



# Annual Intelligent Automation Hackathon

Addressing the collaboration issues between teams  
during an OS Patching Change

October 2020

# Automation Hackathon –Idea

**Problem Statement** – Due to WFH, teams have witnessed tremendous **Collaboration Issues** between multiple teams during an OS Patching Change resulting in Outage window getting extended, Application Availability getting impacted, SLA Breached, Penalties for Service Providers; dissatisfied clients.

## What are the Key **Collaboration Issues** and **Impacts** :-

### Collaboration Issues

- **Various factors which may result in Connectivity Issues**
  - VPN connection failures or frequent disconnects
  - LAN Account getting locked or expired
  - No Proper Power Backup
  - Broadband with low bandwidth or weak signal due the weather conditions
- **Due to various reason - Release Manger / Change Owner will be unable to reach out SME/ participant**
  - SME / Participant not being online on MS Team when required
  - SME / Participant not active in catching up with Change notification emails
  - SME / Participant contact details not being available in Outlook

### Business Impacts

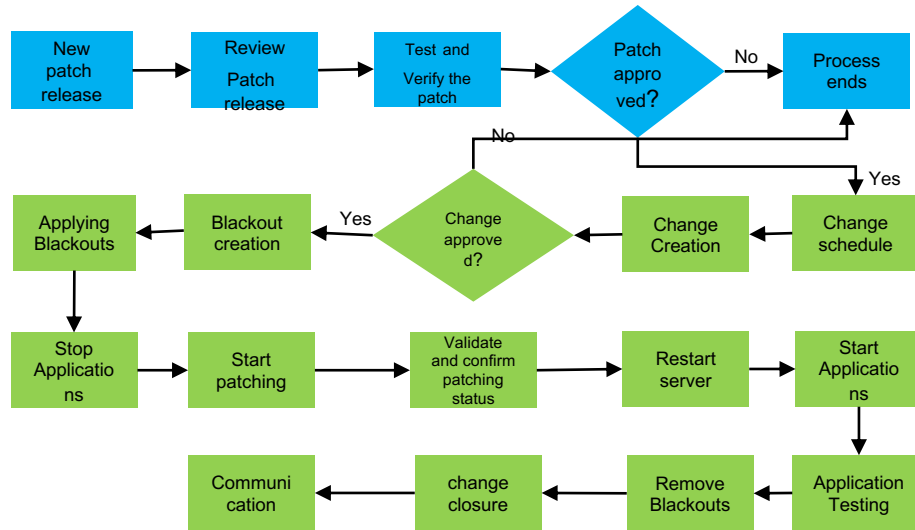
- If there is any delay in acknowledgement or response from App SME or Change Participant, it will then result in extension of change window and adds complications like application availability impact, SLA breaches, escalations etc...

# Automation Hackathon – Collaboration Issues during repetitive OS Patching Changes

## How Big is this Problem?

For one of our platinum accounts in the UK, they follow a monthly patching cycle with ~250 changes being performed per month and each change involves a minimum of 5 teams and these changes are driven 24\*7 so we are talking about rough 250\*8 hours of over all efforts/month.

### Normal OS Patching Process Cycle



### Teams Involved and the Effort spent

SL no.	Description	Teams Involved	Effort Spent
Change Creation	Raising Change in SNOW	IOPPS	90
Change Creation	Change Approval	IOPPS	60
Pre-Implementation Activities	Customer Tools - Blackout Creation	CBO Team - GFS	20
Pre-Implementation Activities	Cognizant Tools - Blackout Creation	Cloud Tools Team	20
Pre-Implementation Activities	Applying Blackouts on Customer tools	CBO Team - GFS	15
Implementation Activities	Applying Blackouts on Cloud tools	Cloud Tools Team	15
Implementation Activities	Stopping the Applications	Application Teams	40
Implementation Activities	Patch the Linux VMs via Automation Framework	Cloud Operate Team	210
Implementation Activities	Patch the Windows VMs via Automation Framework	Cloud Operate Team	210
Implementation Activities	Start the Application and perform Health Checks	Application Teams	20
Post-Implementation Activities	Blackout Removals - Customer Tools	CBO Team - GFS	10
Post-Implementation Activities	Blackout Removals- Cloud Tools	Cloud Tools Team	10

# Automation Hackathon – Solution

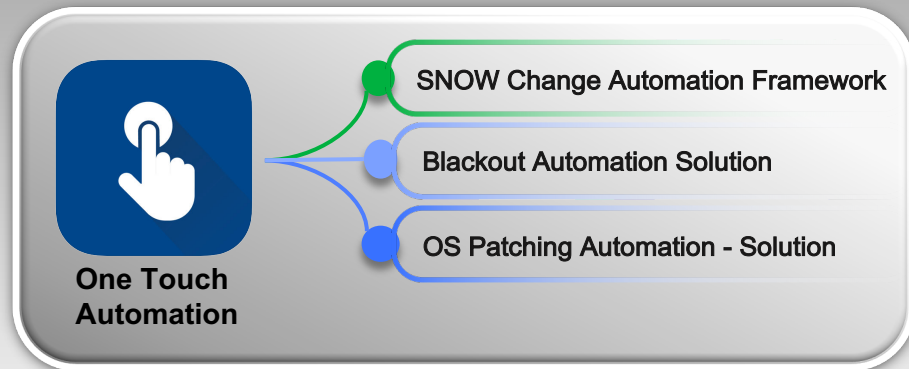
**One touch Automation** - A framework which consist of Integration of multiple tools to eliminate participation of multiple teams.

## • SNOW Change Automation Framework

- **A CTASK Automation tab has been introduced in the SNOW change Module to capture the Automation fields like –**
  - Automation Type – Automated CI Blackout, Linux/Wintel Patching, Automated Application Start/Stop
  - Action – START/STOP – used to specify the request type
  - Host Name - The list of CI's on which automation will be invoked
- **Every Automation type has timeframe enabled and expects an actions before expiry**
  - If Automation is completed before the timeout, then it auto close the CTASK and final updates
  - If Automation failed before the timeout or gets timeout, then it notify the support with an Incident.
- **All automation updates will available in SNOW Activity logs for review and verification.**

## • Blackout Automation Solution

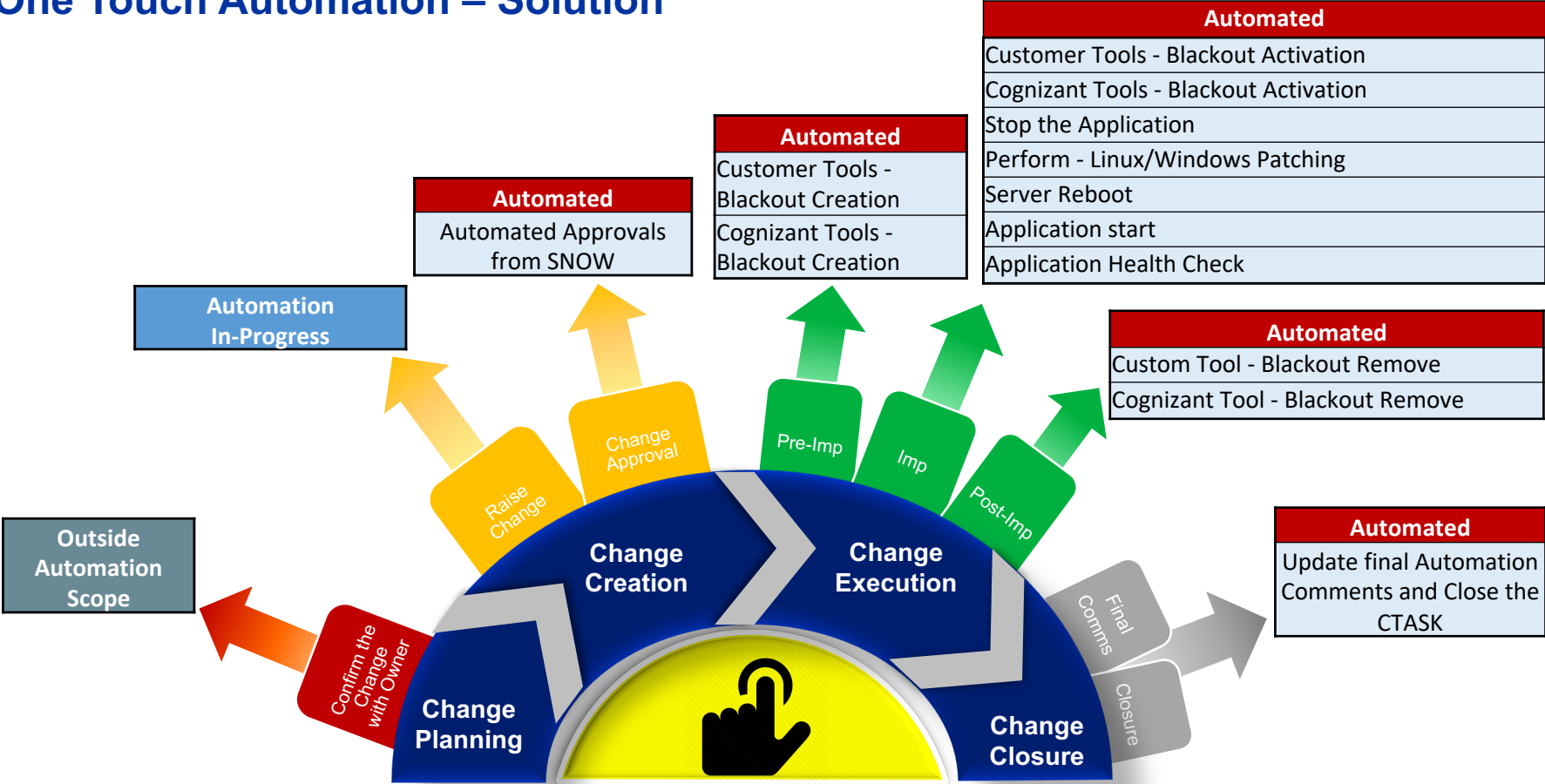
- **Apply/Remove the Blackout for Infra Monitoring and Batch Job Scheduling Tools –**
  - BMC Patrol, Zenoss, Run My Jobs (RMJ), BMC App Visibility, OEM and 3rd party tools Integrated with Event Management
- **Acknowledges the CTASK and updates the SNOW activity logs with final blackout status.**



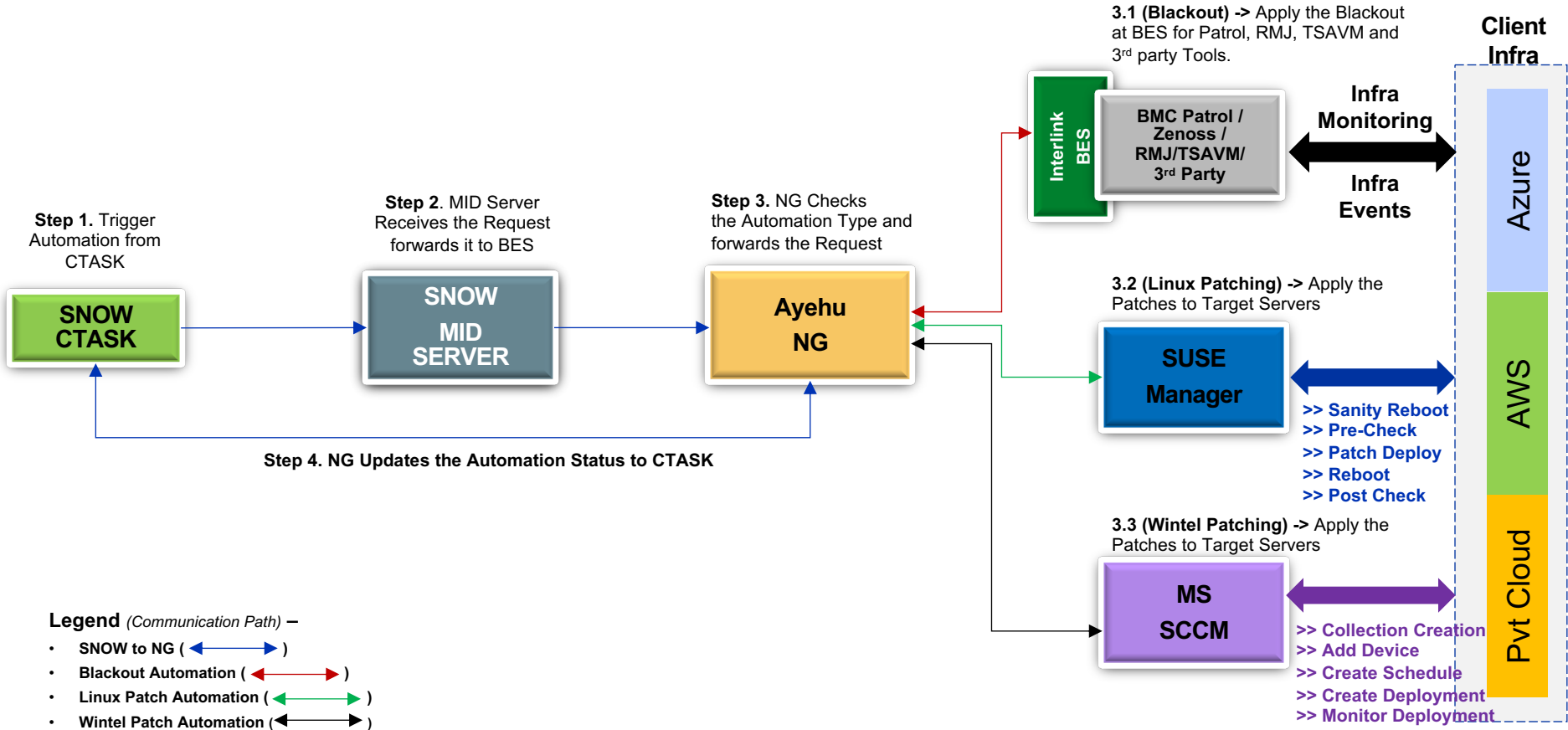
## • OS Patching Automation

- **For Windows, NG initiates automation via SCCM –**
  - Collection Creation, Associating devices with the collection, adding scheduled and creating an deployment.
  - Monitors the deployment status at regulate interval and actions accordingly for non-responding devices
- **For Linux, NG initiates automation via SUSE Linux Manager –**
  - Performs Sanity reboot, Pre-Check, Patch Deployment, Reboot and Post Check

# One Touch Automation – Solution



# One Touch Automation – Architecture



# One Touch Automation – Efforts Savings

SL no.	Window	Teams Involved	Automation Status	Effort Spent earlier	Efforts after Automation	Effort Reduction
Change Creation	Raising Change in SNOW ( Auto Schedule)	IOPPS	WIP	90	30	60
Change Creation	Change Approval	IOPPS	Automated	60	30	30
Pre-Implementation Activities	Customer Tools - Blackout Creation	Tools Team (Client)	Automated	20	0	20
Pre-Implementation Activities	Cognizant Tools - Blackout Creation	Cog Tools Team	Automated	20	0	20
Implementation Activities	Applying Blackouts on Customer tools	Tools Team (Client)	Automated	15	0	15
Implementation Activities	Applying Blackouts on Cloud tools	Cog Tools Team	Automated	15	0	15
Implementation Activities	Stopping the Applications	Application Teams	Automated	30	10	20
Implementation Activities	Patch the Linux VMs via Automation Framework	Cog Infra Team	Automated	240	120	120
Implementation Activities	Patch the Windows VMs via Automation Framework	Cog Infra Team	Automated	240	120	120
Implementation Activities	Start the Application and perform Health Checks	Application Teams	Automated	30	10	20
Post-Implementation Activities	Blackout Removals - Customer Tools	Tools Team (Client)	Automated	10	0	10
Post-Implementation Activities	Blackout Removals- Cloud Tools	Cog Tools Team	Automated	10	0	10

## Solution Benefits :

1. Need only one person to drive the entire patching change
2. No more collaboration issues /VPN/Wifi/Broadband/system issues of individual SMEs working remotely do not impact the Change.
3. One touch patching. Fire and forget approach
4. Change window reduced by upto 40%. Application Availability increased by 40%
5. Simplified and quicker change executions
6. Exception handling built in to engage other teams if required
7. Just one team drives the change, remaining 5 teams stay on stand-by and are engaged (automatically) only if required.

**Cognizant**

**Thank You !!**

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