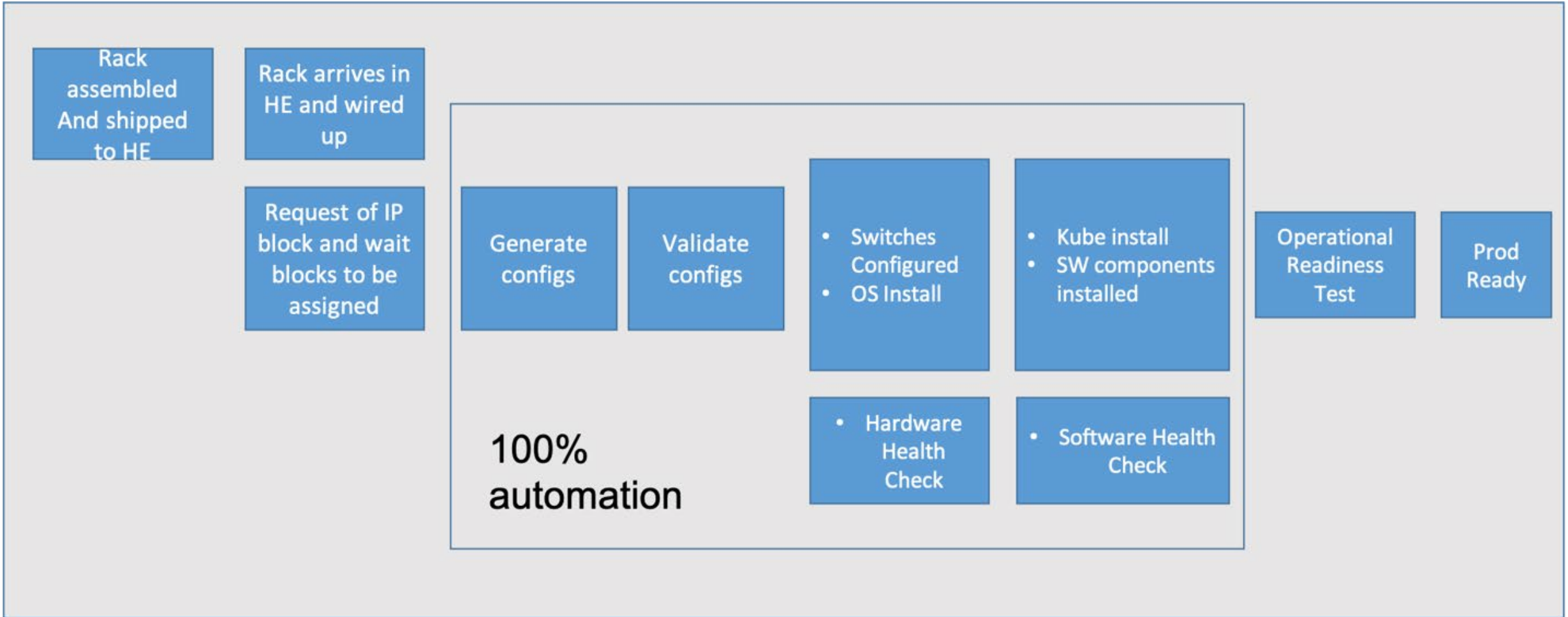
**Automated rollout
schedule**
**Manage high risk
deployments**
**Automated workflows via
Concourse**
**Continuous monitoring
post deployment**
Smart rollback

Anomaly Remediation

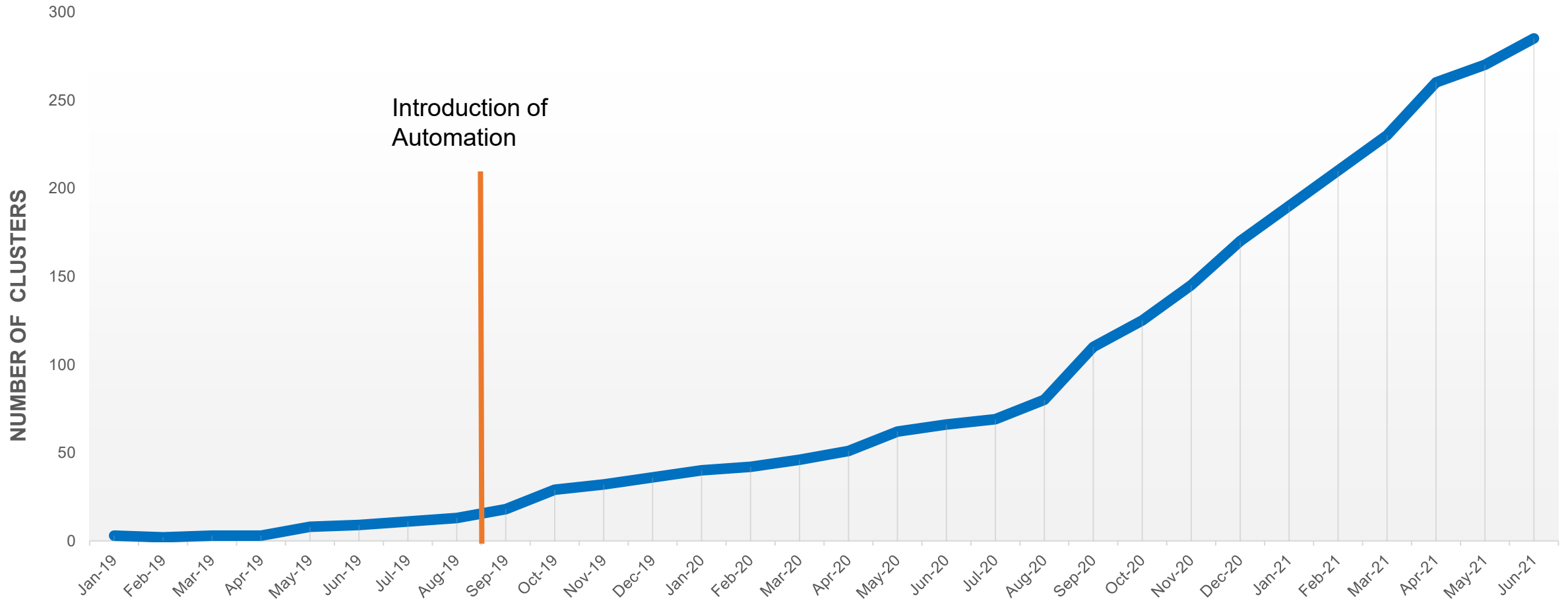
Event Detection
Event Correlation
Auto Remediation
Smart Alert

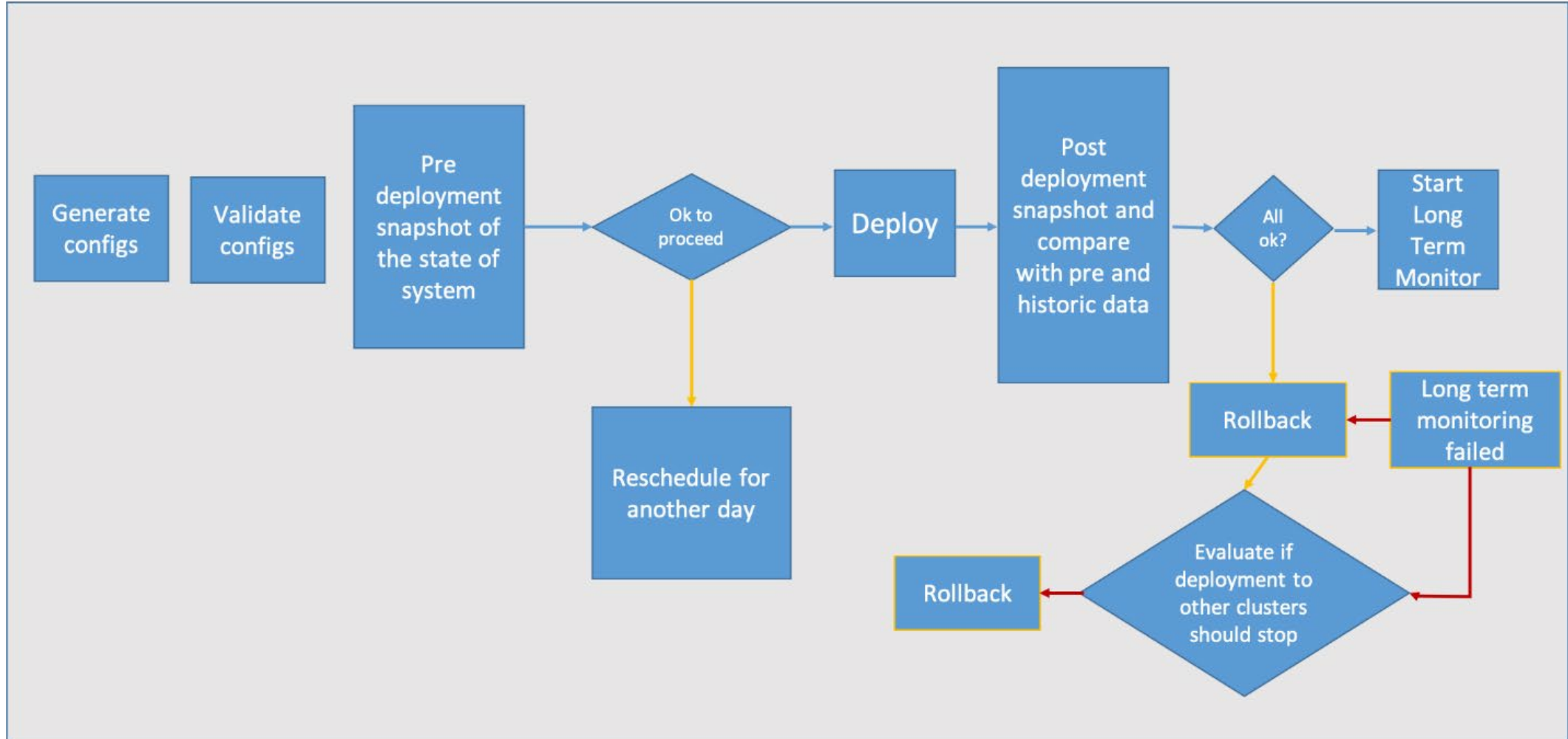
Lifecycle management

**Automate maintenance
workflows**
**Zero-touch hardware
provisioning**
Realtime Network Health
Video source toggling
Dynamic provisioning

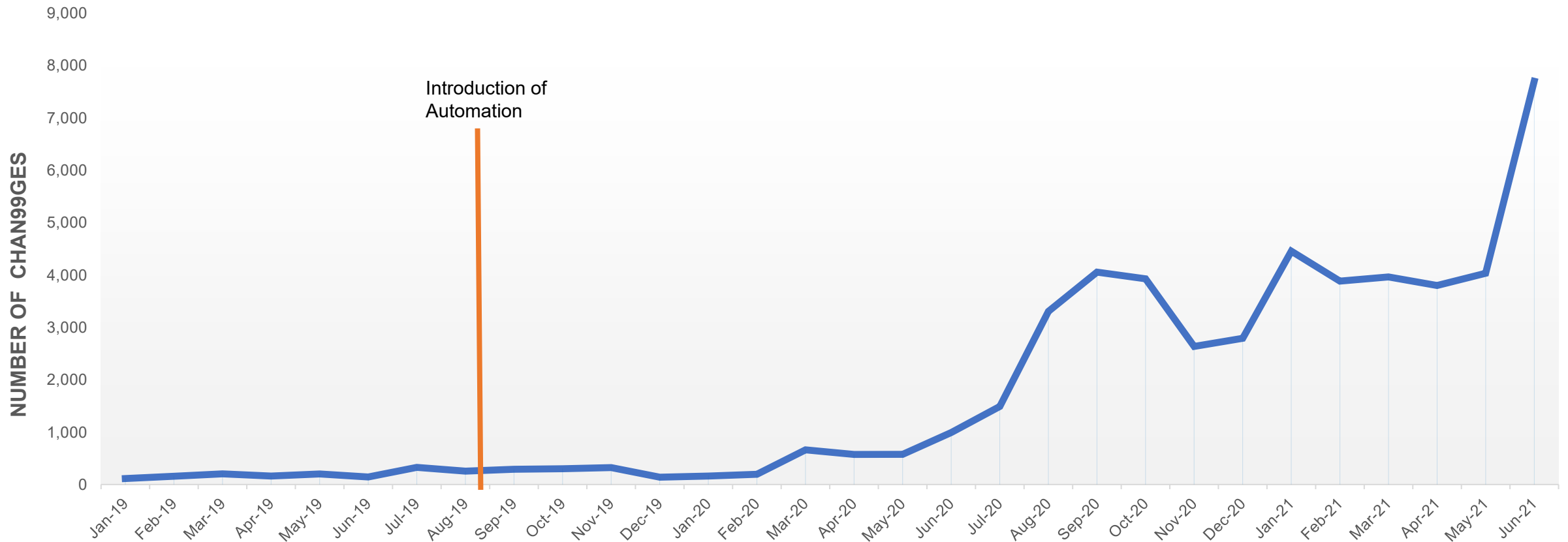


Number of vCMTS clusters versus time. The automated build process began in September 2019, significantly accelerating the cluster build process.



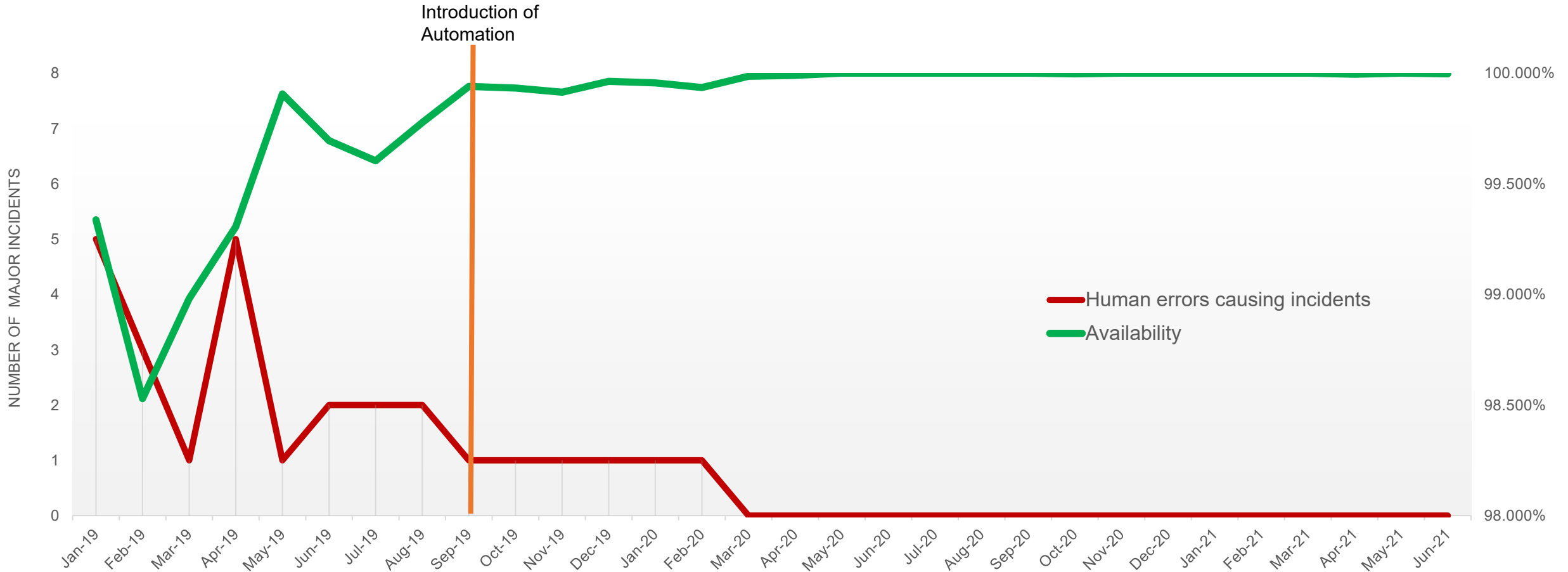


Number of changes versus time. Automated change deployment pipelines were introduced in September 2019

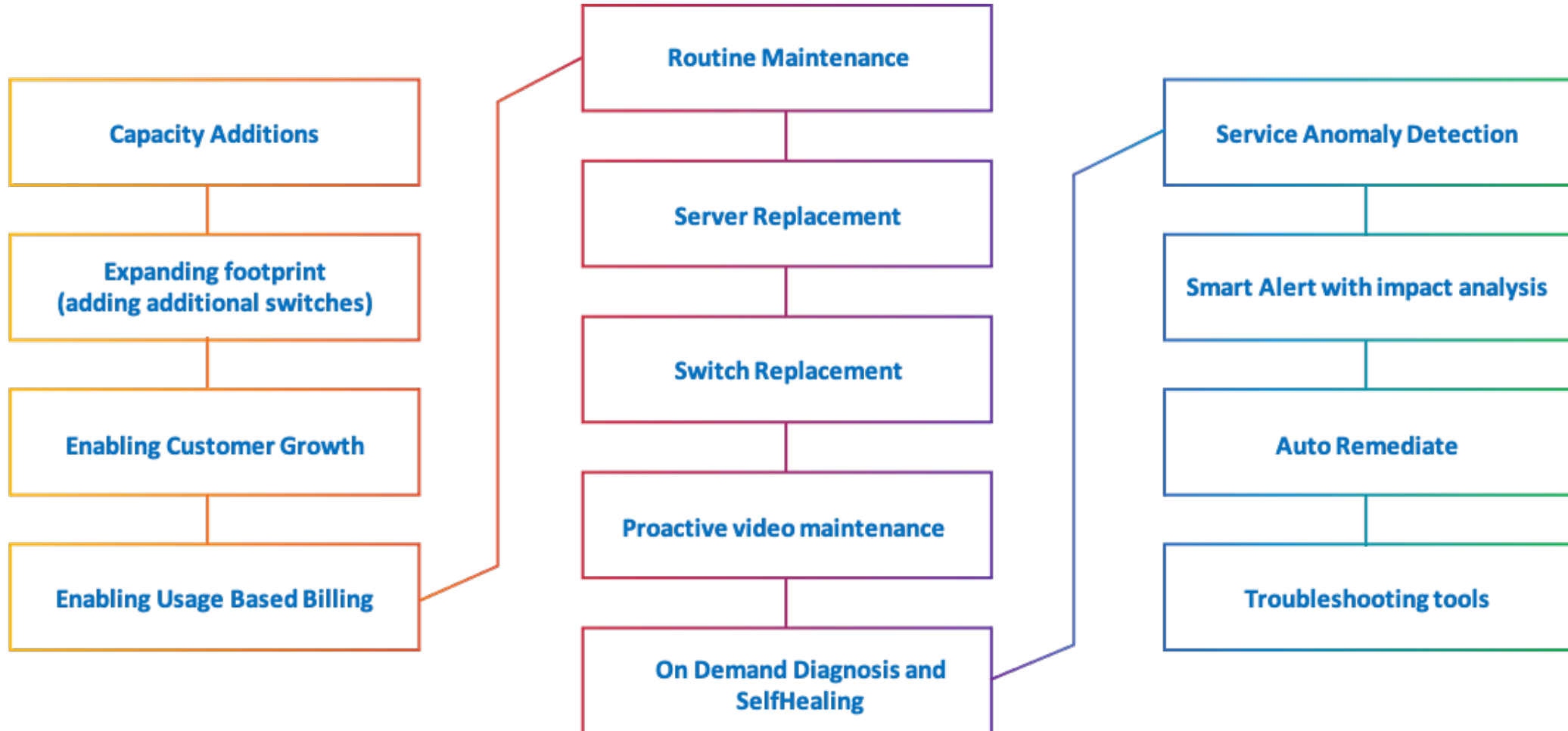


Automating incident detection and mitigation

System availability vs time.. Availability is plotted on the right side (excluding scheduled maintenances) and the number if major incidents per month caused by human error is plotted on the left.



Run a highly available state of the art network while reducing cost of operations





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Thank You!

Bhanu Krishnamurthy,
VP SW Dev and QA, Comcast

Greg Medders,
Principal Engineer, Comcast