



NSO Expansion: Looking Beyond Configuration

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Agenda:

- Problem Statement
- Migration Automation
- OS Upgrade Automation
- Q&A

Problem Statement:

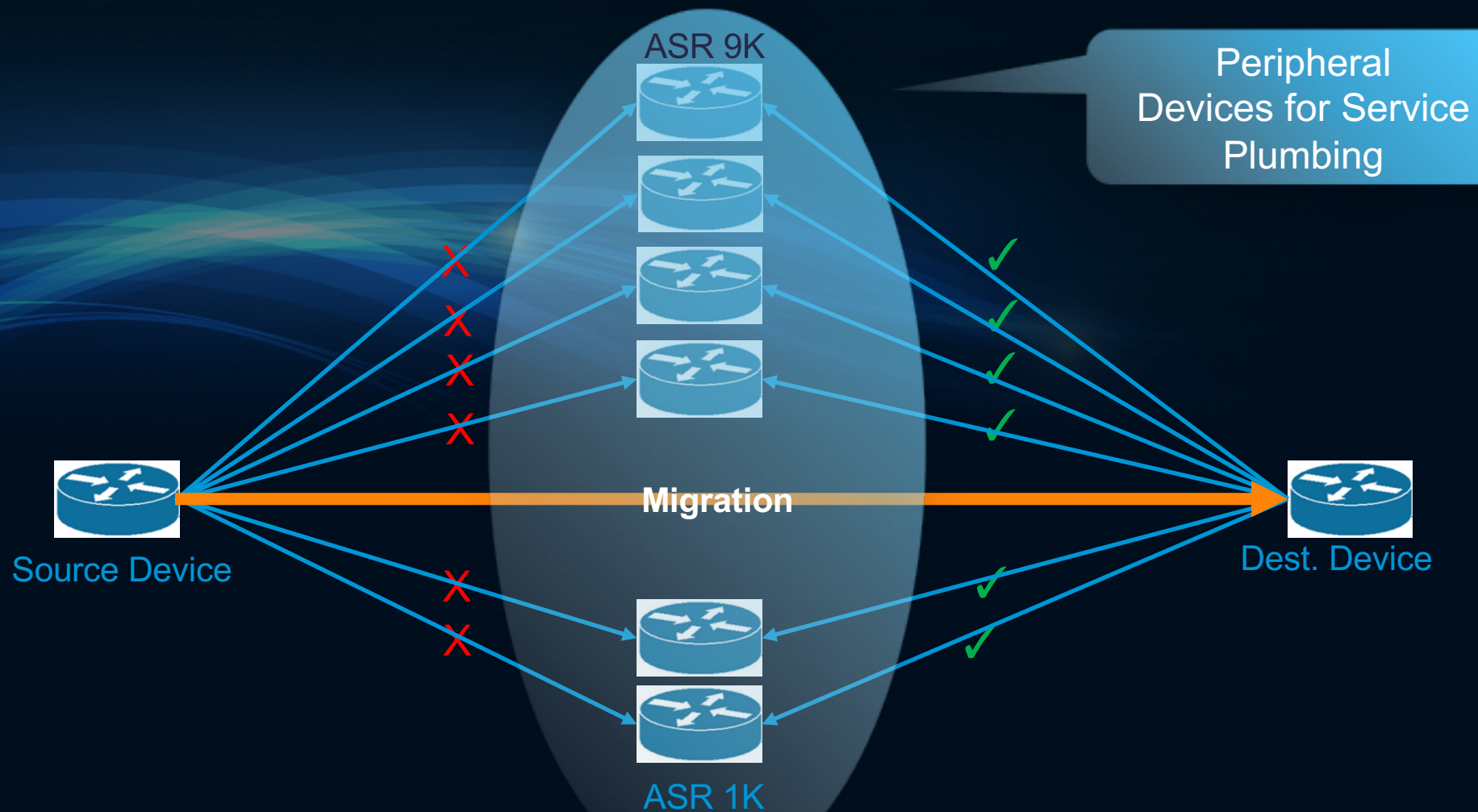
Post NSO deployment in network, we often get questions from customers “How to utilize my existing tool (NSO) for tasks other than service configuration”?

The typical asks are:

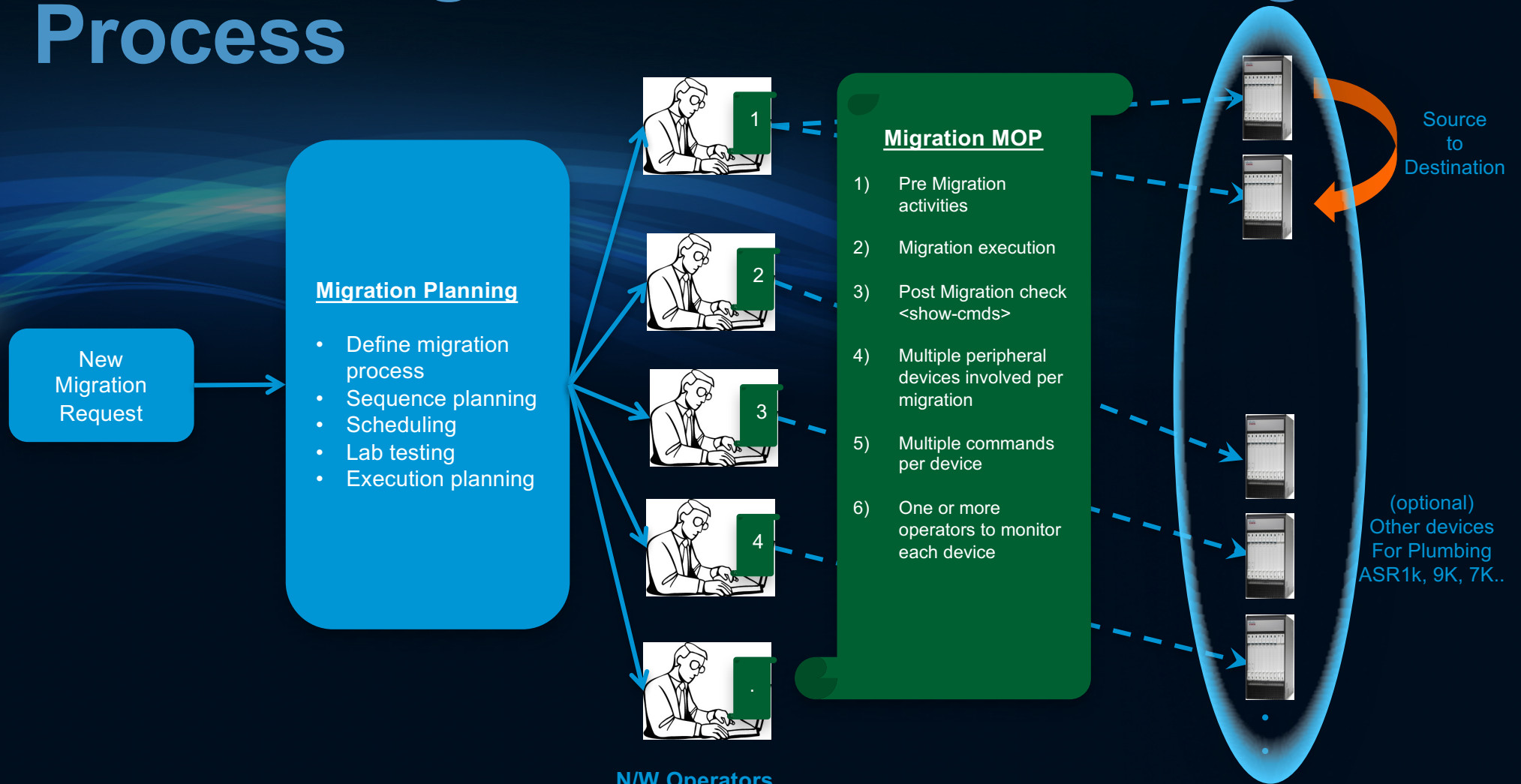
- OS Upgrade of devices from one version to another
- Migration of services from one platform to another
- Monitoring of the above 2 operations for the following...
 - ✓ Assurance that all the existing services/circuits are up and running after upgrade/ migration.
 - ✓ Strict compliance to defined KPIs within the permissible threshold limits
- Parallel upgrade/ migration of multiple devices at the same time
- Optimize and minimize maintenance windows

Automation of the above use cases using NSO can be a great value add and additional ROI for a Customer.

Service Migration Use Case



Manual Migration and Monitoring Process



MOP Transformation: simplify and save time

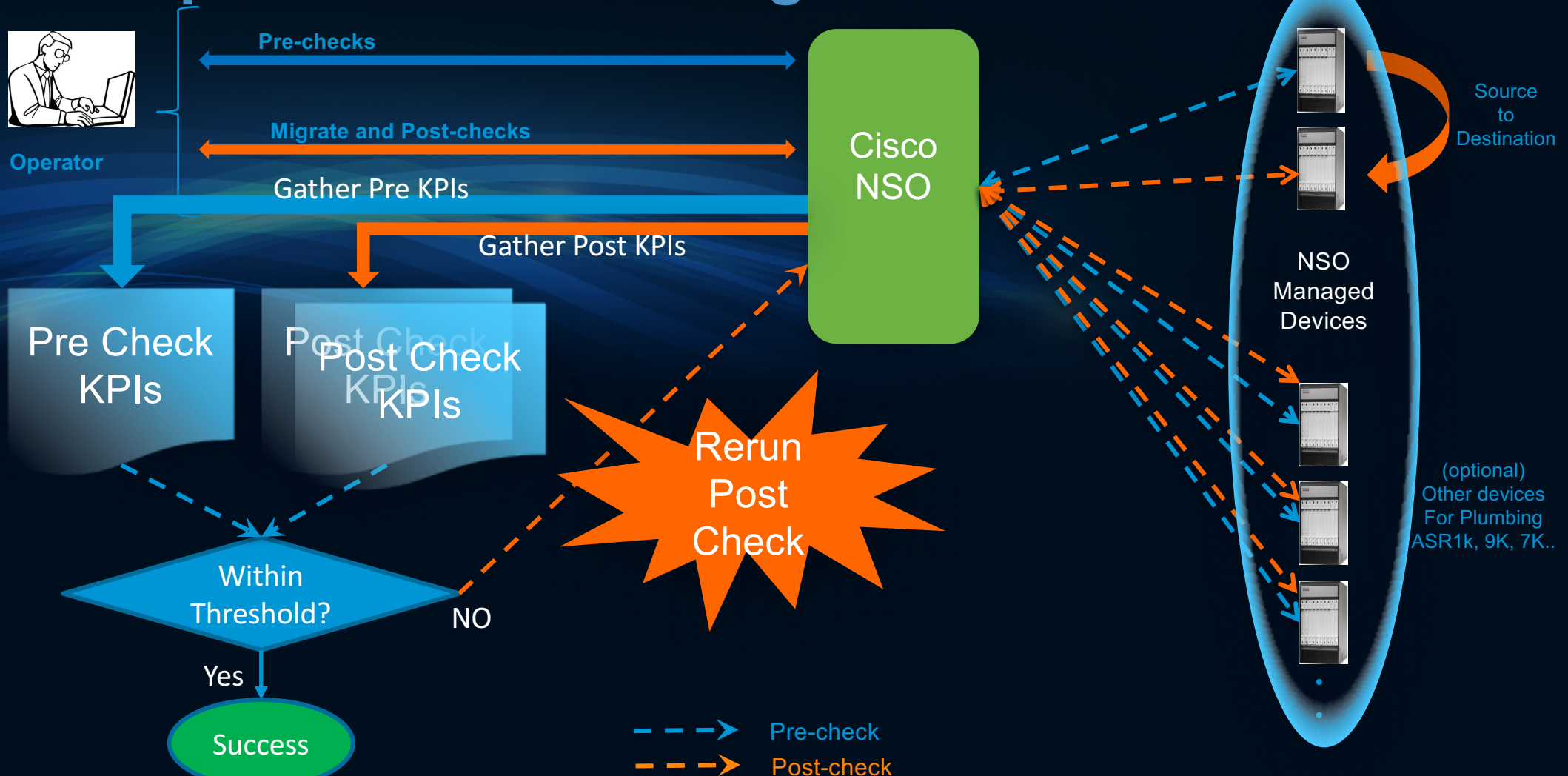
Time-consuming, individual MOP --> high operations costs—cannot scale!



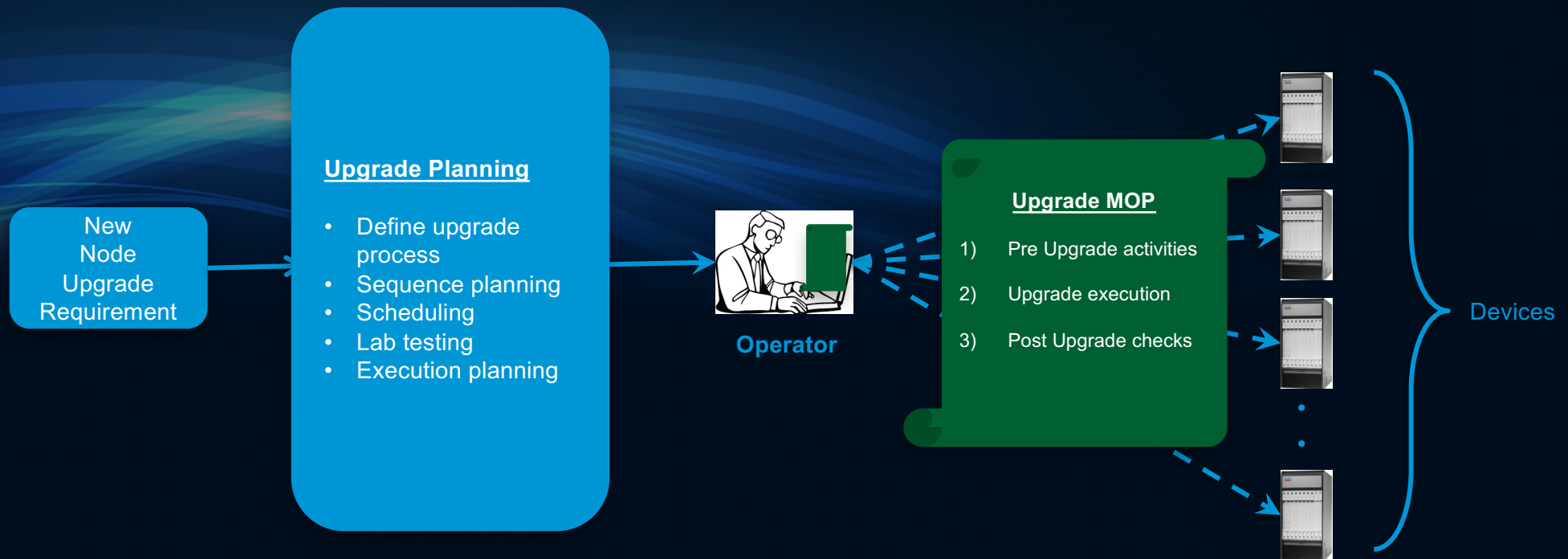
Monitoring Tool: Salient Features

- Monitoring of KPI values pre and post migration to ensure seamless transition of services
- User defined KPI blue print per platform
 - ✓ KPI Show command
 - ✓ Threshold Variance in % (for pre and post difference)
 - ✓ Command re-run interval
 - ✓ Max retry limit
- User can choose (enable/disable) KPIs per migration
- Generation of report at the end of migration
- Extensible framework to add KPIs and plug-in filtering logic

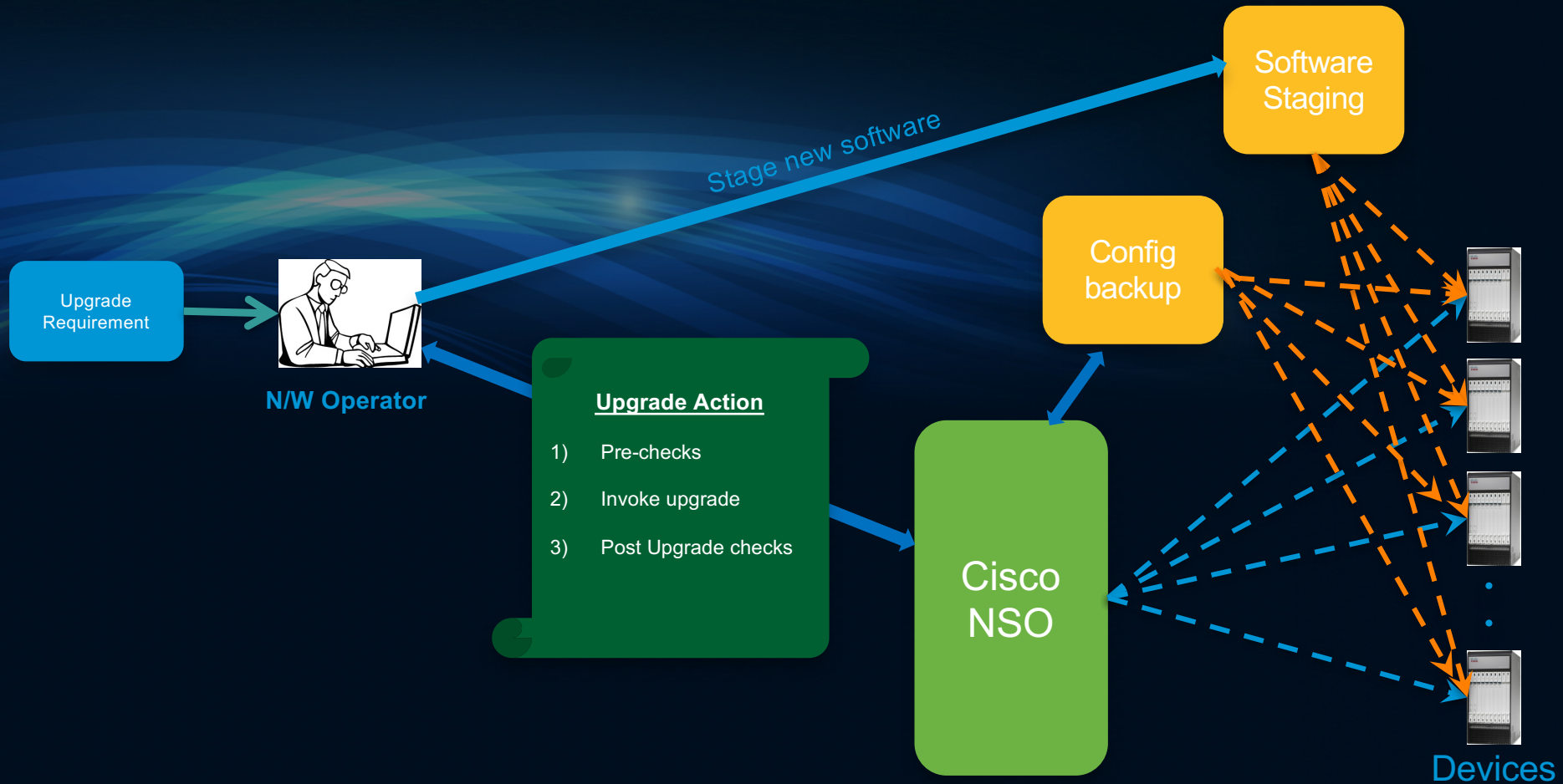
Proposed Solution – Migration Monitor



Manual OS Upgrade Execution



OS Upgrade Automation



Sample Report

```
72
73show version
74
75
76Active Software:
77 Image Version: 18.3.0
78 Image Build Number: 60932
79 Image Description: Deployment_Build
80 Image Date: Wed Aug 12 14:45:47 EDT 2015
81 Boot Image: /flash/asr5500-18.3.0.bin
82
83
84*****
85>*****

94
95show version
96
97
98Active Software:
99 Image Version: 20.2.0.64719
100 Image Build Number: 64719
101 Image Description: NonDeployment_Build
102 Image Date: Fri Aug 5 06:33:40 EDT 2016
103 Boot Image: /flash/production.20-2.64719.asr5500
104 >.bin
105
106*****
107>*****
```

Legends

Colors	Links
Added	(f)irst change
Changed	(n)ext change
Deleted	(t)op

Benefits of NSO Expansion

- Significant time saving in upgrade/migration tasks
- Easy, quick and less error-prone upgrade/ migration processes
- Reporting: Single pane of glass view for operator to monitor the task
- Multi-vendor support
- Time savings due to multiple parallel processes
- Significant improvement in number of devices upgrade/migration per maintenance window
- Customer OpEx savings
- Better ROI for customer



Thank You!

