



ROBOT

[Domain - Service Name] Service Requirements Document

Cisco Advanced Services

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Table of Contents

1	INTRODUCTION	5
1.1	Preface	5
1.2	Audience	5
1.3	Assumptions.....	5
1.4	Document Scope	5
1.5	Document References.....	6
2	SERVICE DESIGN REQUIREMENTS VERSION ONE	6
2.1	Service Overview	6
2.2	User Stories	7
2.2.1	User.....	7
2.2.2	System.....	7
2.2.3	Data.....	8
2.3	Anti-user Stories.....	9
2.4	High Level Design and Diagram	9
2.4.1	ROBOT Platform	9
2.4.2	BPA Service Catalog Item.....	9
2.4.3	BPA Workflow	10
2.4.4	NSO Service Package.....	10
2.4.5	Configuration Templates	11
2.4.6	Pre and Post-Check (Change) Command Validation.....	11
2.4.7	Topology Diagram	12
2.5	Testing.....	12
2.6	Version Deliverables	12
2.7	Version Assumptions.....	13
2.8	Version Dependencies	13
3	SERVICE DEVELOPMENT VERSION VX.X.0	13
3.1	Version X.0 Plan and Deliverables	13
3.1.1	External System Integrations	13
3.1.2	Service Components (Functionality)	13
3.1.3	BPA Workflow Enhancements.....	13
3.1.4	NSO Service Package.....	14
3.2	User Stories	14
3.3	Dependencies	16
4	RELEASE NOTES	16

List of Tables

Table 1 - Document References.....	6
Table 2 - Service Inputs.....	6
Table 3 - User Stories	7
Table 4 - BAC External Systems Integration	7
Table 5 - System User Stories.....	8
Table 6 - Data User Stories.....	8
Table 7 - Anti-User Stories	9
Table 8 - Supported Platforms and OS.....	10
Table 9 - NSO Parameters	11
Table 10 - Version X.0 User Stories.....	14
Table 11 - Version X.0 System Stories	14
Table 12 - Version X.0 Data Stories.....	15
Table 13 - Version X.0 Anti-Stories.....	15
Table 14 - Release Notes.....	16

List of Figures

Figure 1 - BPA Workflow	10
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1 Introduction

1.1 Preface

This document outlines the service requirements and high-level design specifications for [Service Name] service in the [Domain] domain.

Edit the service name and domain name throughout this document

1.2 Audience

The intended audience for this document is primarily:

- ROBOT Automation Product Owners
- ROBOT Automation Design and Development Team
- ROBOT Automation Project Teams
- Cisco and Bank of America Domain Leads
- Service Users
- Bank of America Service Catalog Team
- Bank of America NIDM Team
- Bank of America CI/CD Team
- Bank of America A&E Team

1.3 Assumptions

This document makes the following assumptions about the content and the purpose of this document:

- Familiarity with ROBOT Automation Platform and its components
- Understanding of ROBOT Automation services Roadmap Release versions
- All requirements are documented in user and data stories, but the plan may span across multiple versions to achieve end-to-end automation
- User stories in this document may be changed, re-prioritized or back-logged during the development and testing to accommodate changes in requirement and optimize speed and quality of product delivery.
- This document may be updated in the future as more use-case specific details become available.

Service-specific assumptions should go here

1.4 Document Scope

The scope of this document is to outline high level design and service requirements necessary to design and develop the service using ROBOT automation platform.

This document contains service overview, user stories, high level design, logical diagrams, and user interface sections providing design and development guidelines to develop modular software components related to the service.

This document does not provide low level design or details on how the requirements will be designed for the service.

This document should include service scope and a complete plan along with dependencies and risks to develop and deliver the service from end-to-end.

For services spanning multiple versions: This document provides the best information available for the future versions. Update this document with detailed service requirements when planning the future versions.

The scope of this document does not need to be changed.

1.5 Document References

Document references for the service are listed in the table below.

Table 1 - Document References

Document	Description

Add the list of related documents to this table. For example:

- *Service Roadmap Plan*
- *Service Analysis Document*
- *Sample NCDs, etc*

2 Service Design Requirements Version One

2.1 Service Overview

Service overview should include the scope of the service, how it is used, how does it get initiated (NSER, SRF, WO etc.) and a table for BPA UI inputs.

Table 2 - Service Inputs

Input Name	UI Type	Data type	Input Description	Validation Criteria
	Choose an item.	Choose an item.		
	Choose an item.	Choose an item.		
	Choose an item.	Choose an item.		
	Choose an item.	Choose an item.		
	Choose an item.	Choose an item.		

2.2 User Stories

This section lists all the user stories required to develop automation solution for [Service name] service.

2.2.1 User

The table below includes all the user stories for this service and its use cases.

A user story describes the actions a user will see or perform with enough information for BPA and NSO developers to produce a feature or functionality required by the service.

Table 3 - User Stories

No.	User Story

2.2.2 System

System stories represent external system integrations to connect with BAC systems to support the service. This service will have a combination of API driven integrations and user tasks requiring manual tasks to as part of automation workflow.

Table 4 - BAC External Systems Integration

BAC External System	Integration Function
Active Directory (AD)	NBKID access to service catalog (RBAC)
SMTP	Email notifications

These represent external system integrations to connect with BAC systems to support the service. If you have a user story that requires something outside of BPA and NSO, it needs to be listed above.

Example: SMTP for Email notification and AD for authentication and authorization. No CMS-P, No Remedy CRQ, No DDI Request should be listed in this section.

Table 5 - System User Stories

No.	System Story

All system stories should be actions you want Robot to either perform.

Example: As a system, perform a check against Pre and Post configs and highlight the differences.

2.2.3 Data

Data stories represent the data contracts required with external systems to read and update service specific data from/at the source.

Table 6 - Data User Stories

No.	Data Story

No.	Data Story

All data user stories should go in a table here identifying data required by the service for automation by ROBOT (BPA+NSO) and which system has the right data for BPA to consume.

Example: As a system, I want to contact NiDM-NDC and provide port status

2.3 Anti-user Stories

Anti-user stories are scenarios that should not occur to prevent the system from running into undesired conditions. These stories must ensure checks and validations wherever necessary to prevent from unintended provisioning or decommissioning. These stories are listed in the table below.

Table 7 - Anti-User Stories

No.	Anti-user Story

Anti-user stories are scenarios that should not occur to prevent the system in running into undesired situations. These stories must ensure checks and validation wherever necessary to prevent from unintended provisioning or decommissioning.

2.4 High Level Design and Diagram

Sections below include high-level design and diagram of ROBOT platform and BPA workflow.

2.4.1 ROBOT Platform

Release 1.0 will be developed and tested on ROBOT consisting of following platforms.

- BPA 2.x consisting of Portal and Workflow with LSA support
- LSA based service packages
- NSO 4.7.2 with LSA and rollback API support

2.4.2 BPA Service Catalog Item

BPA Service Catalog will contain [service name] service item for [domain] network administrators to order the service.

BPA user interface will include following features.

- UI to

List out different User interface screens at a high-level

2.4.3 BPA Workflow

BPA will contain a workflow for the service to process the order and orchestrate the service by integrating with Remedy. High level workflow is shown below. The service workflow will be designed and built to utilize LSA architecture support in BPA. BPA will integrate with Remedy, Active Directory for authentication, and SMTP for email notification.

Figure 1 - BPA Workflow

ROBOT <DOMAIN>-<Service>	External System Integrations	
	BPA Service Catalog	
	BPA Workflow	
	NSO	
	ENT Switch Device Type	

2.4.4 NSO Service Package

This section includes the hardware platform and its BAC certified software versions.

Table 8 - Supported Platforms and OS

Device Role	Device Type	OS Type	OS Version

This section should include supported platform and OS (hardware and software) along with OS versions. There must be at least OS versions that ROBOT platform should support (n and n-1).

Table 9 - NSO Parameters

Input Name	Description
NSO Service Name	To be filled while designing NSO service package
NSO Service Key	To be filled while designing NSO service package

2.4.5 Configuration Templates

The configurations below are approved platform commands to execute on mentioned devices roles to provision the service. Service variables to be passed from BPA to NSO are highlighted in red.



Example Template
for configuration.xls

Embed the excel document with your configurations here, template attached

2.4.6 Pre and Post-Check (Change) Command Validation

All are post commands are required to have validation based on service.

Number	Command	Sample Output																									
1	Show interface status	<div>Example of output of Pre-command:</div> <table><tr><th>Port</th><th>Name</th><th>Status</th><th>VLAN</th><th>Duplex Speed Type</th></tr><tr><td>Gi1/0/1</td><td>CAHTPHP01V1 10.165</td><td>connected</td><td></td><td>140 half 10 10/100/1000BaseTX</td></tr><tr><td>Gi1/0/9</td><td>CAHTPHP01P01 10.16</td><td>notconnect</td><td></td><td>120 auto auto 10/100/1000BaseTX</td></tr><tr><td>Gi1/0/10</td><td>Model Client</td><td>connected</td><td></td><td>120 a-full a-1000 10/100/1000BaseTX</td></tr><tr><td>Gi1/0/11</td><td>NXC</td><td>disabled</td><td></td><td>999 auto auto 10/100/1000BaseTX</td></tr></table> <div>Example of output of Post-command: Same as Pre-command.</div> <div>Validation Criteria: Validate “connected”, “notconnect” and “disabled” state to make sure no difference in interface status between Pre & Post.</div>	Port	Name	Status	VLAN	Duplex Speed Type	Gi1/0/1	CAHTPHP01V1 10.165	connected		140 half 10 10/100/1000BaseTX	Gi1/0/9	CAHTPHP01P01 10.16	notconnect		120 auto auto 10/100/1000BaseTX	Gi1/0/10	Model Client	connected		120 a-full a-1000 10/100/1000BaseTX	Gi1/0/11	NXC	disabled		999 auto auto 10/100/1000BaseTX
Port	Name	Status	VLAN	Duplex Speed Type																							
Gi1/0/1	CAHTPHP01V1 10.165	connected		140 half 10 10/100/1000BaseTX																							
Gi1/0/9	CAHTPHP01P01 10.16	notconnect		120 auto auto 10/100/1000BaseTX																							
Gi1/0/10	Model Client	connected		120 a-full a-1000 10/100/1000BaseTX																							
Gi1/0/11	NXC	disabled		999 auto auto 10/100/1000BaseTX																							

[Domain - Service Name]
Service Requirements Document

Number	Command	Sample Output								
2	Show ip route	<p>Example of output of Pre-command:</p> <table><tr><td>Gateway of last resort is 10.247.174.189 to network 0.0.0.0</td></tr><tr><td>B* 0.0.0.0/0 [20/0] via 10.247.174.189, 7w0d</td></tr><tr><td>10.0.0.0/8 is variably subnetted, 22 subnets, 7 masks</td></tr><tr><td>C 10.86.146.156/32 is directly connected, Cellular0/0/0</td></tr><tr><td>B 10.165.164.0/25 [200/0], 7w0d, Null0</td></tr><tr><td>C 10.165.164.0/26 is directly connected, GigabitEthernet0/2.120</td></tr><tr><td>L 10.165.164.1/32 is directly connected, GigabitEthernet0/2.120</td></tr><tr><td>C 10.165.164.64/27 is directly connected, GigabitEthernet0/2.140</td></tr></table> <p>Example of output of Post-command: Same as Pre-command.</p> <p>Validation Criteria: Validate that the routing table has not changed.</p>	Gateway of last resort is 10.247.174.189 to network 0.0.0.0	B* 0.0.0.0/0 [20/0] via 10.247.174.189, 7w0d	10.0.0.0/8 is variably subnetted, 22 subnets, 7 masks	C 10.86.146.156/32 is directly connected, Cellular0/0/0	B 10.165.164.0/25 [200/0], 7w0d, Null0	C 10.165.164.0/26 is directly connected, GigabitEthernet0/2.120	L 10.165.164.1/32 is directly connected, GigabitEthernet0/2.120	C 10.165.164.64/27 is directly connected, GigabitEthernet0/2.140
Gateway of last resort is 10.247.174.189 to network 0.0.0.0										
B* 0.0.0.0/0 [20/0] via 10.247.174.189, 7w0d										
10.0.0.0/8 is variably subnetted, 22 subnets, 7 masks										
C 10.86.146.156/32 is directly connected, Cellular0/0/0										
B 10.165.164.0/25 [200/0], 7w0d, Null0										
C 10.165.164.0/26 is directly connected, GigabitEthernet0/2.120										
L 10.165.164.1/32 is directly connected, GigabitEthernet0/2.120										
C 10.165.164.64/27 is directly connected, GigabitEthernet0/2.140										
3	Show inventory	No validation required.								

2.4.7 Topology Diagram

The topology diagram



Robot- Services
Topology example.v

Embed the PDF or Visio document, template attached

2.5 Testing

Development and testing this service requires following prerequisites.

- NSO NED validation
- Device platform running the previous standard IOS
- Device running the BAC approved configuration

Obtain and embed full running configuration for device type.

Identify any external dependencies that need to be in place for testing.

2.6 Version Deliverables

This version will focus on developing the following service features using a combination of incremental and iterative version development approach.

- Configuration snapshots before and after the change
- Email notifications
-

This version will include following ROBOT functionalities to support the service.

2.7 Version Assumptions

- External system integrations and their APIs – NIDM and NIDM-NDC are made available by BAC in time for version development and testing
- Development testing is done using hardware and software platforms specified in supported platforms and OS table
- Service is developed for specified hardware and software platforms (current and previous IOS version) as of writing this document
- The listed hardware and software support is subject to NSO NED validation and device type support
- All devices have been onboarded in Robot

Any assumptions made for the version to be documented here.

2.8 Version Dependencies

- ROBOT platform with LSA support is available in Cisco development environment for development and testing
- Device and OS type selected for NSO service package development are approved by BAC
- APIs for external system integration - NIDM
- APIs for external system integration - NIDM-NDC
- ROBOT platform with LSA support is available in BAC development and UAT environment for development and testing

Version dependencies required to complete development and testing of the requirements documented to be added here.

3 Service Development version vX.X.o

Overview of this version release

3.1 Version X.o Plan and Deliverables

-

High-level objective on what you want to accomplish in this version

3.1.1 External System Integrations

-

New integrations required

3.1.2 Service Components (Functionality)

-

List out Enhancements for Version Two

3.1.3 BPA Workflow Enhancements

-

List out changes in workflow

3.1.4 NSO Service Package

-

Any additional platforms and OS.

3.2 User Stories

Below are the user stories focus on version two requirement

Table 10 - Version X.o User Stories

No.	User Stories

A user story describes the actions a user will see or perform with enough information for BPA and NSO developers to produce a feature or functionality required by the service.

Table 11 - Version X.o System Stories

No.	System Stories

All system stories should be actions you want Robot to either perform.

Example: As a system, perform a check against Pre and Post configs and highlight the differences.

Table 12 - Version X.o Data Stories

No.	Data Stories

All data user stories should go in a table here identifying data required by the service for automation by ROBOT (BPA+NSO) and which system has the right data for BPA to consume.

Example: As a system, I want to contact NiDM-NCD and provide port status

Table 13 - Version X.o Anti-Stories

No.	Anti-user Stories

Anti-user stories are scenarios that should not occur to prevent the system in running into undesired situations. These stories must ensure checks and

validation wherever necessary to prevent from unintended provisioning or decommissioning.

3.3 Dependencies

○

List items, tools and or dependencies that must be completed before starting development this section

4 Release Notes

Table 14 - Release Notes

Technical Change	Version	Title(s) of Affected Section(s)	Changes Made By	Date
Initial Draft		All		
Finalized sections - First Version		All		

End of Document