



# **Avaya Oceana<sup>®</sup> and Avaya Analytics<sup>™</sup> Disaster Recovery**

Release 3.9  
Issue 1  
April 2023

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# Contents

<b>Chapter 1: Introduction</b> .....	10
Purpose.....	10
<b>Chapter 2: System Architecture</b> .....	11
Overview.....	11
System architecture.....	11
Supported configurations for Avaya Control Manager and External Data Mart in Disaster Recovery.....	12
<b>Chapter 3: Failover scenarios</b> .....	15
Failover scenarios.....	15
Limitations.....	16
<b>Chapter 4: Disaster Recovery Configuration</b> .....	18
Overview.....	18
Configuring Avaya Aura® System Manager for Disaster Recovery.....	19
Configuration Checklist.....	19
Prerequisites for the Geographic Redundancy setup.....	19
Prerequisites for System Manager on VMware in the Geographic Redundancy setup.....	20
Key tasks for Geographic Redundancy.....	21
Prerequisites before configuring Geographic Redundancy.....	23
Configuring Geographic Redundancy.....	26
Enabling the Geographic Redundancy replication.....	28
Scenarios of auto-disable for the Geographic Redundancy system.....	29
Geographic Redundancy field descriptions.....	29
GR Health field descriptions.....	31
Configuring Aura Voice Services for Disaster Recovery.....	32
Overview.....	32
Configuration Checklist.....	33
Adding a node name for Enterprise Survivable Server on Communication Manager.....	35
Adding a Survivable Processor on Communication Manager.....	36
Configuring the server role for the Enterprise Survivable Server in DC2.....	37
Configuring ESS network.....	37
Verifying the status of Survivable Processor.....	38
Adding a CTI link to the DC2 Application Enablement Services.....	38
Adding a second Adjunct Route to vectors.....	39
Configuring IP services.....	39
Viewing Enterprise Survivable Server cluster status.....	40
Configuring Avaya Aura® Media Server.....	40
Adding Enterprise Survivable Server in Survivability Hierarchy.....	41
Configuring the CallServerConnector attributes for DC1.....	41
Configuring the CallServerConnector attributes for DC2.....	42

Failover Scenarios.....	43
Configuring ACM for Disaster Recovery.....	45
Configuration Checklist.....	45
Enable Disaster Recovery Support Avaya Control Manager.....	46
Configuring DC2 application details in the UCA server in DC1.....	47
Configuring Data Center 2 application details in the Analytics server in Data Center 1.....	48
Enabling authorization in the Avaya Analytics™ server .....	49
Configuring Omnichannel for disaster recovery .....	49
Omnichannel database mirroring configurations.....	49
Configuring Context Store for Disaster Recovery.....	57
Configuration Checklist.....	57
Enabling SSL connection for Context Store replication from DC1 to DC2.....	58
Retrieving the System Manager root certificate.....	58
Creating a new keystore certificate file.....	59
Creating a new keystore certificate file for Data Center 1 of Avaya Oceana® Cluster 1.....	60
Adding CA root certificate and keystore certificate files to Data Center 2 Cluster 1 nodes.....	61
Enabling Context Store integration to External Data Mart in Data Center 1.....	61
Configuring Avaya Oceana® for Disaster Recovery.....	62
Configuration Checklist.....	62
Setting cluster activity status for clusters in DC1.....	63
Configuring Oceana Monitor authorization for DC1.....	64
Setting disaster recovery attributes in OceanaConfiguration snap-in for Data Center 1 UCAStoreService and Context Store.....	65
Configuring Oceana Monitor authorization for DC2.....	66
Setting disaster recovery attributes in OceanaConfiguration snap-in for Data Center 2 UCAStoreService and Context Store.....	66
Setting the cluster activity status for the clusters in DC2.....	67
Schedule database backups UCMServer and UCAStoreService.....	68
Rebooting DC1 and DC2 Avaya Oceana® clusters.....	72
Verify replication status for all disaster recovery components.....	72
Configuring Web Voice Web Video.....	74
Web voice and web video requirements.....	74
Configuring Avaya Analytics™ Disaster Recovery.....	75
Overview.....	75
Configuration Checklist.....	76
Configuring Avaya Analytics™ for Disaster Recovery.....	76
Configuring Avaya Analytics™ 4.x server details for real-time reporting.....	79
Switching over from primary data center to secondary data center.....	80
Reversing replication direction after switching from primary to secondary role.....	82
<b>Chapter 5: Planned Partial and Full Switchovers.....</b>	<b>85</b>
Planned switchover from DC1 to DC2.....	85
Partial and Full Switchover - Preparation and Validation .....	86
Checklist for full or partial controlled switchover.....	86

Planned maintenance windows time and duration.....	89
Validate identical software levels.....	89
Validate Avaya Oceana® components replication.....	89
Validate Avaya Oceana® snap-in shutdown or deployment status in DC1 and DC2.....	93
Launch Oceana Monitor for DC1 and DC2 locations and verify PUs.....	97
Partial controlled switchover.....	99
Checklist for Partial Controlled Switchover.....	99
Configure the primary site voice channel shutdown.....	100
Configure the primary site email shutdown.....	101
Configure the primary site chat shutdown.....	102
Configure the primary site MessagingService shutdown.....	102
Configure the primary site GenericChannelAPI service shutdown.....	103
UCMSERVICE Backup and Restore Procedures.....	104
Setting the maintenance mode for front end web voice and web video.....	106
Oceana POM switchover.....	106
Validating contacts.....	106
Logging out supervisors and agents.....	106
Changing the Cluster Activity status for the clusters in Data Center 1.....	106
Omnichannel database switchover.....	107
Switching over Avaya Analytics™ from DC1 to DC2.....	109
Full controlled switchover.....	110
Checklist for Full Controlled Switchover.....	110
Shut down and switchover to DR site voice channel.....	111
Switchover from Avaya Aura® Communication Manager to ESS in DR site.....	112
Configure the primary site voice channel shutdown.....	113
Switching over Voice Channels from Avaya Oceana® DC1 to Avaya Oceana® DC2.....	113
Configure the primary site email shutdown.....	116
Configure the primary site chat shutdown.....	117
Configure the primary site MessagingService shutdown.....	118
Configure the primary site GenericChannelAPI service shutdown.....	118
UCMSERVICE Backup and Restore Procedures.....	119
Setting the maintenance mode for front end web voice and web video.....	121
Oceana POM switchover.....	121
Validating contacts.....	121
Logging out supervisors and agents.....	122
System Manager switchover.....	122
Changing cluster activity status for clusters in Data Center 2.....	126
Verifying Avaya Breeze® platform node controller for Data Center 2.....	127
Omnichannel database switchover.....	127
Switching over Avaya Analytics™ from DC1 to DC2.....	128
Avaya Control Manager switchover from primary to DR site.....	129
Avaya Control Manager Toggle Button utility for switchover and switchback.....	130
Reconfiguring Avaya Control Manager in full DR switchover scenarios.....	130

Using Toggle button to switch Avaya Control Manager in Data Center 1 to use Avaya Oceana® applications in Data Center 2.....	131
Configure the Web Voice and Web Video switchover.....	131
Partial and Full Switchover - Configuration and Validation.....	132
Checklist for full or partial controlled switchover.....	132
Verifying the CSC deployment status in DC2.....	132
Restoring the UCMSERVICE data for Avaya Oceana® Cluster 1 in Data Center 2.....	133
Configure the DR site EmailService startup.....	133
Configure the DR site Chat startup.....	134
Configure the DR site MessagingService for Social, SMS or Async startup.....	134
Configure the DR site GenericChannelAPI Service startup.....	135
Verify the DR Application Enablement Services.....	136
Avaya Workspaces Agent switchover.....	136
Validate and test deployed channels.....	137
<b>Chapter 6: Planned Partial and Full Recovery and Switchback.....</b>	<b>138</b>
Planned switchback from DC2 to DC1.....	138
Switchback from Partial and Full switchover - Preparation and Validation .....	139
Checklist for full or partial controlled switchback.....	139
Planned maintenance window for Switchback.....	141
Validate identical software levels on Data Center 1 and Data Center 2.....	141
Validate Avaya Control Manager Database HA Replication Status.....	142
Verifying Omnichannel database mirroring status.....	142
Validating Avaya Oceana® core components replication operational before switchback.....	143
Verifying the CallServerConnector component in the primary site.....	143
Verifying deployment mode status of primary site email snap-in.....	143
Verifying the shutdown mode status of primary site CustomerController chat snap-in.....	144
Verifying the shutdown mode status of primary site MessagingService snap-in.....	144
Verifying the shutdown mode status of primary site GenericChannelAPI snap-in.....	145
Verifying deployment status of AMC snap-in for Avaya WebRTC Connect contacts.....	145
Preparing DC1 for UCA and UCM database restore.....	146
Rebooting Avaya Oceana® Cluster 1 on DC1.....	147
Logging out supervisors and agents from the DR site.....	148
Validating contacts.....	148
Switchback - Partial controlled failover.....	148
Checklist for Partial Controlled Switchback.....	148
Shut down and switchover to DR site voice channel.....	149
Configuring DR site email shutdown.....	150
Configuring DR site MessagingService shutdown.....	150
Configuring DR site chat shutdown.....	151
Configuring DR site GenericChannelAPI Service shutdown.....	151
Setting the maintenance mode for web voice and web video.....	152
Oceana POM switchback.....	152
Changing the Cluster Activity status for the clusters in Data Center 2.....	152

Reconfiguring Avaya Oceana® addresses to DC1.....	153
Pointing ACM to the new Omnichannel database server in DC2.....	154
Clean up and reconfigure Mirror setup on DC1 and DC2.....	154
Configuring Omnichannel database mirroring between DC1 and DC2.....	158
Configuring the Web Voice and Web Video after Switchback.....	158
Avaya Workspaces agent switchover.....	158
Validate and test deployed channels.....	158
Switchback - Full controlled failover.....	159
Checklist for Full Controlled Switchback.....	159
Shut down and switchover to DR site voice channel.....	161
Configuring Application Enablement Services (AES) for switchback.....	162
Switchback from ESS to Avaya Aura® Communication Manager after full DR switchovers...	162
Configuring DR site email shutdown.....	163
Configuring DR site MessagingService shutdown.....	163
Configuring DR site chat shutdown.....	164
Configuring DR site GenericChannelAPI Service shutdown.....	164
Setting the maintenance mode for web voice and web video.....	165
Oceana POM switchback.....	165
Re-Instate Avaya Aura® System Manager.....	165
Verifying replication status between DC1 to DC2.....	169
Validating Avaya Aura® System Manager and Avaya Breeze® replication status.....	169
Verifying Avaya Breeze® platform node controller.....	170
Changing cluster activity status for clusters in Data Center 2.....	170
Reconfiguring Avaya Oceana® addresses to DC1.....	171
Re-establishing UCA replication from primary UCA to DR UCA.....	172
Restore UCMSERVICE after Switchback.....	175
Pointing ACM to the new Omnichannel database server in DC2.....	178
Clean up and reconfigure Mirror setup on DC1 and DC2.....	178
Restoring Avaya Control Manager.....	179
Restoring the External Data Mart server.....	180
Avaya Workspaces agent switchover.....	182
Validate and test deployed channels.....	183
<b>Chapter 7: Resources</b> .....	184
Documentation.....	184
Finding documents on the Avaya Support website.....	185
Avaya Documentation Center navigation.....	186
Training.....	187
Support.....	190

# Chapter 1: Introduction

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## Purpose

This document provides information on configuring the Disaster Recovery (DR) functionality of Avaya Oceana<sup>®</sup>, Avaya Analytics<sup>™</sup> for Avaya Oceana<sup>®</sup>, and recovering after a partial or complete data center outage.

This document is intended for anyone who administers Avaya Oceana<sup>®</sup> and Avaya Analytics<sup>™</sup> for Avaya Oceana<sup>®</sup>.

### Important:

- This document is based on the assumption that you have deployed Avaya Oceana<sup>®</sup>, Avaya Analytics<sup>™</sup> for Avaya Oceana<sup>®</sup>, and the required components and services on Data Centers 1 and 2.
- This document refers to the primary data center as Data Center (DC) 1 and the secondary data center as Data Center (DC) 2.

# Chapter 2: System Architecture

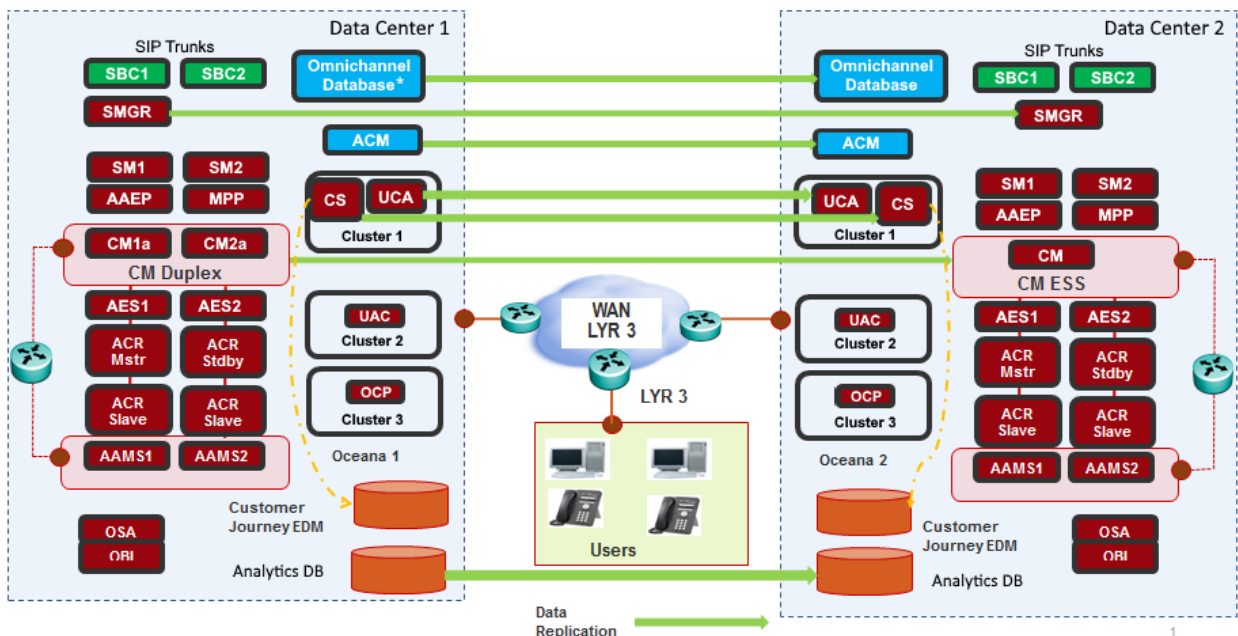
## Overview

Disaster Recovery provides a planned approach to setting up redundancy capabilities at Data Center 2 (DC2) when a complete outage occurs at Data Center 1 (DC1). The deployment process for DC1 and DC2 is identical. The two data centers are linked for replication. Post replication, one is the primary site designated as DC1, and the other is the secondary or disaster recovery site set as DC2.

This document provides information about configuring geographically redundant Avaya Oceana<sup>®</sup> and Avaya Analytics<sup>™</sup> so when an outage occurs at DC1, DC2 can be operational. DC2 has replicated the data required for administration and reporting, facilitating regular operations.

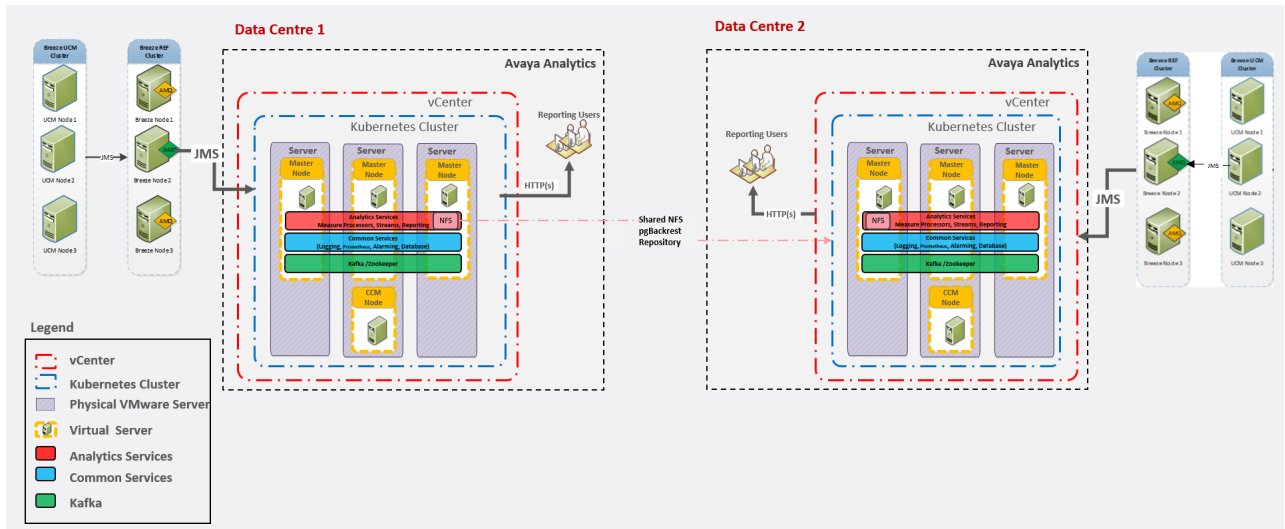
## System architecture

The following diagram depicts the high-level architecture of Avaya Oceana<sup>®</sup> disaster recovery:



\* Data Center 1 can also have two Omnichannel Databases if you configure it for High Availability.

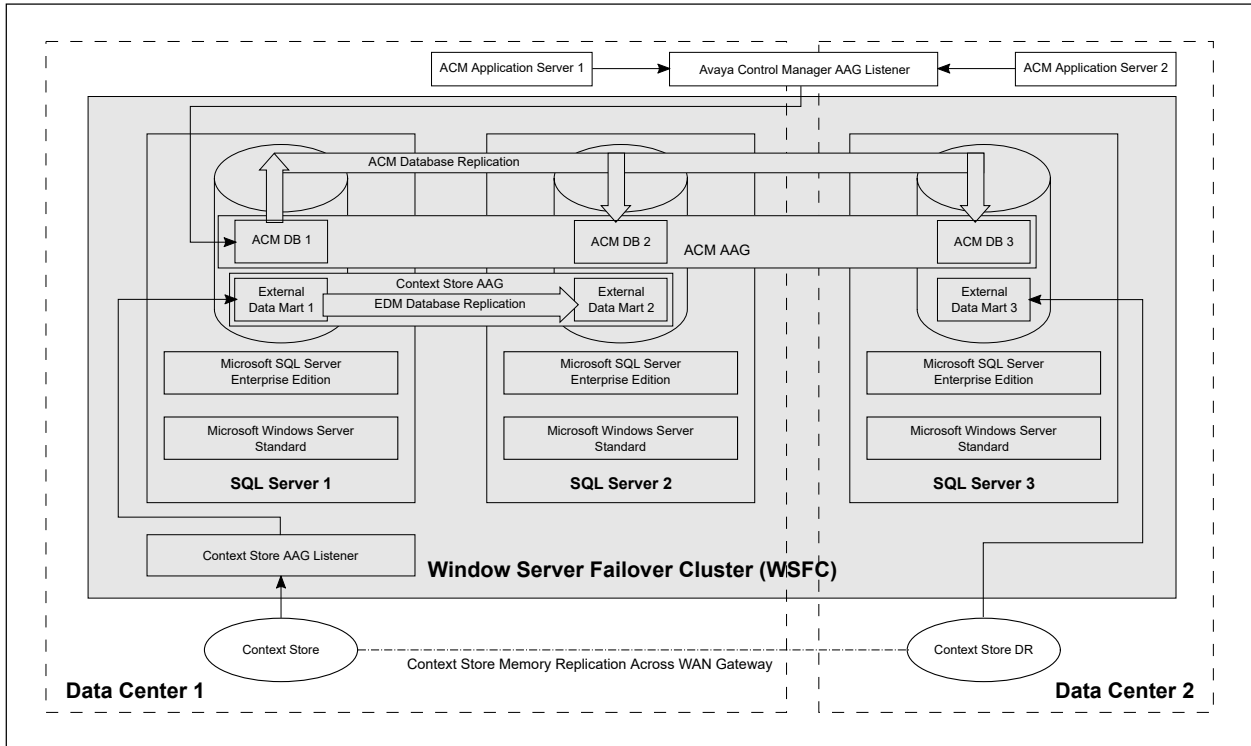
The following diagram depicts the high-level architecture of Avaya Analytics™ disaster recovery:



## Supported configurations for Avaya Control Manager and External Data Mart in Disaster Recovery

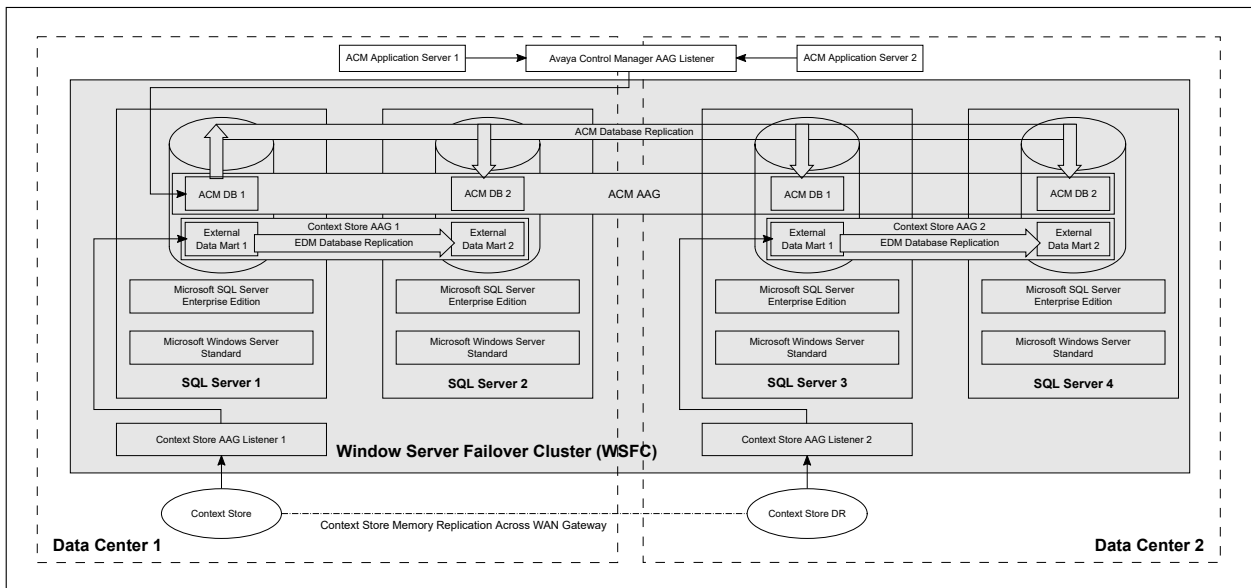
### Configuration with three SQL Server replicas

The following diagram depicts the deployment architecture with three SQL Server replicas:



### Configuration with four SQL Server replicas

The following diagram depicts the deployment architecture with four SQL Server replicas:



### Deployment considerations

- Create a Windows Server Failover Cluster that spans the two datacenters.
- Configure an Avaya Control Manager Advanced Availability Group (AAG) that includes all SQL Server replicas.

- Create a separate Context Store EDM AAG on Data Center 1 for both SQL Server replicas.
- Create a separate Context Store EDM AAG on Data Center 2 for both SQL Server replicas if you have four SQL replicas.
- If you have three SQL Server replicas, the SQL Server in Data Center 2 is used as Data Center 2 EDM. This EDM is accessed through the FQDN of the SQL Server and not through an AAG Listener.
- For information about how to create the EDM AAG on SQL Server, see *Deploying Avaya Oceana®*.
- Replication of Context Store data from Data Center 1 to Data Center 2 occurs through WAN Gateway.
- No replication of EDM data occurs from Data Center 1 to Data Center 2 at the database layer.

# Chapter 3: Failover scenarios

## Failover scenarios

Scenarios	Description
Unplanned total outage of DC1	<p>Failure of Avaya Oceana<sup>®</sup> components and Avaya Aura<sup>®</sup> Communication Manager telephony infrastructure.</p> <p>This failure mode results in unavoidable system downtime and the loss of all alerting, queued, and in-progress contacts.</p>
Planned total outage of DC1	<p>The controlled manual shutdown of DC1 and switchover to DC2.</p> <p>Avaya Oceana<sup>®</sup> supports a maintenance mode. Avaya Oceana<sup>®</sup> does not add any new contacts to the queue in the maintenance mode so that agents can handle the existing queued contacts before the shutdown.</p>
<p>Unplanned total outage of Avaya Oceana<sup>®</sup> or Avaya Analytics<sup>™</sup> components only at DC1.</p> <p>Avaya Aura<sup>®</sup>, Communication Manager, and other applications remain operational.</p>	<p>Partial disaster recovery failure of Avaya Oceana<sup>®</sup> components at DC1 only.</p> <p>You can switch the Contact Center functionality to DC2 if the Avaya Aura<sup>®</sup> infrastructure functionality and all other applications remain operational in DC1.</p> <p>The Communication Manager and Application Enablement Services components continue to be operational in DC1. You must re-configure Avaya Oceana<sup>®</sup> components at DC2 and ensure that Avaya Oceana<sup>®</sup> components point to Application Enablement Services at DC2. You must also re-configure Application Enablement Services at DC2 to communicate with the Communication Manager at DC1.</p> <p><b>! Important:</b></p> <ul style="list-style-type: none"> <li>Retain the same administration settings while DC2 is functioning. If you make any changes, Avaya Oceana<sup>®</sup> handles the changes similar to an ESS switchover.</li> <li>This failure mode does not support Avaya WebRTC Connect voice and video calls.</li> </ul>

*Table continues...*

Scenarios	Description
Unplanned total outage of Communication Manager at DC1	<p>Failure of the Communication Manager at DC1.</p> <p>If failure of the Communication Manager results in a switchover to the ESS at DC2, you must manually switchover Avaya Oceana<sup>®</sup> components to DC2.</p> <p>When you identify the failure of Communication Manager, you must immediately commence the manual switchover of all Avaya Oceana<sup>®</sup> channels to ensure that Avaya Oceana<sup>®</sup> voice routing is operational without delay.</p>
Unplanned partial outage of Avaya Oceana <sup>®</sup> components at DC1	<p>The failure of one or more Avaya Oceana<sup>®</sup> components at DC1.</p> <p>When you identify the failure of an Avaya Oceana<sup>®</sup> component, you must recover the component at DC1 or perform one of the following actions:</p> <ul style="list-style-type: none"> <li>• Partial disaster recovery to DC2.</li> <li>• Full switchover to DC2.</li> </ul> <p>When a partial failure occurs, you must determine whether the downtime to recover the components or the disruption caused by a partial or full switchover is preferable.</p>
Split WAN	<p>WAN outage.</p> <p>Avaya Oceana<sup>®</sup> does not support an active-active mode of operation; therefore, if a split WAN occurs, DC1 operates in isolation from DC2.</p> <p>The data replication for Avaya Aura<sup>®</sup> System Manager, Avaya Control Manager, Unified Collaboration Administration (UCA), and Omnichannel Provider (OCP) breaks temporarily. After the WAN connection is restored, Avaya Oceana<sup>®</sup> components synchronize data from DC1 to DC2. The synchronization depends on the WAN outage time.</p> <p>Avaya Oceana<sup>®</sup> components can buffer only a limited number of changes that DC2 synchronizes after recovery. After reaching the buffer limit, Avaya Oceana<sup>®</sup> components start to overwrite the oldest changed records. When an extended WAN outage occurs, you must manually synchronize data from DC1 to DC2.</p>

---

## Limitations

The Disaster Recovery (DR) limitations are as follows:

- **Automatic switchover:** If a disaster occurs in DC1, you must manually move all operations to DC2. Disaster recovery does not support automatic switchover from DC1 to DC2.
- **Call preservation:** For planned and unplanned switchovers, not all active voice contacts move with Avaya Oceana<sup>®</sup> during the switchover. All existing voice contacts are anchored in the Avaya Aura<sup>®</sup> Communication Manager. The calls use the same fallback mechanism to the Elite mechanism as standard Elite calls.

- **Partial switchover:** Avaya Oceana® supports only sharing of the following applications between both data centers for partial disaster recovery switchover:
  - Avaya Aura® System Manager primary
  - Avaya Aura® Communication Manager primary
  - Avaya Control Manager primary
  - Application Enablement Services servers in Data Center 2
- **Avaya Aura® Communication Manager switchover to ESS:** Requires a corresponding Avaya Oceana® switchover.
- **Cross-WAN Application Enablement Services link to ESS:** No Device, Media, and Call Control (DMCC) over WAN. Application Enablement Services servers in DC1 must connect to the Communication Manager only.

**\* Note:**

Application Enablement Services (AES) servers in DC2 can temporarily connect to the main site Avaya Aura® Communication Manager in a partial disaster recovery failover.

- **WAN outage scenario:** Active-Active mode is not available.
- **Avaya Aura® Communication Manager:** The Communication Manager configuration changes while the DC2 is active.

Avaya Oceana® disaster recovery supports a single disaster recovery site, a single ESS. Disaster recovery requires downtime while activating the DC2. It also mandates that the WAN delay is less than 50 milliseconds for Avaya Control Manager. In addition, the downtime may result in the loss of historical reporting data.

# Chapter 4: Disaster Recovery Configuration

## Overview

Assuming that you have deployed Avaya Oceana<sup>®</sup>, Avaya Analytics<sup>™</sup> for Avaya Oceana<sup>®</sup>, and the required components and services on DC1 and DC2, this chapter provides the procedures to configure DC1 and DC2 for DR.

**!** **Important:**

For detailed deployment instructions of Avaya Oceana<sup>®</sup>, Avaya Analytics<sup>™</sup> for Avaya Oceana<sup>®</sup>, and Avaya Aura<sup>®</sup> components for the Data Centers 1 and 2, refer to the following documentation:

Component	Deployment documentation
Avaya Oceana <sup>®</sup>	<a href="#">Deploying Avaya Oceana<sup>®</sup></a>
Avaya Analytics <sup>™</sup> for Avaya Oceana <sup>®</sup>	<a href="#">Deploying Avaya Analytics<sup>™</sup> for Avaya Oceana<sup>®</sup></a>
Avaya Aura <sup>®</sup> System Manager	<a href="#">Deploying Avaya Aura<sup>®</sup> System Manager in Virtualized Environment</a>
Avaya Control Manager	<a href="#">Planning for an Avaya Control Manager Deployment</a>
Avaya Aura <sup>®</sup> Communication Manager	<a href="#">Deploying Avaya Aura<sup>®</sup> Communication Manager in Virtualized Environment</a> <a href="#">Deploying Avaya Aura<sup>®</sup> Communication Manager in Software-Only and Infrastructure as a Service Environments</a>
Application Enablement Services	<a href="#">Deploying Avaya Aura<sup>®</sup> Application Enablement Services in Virtualized Environment</a> <a href="#">Deploying Avaya Aura<sup>®</sup> AE Services on Infrastructure as a Service Environment</a> <a href="#">Deploying Avaya Aura<sup>®</sup> Application Enablement Services in a Software-Only Environment</a>

**\*** **Note:**

The [Compatibility Matrix](#) provides compatibility information for the Avaya products that are supported with the various releases of Avaya Oceana<sup>®</sup>.

# Configuring Avaya Aura® System Manager for Disaster Recovery

## Configuration Checklist

No.	Task	Description	✓
Geographic Redundancy configuration			
1.	Prerequisites for the Geographic Redundancy setup	<a href="#">Prerequisites for the Geographic Redundancy setup</a> on page 19	
2.	Prerequisites for System Manager on VMware in the Geographic Redundancy setup	<a href="#">Prerequisites for System Manager on VMware in the Geographic Redundancy setup</a> on page 20	
3.	Key tasks for Geographic Redundancy	<a href="#">Key tasks for Geographic Redundancy</a> on page 21	
Prerequisites before configuring Geographic Redundancy			
4.	Geographic Redundancy prerequisites overview	<a href="#">Geographic Redundancy prerequisites overview</a> on page 23	
5.	Copy the CRL URL	<a href="#">Copying the CRL URL</a> on page 24	
6.	Configure CRL download on the secondary System Manager server	<a href="#">Configuring CRL download on the secondary System Manager server</a> on page 25	
7.	Add the trusted certificate of primary server to the secondary System Manager server	<a href="#">Adding the trusted certificate of primary server to the secondary System Manager server</a> on page 26	
Configuration			
8.	Configure Geographic Redundancy	<a href="#">Configuring Geographic Redundancy</a> on page 26	
9.	Enable the Geographic Redundancy replication	<a href="#">Enabling the Geographic Redundancy replication</a> on page 28	
10.	Scenarios of auto-disable for the Geographic Redundancy system	<a href="#">Scenarios of auto-disable for the Geographic Redundancy system</a> on page 29	
11.	Geographic Redundancy field descriptions	<a href="#">Geographic Redundancy field descriptions</a> on page 29	
12.	Geographic Redundancy Health field descriptions	<a href="#">GR Health field descriptions</a> on page 31	

## Prerequisites for the Geographic Redundancy setup

In a Geographic Redundancy setup, the two standalone System Manager servers that you designate as primary and secondary servers must meet the following requirements:

- Contain the same version of the software that includes software packs.

- Contain the same profile for primary and secondary System Manager Geographic Redundancy virtual machines. For example, if the primary System Manager contains Profile 2, the secondary System Manager must also contain Profile 2.
- Contain the same version of the System Manager software that includes service pack and software patches.
- Contain the same parent domain names for two System Manager systems. For example, smgr.abc.com and smgr.xyz.com are invalid domain names because the parent domain names abc and xyz are different.
- Communicate with each other over the network by using the IP address and FQDN.
- In the Geographic Redundancy setup, the primary and secondary System Manager must use the same VFQDN.
- Have a synchronized network time.
- Use DNS to ensure that the name resolution is automatic. Otherwise, you must resolve the IP address and the host name in the `/etc/hosts` file on the primary and secondary System Manager servers.
- Have open required ports to support the Geographic Redundancy feature. For port usage information, see *Avaya Port Matrix: Avaya Aura® System Manager* on the Avaya Support website at <http://support.avaya.com/>.
- Have T1 as the minimum data pipe between the primary and the secondary System Manager server. T1 provides 1.544 Mbps.
- Have network latency that is less than 500 ms.
- In the Geographic Redundancy setup, if you need to configure the outbound firewall rules, then you need to add the peer IP addresses on the primary and secondary System Manager servers.

## Prerequisites for System Manager on VMware in the Geographic Redundancy setup

In a Geographic Redundancy-enabled system running on VMware, ensure that System Manager that you designate as primary and secondary systems meet the following requirements:

- Contain the same profile for primary and secondary System Manager Geographic Redundancy virtual machines. For example, if the primary System Manager contains Profile 2, the secondary System Manager must also contain Profile 2.
- Contain the same version of the System Manager software that includes service pack and software patches.
- Contain the same parent domain names for two System Manager systems. For example, smgr.abc.com and smgr.xyz.com are invalid domain names because the parent domain names abc and xyz are different.
- Communicate with each other over the network by using the IP address and FQDN.

- Have a synchronized network time.
- Use DNS to ensure that the name resolution is automatic. Otherwise, you must resolve the IP address and the host name in the `/etc/hosts` file on the primary and secondary System Manager servers.
- Have open required ports to support the Geographic Redundancy feature. For port usage information, see *Avaya Port Matrix: Avaya Aura® System Manager* on the Avaya Support website at <http://support.avaya.com/>.
- Have network latency that is less than 500 ms.
- Have T1 as the minimum data pipe between the primary and the secondary System Manager server. T1 provides 1.544 Mbps.

## Key tasks for Geographic Redundancy

### Prerequisites

Ensure that the two System Manager servers meet the requirements that are defined in [Prerequisites for the Geographic Redundancy setup](#) on page 19.

### Key tasks

Only the system administrator can perform Geographic Redundancy-related operations.

- Configure Geographic Redundancy.

Configure Geographic Redundancy to handle the situation when the primary System Manager server fails or when the managed element loses connectivity to the primary System Manager server.

#### **Important:**

During the configuration of Geographic Redundancy, the primary System Manager replicates the data between the primary and the secondary System Manager servers. Therefore, ensure that the system maintenance activities such as backup, restore, and shutdown are not in progress.

- Enable the Geographic Redundancy replication between the two servers.

Enable the replication in the following scenarios:

- After you configure the two standalone System Manager servers for Geographic Redundancy, you must enable the Geographic Redundancy replication between the two servers to ensure that the secondary System Manager server contains the latest copy of the data from the primary System Manager server.
- During system maintenance or upgrades, Geographic Redundancy replication must be disabled. After the maintenance activity is complete, you must enable Geographic Redundancy replication if it was manually or automatically disabled due to the maintenance activity.

#### **Note:**

If the heartbeat between the two System Manager servers on which the Geographic Redundancy replication is enabled stops due to network connectivity failure or server

failure, the system automatically disables the Geographic Redundancy replication within a preconfigured time. The default is 5 minutes. If the primary and secondary System Manager servers are running and if the network connectivity between the two servers fails, the system triggers auto-disable on both servers. If one of the two servers becomes nonoperational, the system triggers auto-disable on the server that is operational.

Enable Geographic Redundancy replication after network connectivity has been restored. For information about the network latency and bandwidth, see [Prerequisites for the Geographic Redundancy setup](#) on page 19.

For information about the auto-disable scenarios, see [Scenarios of auto-disable for the Geographic Redundancy system](#) on page 29.

- After the primary System Manager server recovers from failure.

**!** **Important:**

During bulk activities such as import, export, and full synchronization of Communication Manager, the system might disable the Geographic Redundancy replication for reasons, such as the size of the data involved in the bulk activity and the bandwidth between the primary and secondary System Manager servers. After you complete the bulk activity, enable the Geographic Redundancy replication if the replication is disabled.

- Disable the Geographic Redundancy replication between the two servers.

Disable the Geographic Redundancy replication before you start the maintenance activities, such as upgrades, the installation of software patches, or hot fixes. If the primary and secondary System Manager servers disconnect from each other for longer than the threshold period, the system automatically disables the Geographic Redundancy replication. The default threshold period is 5 minutes.

- Activate the secondary System Manager server.

Activate the secondary System Manager server in the following scenarios:

- The primary System Manager becomes nonoperational.
- The enterprise network splits.

- Deactivate the secondary System Manager server.

Deactivate the secondary System Manager server in the following situations:

- The primary System Manager server becomes available.
- The element network restores from the split.

- Restore the primary System Manager server.

After you activate the secondary System Manager server, to return to active-standby mode, you must restore the primary System Manager server. You can choose to restore from the primary System Manager server or the secondary System Manager server.

**\*** **Note:**

The system does not merge the data from the primary and secondary server.

- Reconfigure Geographic Redundancy.

You can reconfigure Geographic Redundancy when the secondary System Manager is in standby mode or active mode. The reconfiguration process copies the data from the primary System Manager server to the secondary System Manager server.

- Convert the primary System Manager server to the standalone server.

Perform this procedure to convert the primary System Manager server in the Geographic Redundancy-enabled system to a standalone server or if you have to configure a new secondary server.

For detailed instructions to complete each task, see the appropriate section in this document.

## Prerequisites before configuring Geographic Redundancy

### Geographic Redundancy prerequisites overview

Before enabling and configuring Geographic Redundancy, do the following:

1. Configure CRL download on the secondary System Manager server.

 **Note:**

By default, CRL is valid only for 7 days. Therefore, you must configure Geographic Redundancy before the expiry date of CRL.

2. Add the trusted certificate of primary server to the secondary System Manager server.
3. If certificate is replaced on Primary Server by third-party signed certificate then same certificate type must be replaced on Secondary Server by same third-party CA.

For example, if the *Management Container TLS Service* is replaced by a third-party CA signed certificate on the primary server, the same type of certificate must be replaced on the secondary server by the same third-party CA.

4. Install a third-party certificate on both servers prior to Geographic Redundancy configuration and post Geographic Redundancy configuration.

For more information, see “Managing certificates”.

5. Ensure that third-party CA certificate is added into trust store of both System Manager.
6. Replaced certificate must have full chain (id certificate ->inter CA (if present) certificate -> root CA certificate) and also must contain correct FQDN/VFQDN in required places.
7. Configure CRL download is mandatory for Geographic Redundancy.
8. If the CRL URL for a third-party is not accessible from System Manager, then set **Certificate Revocation Validation** from **BEST\_EFFORT** to **NONE** on the **Security > Configuration > Security Configuration > Revocation Configuration** page.

When you click **Commit**, System Manager displays the following message:

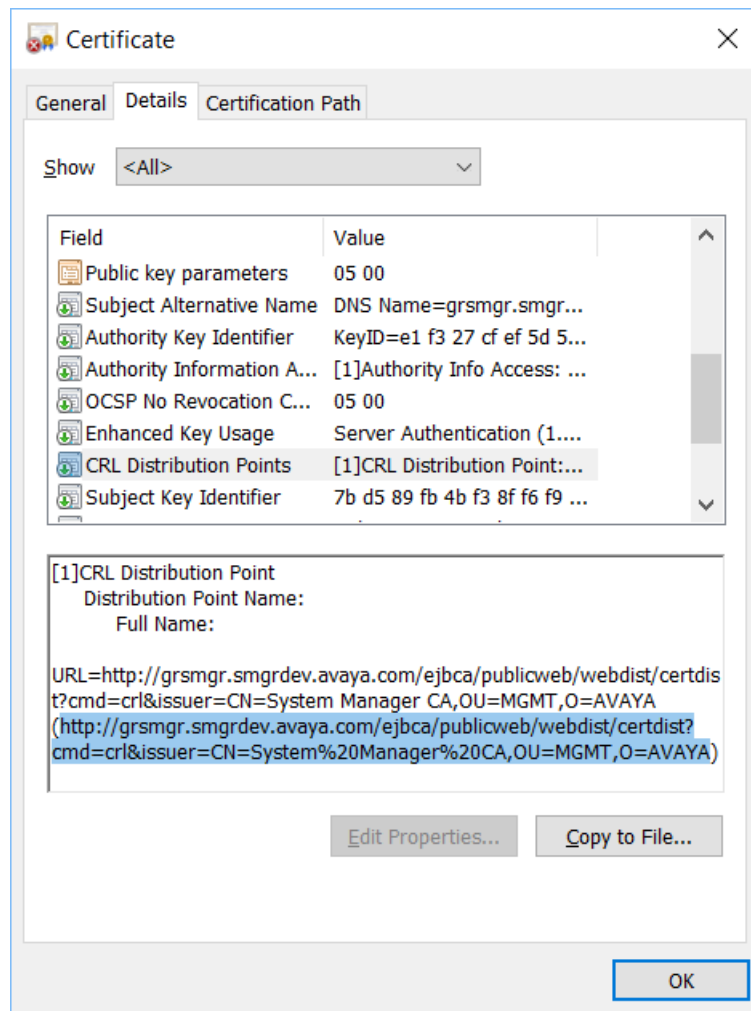
```
Changes are updated successfully. An Application server restart is
required for changes to take effect. Click Ok to restart it now.
Click Cancel to restart it later. Web Console would be unavailable
for 10-15 minutes during a restart.
```

## Copying the CRL URL Procedure

1. On the web browser, type `https://<Fully Qualified Domain Name>/SMGR`, the System Manager URL.
2. On the address bar, click the Lock icon.
3. Click **View certificates**.
4. On the Certificate dialog box, do the following:
  - a. Click on the **Details** tab.
  - b. Scroll down and click the **CRL Distribution Points** field.

The system displays the CRL URL in the text box.

For example: `http://<vFQDN>/ejbca/publicweb/webdist/certdist?cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA`



- c. Press **Ctrl+C** and copy the URL in Notepad for configuring CRL download in the Geographic Redundancy set up.
- d. Click **OK**.

## Configuring CRL download on the secondary System Manager server

### Procedure

1. Access the login page of the primary System Manager server.
  2. Copy the CRL of the browser certificate.
- For information about copying the CRL URL, see “Copying the CRL URL.”
3. Replace the vFQDN in the CRL with the IP address of the primary System Manager server.

For example, the CRL in the certificate is:

```
http://<vFQDN>/ejbca/publicweb/webdist/certdist?
cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA
```

The new CRL for the certificate will be:

```
http://<ip-address>/ejbca/publicweb/webdist/certdist?
cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA
```

Where, <vFQDN> and <ip-address> are the respective vFQDN and IP address.

#### **Note:**

If you installed a third-party certificate on System Manager servers, this step is not required. If third-party certificate, then configure CRL URL of the third-party certificate for CRL download.

4. Log on to the secondary System Manager web console.
  5. On the System Manager web console, click **Services > Security**.
  6. In the navigation pane, click **Configuration > CRL Download**.
  7. On the CRL Download Configuration page, click **Add**.
- System Manager displays the Schedule CRL Download page.
8. In **Job Name**, type the job name.
  9. In **Job Frequency**, set the frequency and recurrence to schedule the job within a few minutes after the CRL addition.
  10. Copy the new CRL URL from Notepad and paste the URL in the **Configure CRL Distribution Point** field.

For information about copying the CRL URL, see [Copying the CRL URL](#) on page 24.

CRL URL example:

```
http://<ip-address>/ejbca/publicweb/webdist/certdist?
cmd=crl&issuer=CN=System%20Manager%20CA,OU=MGMT,O=AVAYA
```

11. Click **Add**, and then click **Commit**.

Ensure that the job is completed successfully.

### Next steps

Add the trusted certificate of the primary server to the secondary System Manager server.

## Adding the trusted certificate of primary server to the secondary System Manager server

### Procedure

1. Log in to the primary System Manager web console.
2. On the System Manager web console, click **Services > Security**.
3. In the navigation pane, click **Certificates > Authority**.
4. Click **CA Functions > CA Structure & CRLs**.
5. Click **Download PEM file**.
6. Log in to the secondary System Manager web console.
7. On the System Manager web console, click **Services > Inventory**.
8. In the navigation pane, click **Manage Elements**.
9. On the Manage Elements page, select the System Manager certificate and click **More Actions > Manage Trusted Certificates**.
10. On the Manage Trusted Certificates page, click **Add**.
11. Click **Choose File** and select the previously downloaded PEM file.
12. Click **Retrieve Certificate**, and then click **Commit**.

## Configuring Geographic Redundancy

### Before you begin

- For the new installation of System Manager, ensure that you change the default password for the system administrator user.
- Ensure that you change CLI passwords on primary and secondary System Manager servers.  
60 days after the System Manager CLI password expires, Geographic Redundancy becomes nonoperational. You must set a new password on primary and secondary System Manager servers for Geographic Redundancy to become operational again.
- Ensure that the two System Manager servers meet the requirements that are defined in [Prerequisites for the Geographic Redundancy setup](#) on page 19.

### About this task

For resiliency, from the pair of standalone System Manager servers, you can configure Geographic Redundancy.

**! Important:**

- During the configuration of Geographic Redundancy, the primary System Manager replicates the data between the primary and secondary System Manager servers. Therefore, ensure that the system maintenance activities such as backup, restore, and shutdown are not in progress.
- After the Geographic Redundancy configuration is complete, the credentials used for logging in to the secondary System Manager become identical to the login credentials of the primary System Manager.

**Procedure**

1. Log on to the System Manager web console of the standalone server that you require to designate as the secondary server and perform the following:
  - a. On the System Manager web console, click **Services > Geographic Redundancy**.
  - b. Click **Configure**.
  - c. In the dialog box, provide the details of the primary System Manager server in the following fields:

- **Primary Server Username**

Enter the system administrator user name that you use to log on to the primary System Manager server.

- **Primary Server Password**

Enter the system administrator password that you use to log on to the primary System Manager server.

- **Primary Server IP**

- **Primary Server FQDN**

- d. Click **OK**.

The configuration process takes about 30 minutes. However, the duration might vary depending on the size of the data on the primary System Manager server.

**\* Note:**

Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

The server that you configured becomes the secondary server, and the other standalone server becomes the primary System Manager server.

2. To view the status of the Geographic Redundancy configuration during the restart of the two application servers, perform one of the following:
  - Log on to the web console of the primary System Manager server and perform the following:
    - a. On the System Manager web console, click **Services > Geographic Redundancy**.

- b. Refresh the GR Health page.

If **Enable** is available, the configuration is complete.

 **Note:**

Log off and log on to the primary System Manager server to view the updated status of Geographic Redundancy health.

- Log in to the secondary System Manager server as system administrator by using the command line interface and perform the following:

- a. Type `tail -f /home/ucmdeploy/quantum/autoReconfig.log`.

The system displays the progress during the restart of the two application servers. When the second application server restart completes, the system displays the following messages:

```
SMGR  ::  operationStatus=success

SMGR  ::  Quantum has been successfully
configured as a secondary.
```

### Next steps

On the web console of the primary System Manager server, enable the Geographic Redundancy replication.

## Enabling the Geographic Redundancy replication

Enable the Geographic Redundancy replication between the two servers to ensure that the data gets continuously replicated between the primary and secondary System Manager servers.

### Before you begin

- Log on to the System Manager web console of the primary server.
- Ensure that CLI passwords on primary and secondary System Manager servers do not expire.

60 days after the System Manager CLI password expires, Geographic Redundancy becomes nonoperational. You must set a new password on primary and secondary System Manager servers for Geographic Redundancy to become operational again.

### About this task

 **Important:**

During the configuration of Geographic Redundancy, the primary System Manager replicates the data between the primary and the secondary System Manager servers. Therefore, ensure that the system maintenance activities such as backup, restore, and shutdown are not in progress.

### Procedure

1. On the System Manager web console, click **Services > Geographic Redundancy**.
2. Click **Enable Replication**.

The system displays the progress information in the **Enable GR Status** section.

**\* Note:**

Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

If the enabling process is successful, the system displays the Geographic Redundancy replication status as `Enabled`. If the process fails, the system displays an error message with the replication status as `Failed` on the primary System Manager web console. The primary server remains in the failed state while the secondary server rolls back to the previous state. Verify if the system has raised an alarm for a temporary network connectivity failure. Retry when network connectivity is restored. If the problem persists, contact Avaya service personnel.

## Scenarios of auto-disable for the Geographic Redundancy system

System Manager triggers auto-disable and disables the Geographic Redundancy replication within a preconfigured time. The default is 5 minutes.

- If the primary and secondary System Manager servers are running and if the network connectivity between the two servers fails, the system triggers auto-disable on both servers.

When the network connectivity is restored, enable the Geographic Redundancy replication.

For information about the network latency and bandwidth, see [Prerequisites for the Geographic Redundancy setup](#) on page 19.

- If one of the two servers becomes non-operational, the system triggers auto-disable on the server that is operational.
- If the PostgreSQL database disk partition utilization reaches the threshold limit of 75%, System Manager generates a Warning alarm.

If the PostgreSQL database disk partition utilization reaches the threshold limit of 85%, System Manager triggers auto-disable and generates a Critical alarm.

**\* Note:**

If auto-disable is due to a PostgreSQL database disk space issue, contact Avaya Support. Do not enable the Geographic Redundancy until the database disk partition space issue is resolved.

## Geographic Redundancy field descriptions

The Geographic Redundancy and the GR Health pages remain blank on a standalone server or until you configure a secondary System Manager.

### Primary Server Details

The system displays the IP address and the FQDN of the primary System Manager server.

Name	Description
<b>Convert to Standalone</b>	Converts to a standalone server. The system displays the <b>Convert to Standalone</b> button only when the replication is disabled.
<b>Configure</b>	Configures Geographic Redundancy. The system displays the <b>Configure</b> button only on the standalone System Manager server.
<b>Reconfigure</b>	Configures Geographic Redundancy. The system displays the <b>Reconfigure</b> button only on the secondary System Manager server.

### Secondary Server Configured

You can use the **Enable Replication**, **Disable Replication**, and **Restore Data** buttons only from the primary System Manager server.

Button	Description
<b>Enable Replication</b>	Continuously replicates the data between the primary and the secondary System Manager server. The system displays the <b>Enable Replication</b> button after the following events: <ul style="list-style-type: none"> <li>• State of Geographic Redundancy is Disable.</li> <li>• Geographic Redundancy configuration.</li> <li>• Restoration of the primary Geographic Redundancy server is complete.</li> </ul>
<b>Disable Replication</b>	Stops replicating the data between the primary and the secondary System Manager server. The system displays the <b>Disable Replication</b> button when the state of Geographic Redundancy is Enable.
<b>Restore Data</b>	Recovers the server after the failback. The system displays the <b>Restore Data</b> button when the secondary System Manager server is deactivated.






Name	Description
<b>IP</b>	Displays the IP address of the secondary System Manager server.
<b>FQDN</b>	Displays FQDN of the secondary System Manager server.
<b>Replication Status</b>	Displays the status of replication. The values are Disabled and Enabled.
<b>Last Action</b>	Displays the last action that you performed on the secondary System Manager server.
<b>Last Action Status</b>	Displays the status of the last action that you performed on the secondary System Manager server.

## GR Health field descriptions

The information available on the GR Health page is read-only.

The Geographic Redundancy and the GR Health pages remain blank on a standalone server or until you configure a secondary System Manager.

### GR Health

Name	Description
<b>GR Health Status</b>	<p>Displays the health status of the monitored services. The page displays:</p> <ul style="list-style-type: none"> <li>• , if the monitored service stops.</li> <li>• , if the monitored service is running.</li> <li>• , if the monitored service fails to run.</li> </ul>
<b>Activate Secondary Server</b>	<p>Click to make the secondary server provide full System Manager functionality when the primary System Manager server fails or the data network splits.</p> <p> <b>Note:</b></p> <ul style="list-style-type: none"> <li>• The system displays <b>Activate Secondary Server</b> only on the secondary System Manager server.</li> <li>• The system displays the <b>Activate Secondary Server</b> or the <b>Deactivate Secondary Server</b> button on the page.</li> </ul>
<b>Deactivate Secondary Server</b>	<p>Click to make the primary System Manager resume operation. You use this option when the primary System Manager server restores operation or recovers from a network failure.</p> <p> <b>Note:</b></p> <p>The system displays <b>Deactivate Secondary Server</b> only on the secondary System Manager server.</p>
<b>Service Name</b>	<p>Displays the name of the service for which the system provides the status of the health.</p>
<b>View Detail</b>	<p>Click <b>View Graph</b>.</p> <ul style="list-style-type: none"> <li>• For database and directory replication, the system displays the graph for default interval. If no graph is present for the default interval, using the calendar, you can set the period for which you require to check the health status and click <b>Generate</b> to view health details in a graph.</li> </ul> <p>For database replication, the system displays graphs for time lag and the size lag. For directory replication, the system displays a graph for time lag only.</p> <ul style="list-style-type: none"> <li>• For file replication, the system displays the last replication time and the size of the lag.</li> </ul>

### HeartBeat status

Click **View Heartbeat Status** to view the details. The system displays the GR Heartbeat page.

Name	Description
<b>Service Name</b>	The name of the monitored service. The services are: <ul style="list-style-type: none"> <li>• <b>System Health:</b> The heartbeat status indicates if the primary or secondary System Manager server can communicate with the peer System Manager server over the network.</li> <li>• <b>Database Replication:</b> The heartbeat status indicates if the data stored in the System Manager database is getting replicated between the primary and secondary System Manager servers.</li> <li>• <b>Application System Health:</b> The heartbeat status indicates if the application server of the primary or secondary System Manager can query the application server of the peer System Manager.</li> <li>• <b>File Replication:</b> The heartbeat status indicates if the configuration files are getting replicated between the primary and secondary System Manager servers.</li> <li>• <b>Directory Replication:</b> The heartbeat status indicates if the data stored on the internal LDAP server is getting replicated on the respective System Manager server.</li> </ul>
<b>Last Successful Heartbeat Time</b>	The last time the heartbeat was successful for the monitored service.
<b>Last Missed Heartbeat Time</b>	The last time when the monitored service missed the heartbeat.
<b>View Details</b>	The <b>View Graph</b> link to view the health status of the monitored service over a period of time. To configure the time period, click <b>Edit Dates</b> . The graph displays the status in 0 and 1. <ul style="list-style-type: none"> <li>• 0 indicates that the monitored service is either stopped or failed at that point of time</li> <li>• 1 indicates that the monitored service is running at that point of time.</li> </ul>

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## Configuring Aura Voice Services for Disaster Recovery

### Overview

This section describes the procedures to configure Avaya Aura® and Avaya Oceana® components to enable voice functionality in an Avaya Oceana® Disaster Recovery (DR) solution.

The following diagram depicts the main components for voice functionality:

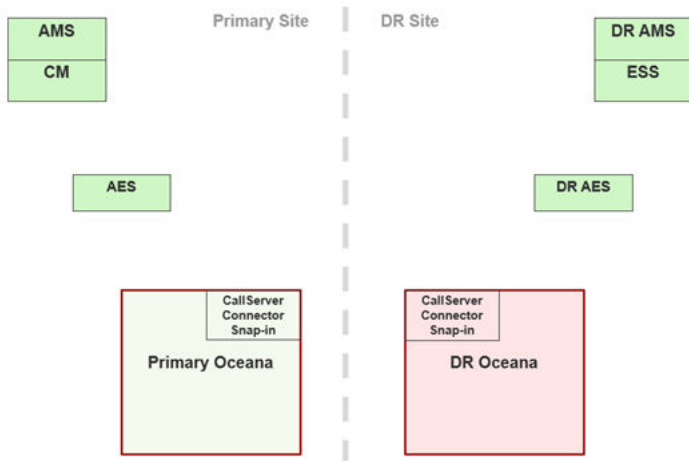


Figure 1: Components for Avaya Oceana® DR voice functionality

## Configuration Checklist

No.	Task	Description	✓
Enterprise Survivable Server (ESS) configuration on Communication Manager			
1.	Add a node name for ESS server on Communication Manager	<a href="#">Adding a node name for Enterprise Survivable Server on Communication Manager</a> on page 35	
2.	Add a Survivable Processor on Communication Manager	<a href="#">Adding a Survivable Processor on Communication Manager</a> on page 36	
Communication Manager/ESS configuration for Server Roles and Network Configuration on System Manager Interface (SMI) portal.			
<p><b>* Note:</b></p> <p>The DC1 Communication Manager is configured for Server Roles, Network Configuration, and Duplication Parameters.</p> <p>Configure the DC2, DR site as follows:</p>			
3.	Configure Communication Manager/ESS server role	<a href="#">Configuring the server role for the Enterprise Survivable Server in DC2</a> on page 37	
	Configure Communication Manager/ESS Network Configuration	<a href="#">Configuring ESS network</a> on page 37	
	Verify status of Survivable Processor	<a href="#">Verifying the status of Survivable Processor</a> on page 38	
Other Communication Manager Configuration			
4.	Add Computer Telephony Integration (CTI) link to DC2 Application Enablement Services	<a href="#">Adding a CTI link to the DC2 Application Enablement Services</a> on page 38	

Table continues...

No.	Task	Description	✓
5.	Add a second Adjunct Route to vectors that have an adjunct route configured	<a href="#">Adding a second Adjunct Route to vectors</a> on page 39	
6.	Node names	You must have an entry in node names for the following: <ul style="list-style-type: none"> <li>• DC2 Avaya Aura® Media Server</li> <li>• DC2 Application Enablement Services</li> <li>• DC2 site ESS</li> </ul>	
7.	Configure IP-services	<a href="#">Configuring IP services</a> on page 39	
8.	View the ESS cluster status	<a href="#">Viewing Enterprise Survivable Server cluster status</a> on page 40	
9.	Configuring Avaya Aura® Media Server	<a href="#">Configuring Avaya Aura Media Server</a> on page 40	
<p>Application Enablement Services Configuration - The DC1 Application Enablement Services is configured with one switch connection that connects the Application Enablement Services to the DC1 site Communication Manager. DC1 has this configuration for voice for regular operations. The switch connection has a Telephony Server Application Programming Interface (TSAPI) link which maps to CTI link 1 on the Communication Manager.</p> <p>The DC2 Application Enablement Services also has one switch connection that connects it to the DC1 Communication Manager. However, on the DC2 Application Enablement Services, the ESS is added under the switch connection in Survivable Hierarchy. The DC2 Application Enablement Services can connect to both the main Communication Manager and ESS using the same CTI link. When the Communication Manager is functional, the DC2 Application Enablement Services is connected to it through the CTI link &lt;x&gt;, and when the Communication Manager is non-functional, the DC2 Application Enablement Services uses the Survivable Hierarchy to connect to the ESS using the same CTI link &lt;x&gt;.</p>			

*Table continues...*

No.	Task	Description	✓
10.	Switch connection	<p>The switch connection name configured on the DC2 Application Enablement Services is the same as on the DC1 Application Enablement Services. This allows you to configure the Call Server Connector (CSC) attributes in Avaya Oceana® so that the CSC can connect to either Application Enablement Services. Therefore, the Application Enablement Services user for Avaya Oceana® must have the same name and password configured on each Application Enablement Services.</p> <p>This switch connection has a TSAPI link which maps to CTI link &lt;x&gt; on the Communication Manager and has the following attributes to be configured:</p> <ul style="list-style-type: none"> <li>• <b>Link</b></li> <li>• <b>Switch Connection</b></li> <li>• <b>Switch CTI Link Number</b></li> <li>• <b>ASAI Link version</b></li> <li>• <b>Security</b></li> </ul>	
11.	Survivability Hierarchy - Steps to add ESS in Survivability Hierarchy	<a href="#">Adding Enterprise Survivable Server in Survivability Hierarchy</a> on page 41	
<p><b>CallServerConnector Configuration</b></p> <p>You must configure the CSC snap-in attributes so that the CSC connects to Application Enablement Services. The CSC is configured the same in both DC1 and DC2 Avaya Oceana®, except that the DC2 CSC must be configured with two Application Enablement Services IP addresses, one for the DC1 Application Enablement Services and the second for the DC2 Application Enablement Services.</p>			
12.	Configure CSC atts (primary)	<a href="#">Configuring the CallServerConnector attributes for DC1</a> on page 41	
13.	Configure CSC atts (DR)	<a href="#">Configuring the CallServerConnector attributes for DC2</a> on page 42	

## Adding a node name for Enterprise Survivable Server on Communication Manager

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as `init` user.
2. Run the command: `change node-names ip`
3. In **Name**, enter a name for the Enterprise Survivable Server (ESS) server.

4. In **IP Address**, enter the ESS server IP address.
5. Press **F3** to save the changes.

## Adding a Survivable Processor on Communication Manager

### About this task

Use this procedure to add a Survivable Processor entry on the Communication Manager for the Enterprise Survivable Server using the node name created. For more information, refer [Adding a node name for Enterprise Survivable Server on Communication Manager](#) on page 35.

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as `init` user.
2. Run the command: `add survivable processor <node name>`
3. On the configuration page 1, enter the following:
  - a. In **Type**, enter `simplex-ess`.
  - b. In **Cluster ID/MID**, enter the cluster number in use.
  - c. In **Enable PE for H.323 Endpoints?**, enter `y`.
  - d. In **Enable PE for H.248 Gateways**, enter `y`.

 **Important:**

Retain the other field values as default. **V4 Node Name** and **Address** fields auto populates with details from the node name created earlier.

4. On the configuration page 2, ensure that **AESVCS** is enabled.  
This field is enabled by default.
5. On page 3, in **Priority with respect to Media Servers**, enter 2.

 **Important:**

Further page options open. Available pages change from 3 to 8, where you can configure the Avaya Aura® Media Server that the Enterprise Survivable Server uses.

6. On page 4, enter the Avaya Aura® Media Server number that the Enterprise Survivable Server is using.
7. To view list of available Avaya Aura® Media Servers run the command: `list media-server`  
The **Node-Name** field is populated automatically.
8. On configuration pages 5,6,7 and 8, retain the default values.
9. Press **F3** to save the changes.
10. To save translations after the configuration changes, run the command: `save translations`

## Configuring the server role for the Enterprise Survivable Server in DC2

### Procedure

1. Open the Enterprise Survivable Server (ESS) web admin portal using the following URL:  
`https://<ESS_IP_Address>/cgi-bin/common/login/webLogin`
2. Log in as `init` user.
3. Navigate to **Administration > Server Maintenance > Server Configuration > Server Role**.

The Server Role page opens.

4. In the **Server Settings** area, enter the following details:
  - a. In **This Server is**, select **an enterprise survivable server (ESS)**.
  - b. In **System ID and Module ID**, for **SID** and **MID**, enter 1 and 3 respectively.

 **Note:**

The MID must match the **Cluster ID/MID** set for the Survivable Processor configured earlier.

5. In the **Configure Survivable Data** area, enter the following details for the components:
  - a. In **Registration address at the main server (CLAN or PE Address)**, enter the Communication Manager IP address.
  - b. In **File Synchronization address at the main cluster (PE Address)**, enter the Communication Manager IP address and the duplicate server if in use.
  - c. In **File Synchronization address at the alternate\*\* main cluster (PE Address)**, enter.
6. In the **Configure Memory** area, configure the server memory settings as required.
7. Click **Save** to save the changes.

## Configuring ESS network

### Procedure

1. Open the Enterprise Survivable Server (ESS) web admin portal using the following URL:  
`https://<ESS_IP_Address>/cgi-bin/common/login/webLogin`
2. Log in as `init` user.
3. Navigate to **Administration > Server Maintenance > Server Configuration > Network Configuration**.

The Network Configuration page opens.

4. Enter all the required details under Network Configuration for the ESS.

 **Important:**

Ensure the **Server ID** field matches the **Server ID** value configured for the Survivable Processor on Communication Manager.

## Verifying the status of Survivable Processor

### About this task

Use this procedure to view the status of Enterprise Survivable Server (ESS) on Communication Manager.

### Before you begin

Configure ESS on Communication Manager. After configuring the ESS status is displayed as **Reg - y**.

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as an `init` user.
2. Run the following command: `list survivable-processor`

**Reg - y**

**Act - n**

When the Communication Manager is offline, the **Act** field displays `y`.

## Adding a CTI link to the DC2 Application Enablement Services

### About this task

Avaya Oceana<sup>®</sup> DR setup requires two Computer Telephony Integration (CTI) links. Link 1 is connected to DC1 Application Enablement Services, and link 2 is connected to DC2 Application Enablement Services.

Link 1 to the DC1 Application Enablement Services is pre-configured as it is required for regular Avaya Oceana<sup>®</sup> voice.

Use this procedure to add Link 2 to the DC2 DR Application Enablement Services.

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as an `init` user.
2. Run the following command: `add cti-link 4`
3. On configuration page 1, do the following:
  - a. In **Extension number**, enter the required extension number.
  - b. In **Type**, enter `ADJ-IP`.
  - c. In **Name**, enter the required name.
  - d. Retain the other field values as default.

**\* Note:**

Security code can be blank.

4. On configuration page 2, do the following:
  - a. In **IC Adjunct Routing?**, enter `y`.
  - b. Retain the other field values as default.
5. On configuration page 3, retain the field values as default.
6. Press **F3**.

## Adding a second Adjunct Route to vectors

### About this task

Vectors are pre-configured in DC1 as they are required for regular Avaya Oceana® voice.

Use this procedure to add a second Adjunct Route to any vectors with an adjunct route configured for the DC2 DR setup.

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as an `init` user.
2. To add the second Adjunct Route link, run the following command: **change vector <x>**
3. On the edit page tab, on the line below the 1st adjunct route link, in **adjunct routing link**, type `<y>`.

Where:

`<x>` is the vector you change.

`<y>` is the Computer Telephony Integration (CTI) link to the DR Application Enablement Services.

4. Repeat the process to update all vectors with an adjunct route link.

## Configuring IP services

### About this task

You must have **ip-services** entries for DC1 and DC2 Application Enablement Services servers. The **AESVCS** service is pre-configured under **ip-services** as this is required for regular Avaya Oceana® voice.

Use this procedure to add the DC2 Application Enablement Services server.

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as an `init` user.
2. Run the following command: **change ip-services**

3. On page 3, enter the DC2 site Application Enablement Services server name and password.

 **Note:**

This password is used when configuring the switch connection on Application Enablement Services.

4. Press **F3**.

## Viewing Enterprise Survivable Server cluster status

### About this task

Use this procedure to view the state of the main server and all administered Survivable Core Servers. Under normal conditions, with full network connectivity, all Survivable Core Servers must register with the main.

### Before you begin

Ensure that you have the credentials of an `init` user.

### Procedure

1. Log on to Communication Manager System Access Terminal (SAT) as an `init` user.
2. To view the Enabled, Registered, and Translations status of the Enterprise Survivable Server (ESS), run the following command: `status ess clusters`

## Configuring Avaya Aura® Media Server

### About this task

Ensure you have a DC2 site Avaya Media Server (AMS) registered in Communication Manager and the Survivable Processor settings. If the DC2 AMS is not on Communication Manager, add it.

### Procedure

1. To add a node name for AMS, do the following:
  - a. Run the following command: `change node-names ip`
  - b. In **Name**, type the AMS name.
  - c. In **IP Address**, enter the IP address.
  - d. Press **F3**.
2. To add a signaling group that points to the new node, do the following:
  - a. Run the following command: `add signaling-group <x>`
  - b. In **Group Type**, type `sip`.
  - c. In **Peer Detection Enabled**, type `n`.
  - d. In **Peer Server**, type `AMS`.

- e. In **Far-end Node Name**, type DC2 AMS node name.
  - f. In **Far-end Network Region**, type 1.
  - g. Press **F3**.
3. To add a media server, do the following:
    - a. Run the following command: `add media-server <x>`
    - b. In **Signaling Group**, type the group number you configured in the previous step.
    - c. In **Channel limit**, type the required limit.
    - d. Press **F3**.
  4. After configuring the AMS, run the following command: `save translations`

## Adding Enterprise Survivable Server in Survivability Hierarchy

### About this task

The IP address for the Enterprise Survivable Server (ESS) is configured under Survivability Hierarchy for the switch connection. The ESS connection in the survivable hierarchy becomes `active` if the Communication Manager fails while the Communication Manager switch connection is `In Use` and the ESS connection status is `Idle`.

The **Cluster ID/MID** configured here matches the **Cluster ID** of the ESS or the Survivable Processor configured on Communication Manager.

### Procedure

1. Log on to the DC2 Application Enablement Services web admin portal.
2. Navigate to **Communication Manager Interface > Switch Connections**.
3. On the **Switch Connection** page, click **Survivability Hierarchy**.
4. Type the ESS Cluster ID/MID value configured earlier and click **Insert**.
5. Click **Edit PE IP** and type the ESS server IP address.
6. Restart the Application Enablement Services server.

The Application Enablement Services connects to the DC1 Communication Manager using the switch connection and to the ESS using the Survivable Hierarchy functionality when the Communication Manager fails.

## Configuring the CallServerConnector attributes for DC1

### About this task

The Call Server Connector (CSC) snap-in is a Voice-only Service Provider interface to the underlying switching infrastructure. You must configure the CSC attributes for call control and agent control functions on DC1.

## Procedure

1. Log on to Avaya Aura® System Manager.
2. Navigate to **Elements > Avaya Breeze > Configuration > Attributes**.
3. Click the **Service Clusters** tab.
4. Select the **Provisioning Cluster** for DC1.
5. Select the **Oceana Configuration** service.
6. In **Voice Provider Id**, enter the name of your voice provider configured in Avaya Control Manager.
7. In **Application Enablement Services IP address**, enter the IP address of the DC1 Application Enablement Services.
8. In **Communication Manager Connection Name on Application Enablement Services**, enter the name of your switch connection configured in Application Enablement Services.
9. In **AES user**, type the username of the user configured on Application Enablement Services for Avaya Oceana® connection.
10. In **AES user password**, type the password of the user.
11. Reboot the common cluster to enable the changes to CallServerConnector attributes.

## Configuring the CallServerConnector attributes for DC2

### About this task

You must configure the CSC attributes for call control and agent control functions on DC2.

### Procedure

1. Log on to Avaya Aura® System Manager.
2. Navigate to **Elements > Avaya Breeze > Configuration > Attributes**.
3. Click the **Service Clusters** tab.
4. Select the **Provisioning Cluster** for DC2.
5. Select the **Oceana Configuration** service.
6. In **Voice Provider Id**, enter the name of your voice provider configured in Avaya Control Manager.
7. In **Application Enablement Services IP address**, enter the IP address of the DC1 and DC2 Application Enablement Services.
8. In **Communication Manager Connection Name on Application Enablement Services**, enter the name of your switch connection configured in Application Enablement Services.
9. In **AES user**, type the username of the user configured on Application Enablement Services for Avaya Oceana® connection.
10. In **AES user password**, type the password of the user.

11. Reboot the common cluster to enable the changes to CallServerConnector attributes.

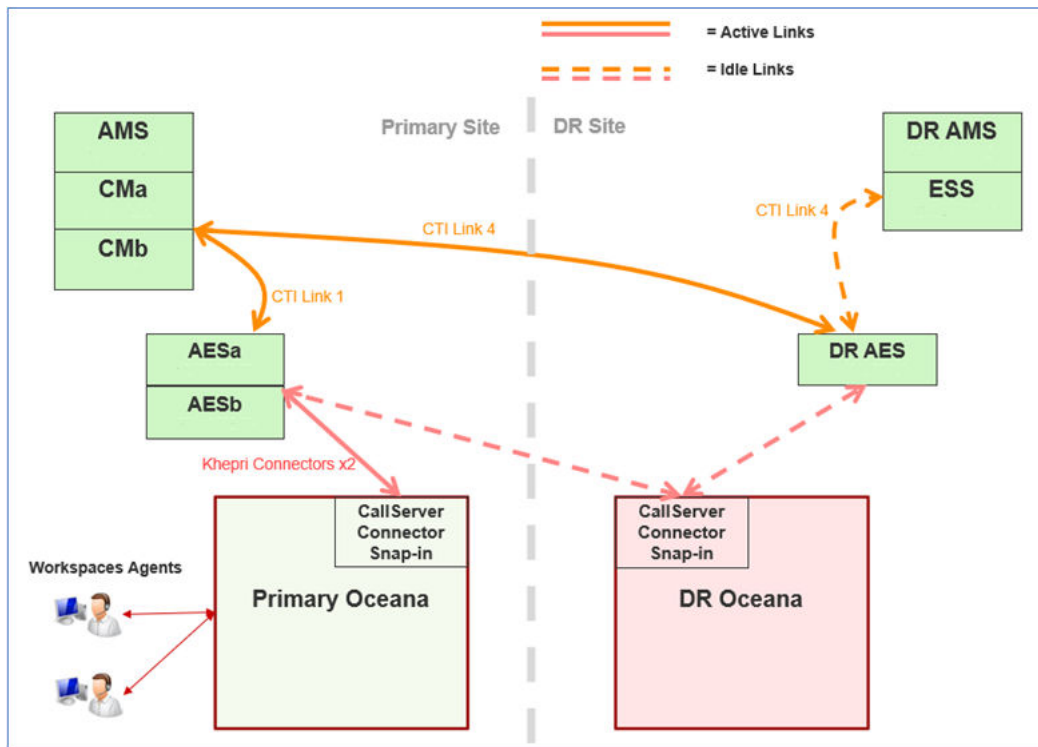
## Failover Scenarios

The three failover scenarios for the voice channel in Avaya Oceana® are as follows:

- Primary Active - a system in regular operation.
- Partial switchover - Avaya Oceana® is switched over, but primary Avaya Aura® is active.
- Full switchover - Avaya Oceana® and Avaya Aura® are switched over.

### Primary Active

The **Primary Active** state describes the solution in regular operation. The DC2 is prepared for a failover, but all the components are active in the DC1.



**Figure 2: Avaya Oceana® DR Voice - Primary Active state**

- DC1 Avaya Oceana® is active.
- The CallServerConnector snap-in connects to the DC1 Application Enablement Services through Khepri connectors (x2).
- The DC1 Application Enablement Services connects to the Communication Manager through Computer Telephony Integration (CTI) Link 1.
- The Communication Manager has an active CTI Link (4) to the DC2 Application Enablement Services because both components are functional, but this link is not used in this scenario.

### Partial Switchover

A **Partial Switchover** is a scenario where the Avaya Oceana® components, such as Avaya Breeze® nodes and hosted services, are failed over to the DC2. In this scenario, the DC1 Avaya

Aura<sup>®</sup> components remain active, so the Enterprise Survivable Server (ESS) does not become active.

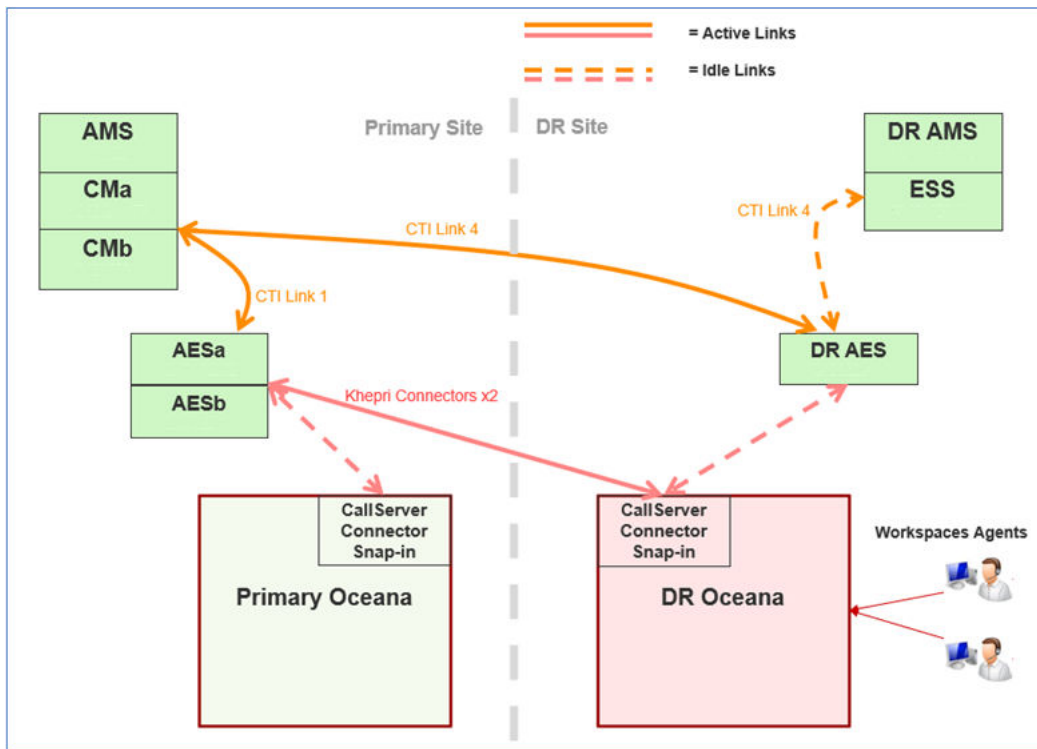


Figure 3: Avaya Oceana<sup>®</sup> DR Voice - DR Active state (Partial Switchover)

- DC2 Avaya Oceana<sup>®</sup> is active.
- The DC2 CallServerConnector snap-in connects to the DC1 Application Enablement Services through Khepri connectors (x2).
- The DC1 Application Enablement Services connects to the Communication Manager through Computer Telephony Integration (CTI) Link 1.
- The Communication Manager has an active CTI Link (4) to the DC2 Application Enablement Services because both components are functional, but this link is not used in this scenario.

## Full Switchover

In a **Full Switchover** scenario, the DC1 Avaya Aura<sup>®</sup> components are non-functional, so all the functionality moves to the DC2. The link between the DC2 Application Enablement Services and the Enterprise Survivable Server (ESS) configured under Survivable Hierarchy becomes active because the main switch connection between the DC2 Application Enablement Services and the Communication Manager is not functional. This enables Avaya Oceana<sup>®</sup> to continue working in the fully switched-over state with voice capability.

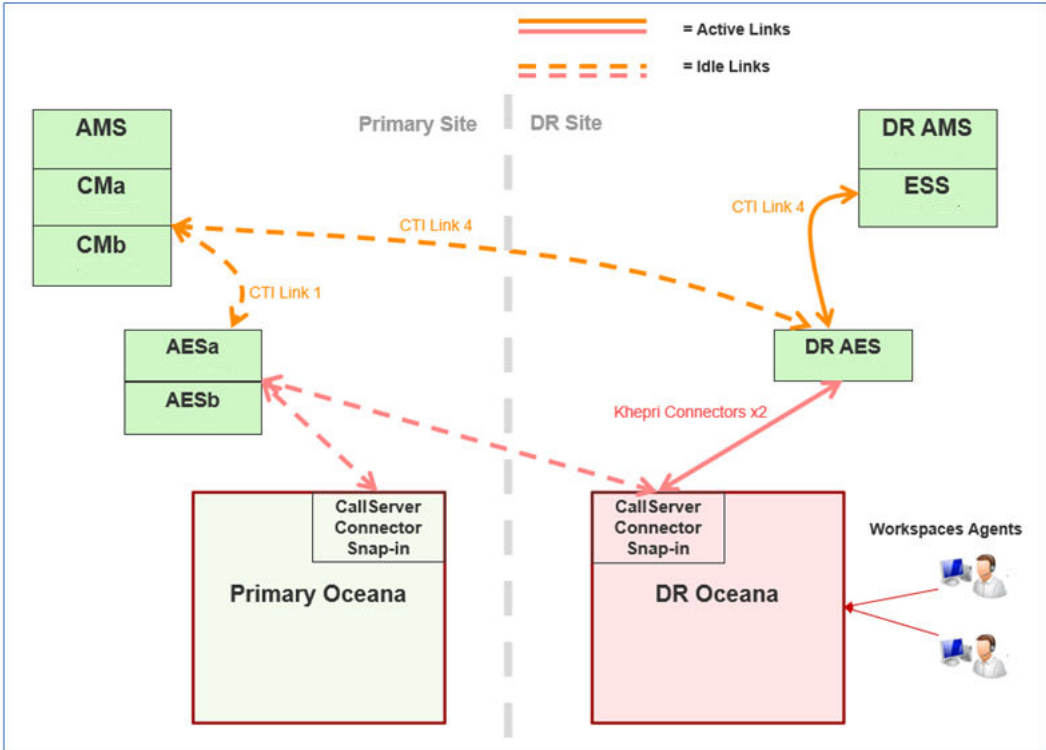


Figure 4: Avaya Oceana® DR Voice - DR Active state (Full Switchover)

- DC2 Avaya Oceana® is active.
- The DC2 CallServerConnector snap-in connects to the DC2 Application Enablement Services through Khepri connectors (x2).
- The DC2 Application Enablement Services connects to the ESS through Computer Telephony Integration (CTI) Link 4.

# Configuring ACM for Disaster Recovery

## Configuration Checklist

**! Important:**

For detailed information on High Availability (HA) deployment for Avaya Control Manager, refer [Installing Avaya Control Manager](#).

No.	Task	Description	✓
1.	Enable the Toggle button in Avaya Control Manager	<a href="#">Enable Disaster Recovery Support Avaya Control Manager</a> on page 46	

Table continues...

No.	Task	Description	✓
2.	Configuring DC2 application details in the UCA server in DC1	<a href="#">Configuring DC2 application details in the UCA server in DC1</a> on page 47	
3.	Configure DC2 application details in the Avaya Analytics™ server in DC1	<a href="#">Configuring Data Center 2 application details in the Analytics server in Data Center 1</a> on page 48	
4.	Enabling authorization in the Avaya Analytics server	<a href="#">Enabling authorization in the Avaya Analytics server</a> on page 49	

## Enable Disaster Recovery Support Avaya Control Manager

### About this task

Use this procedure to enable the Toggle button in the Locations area of Avaya Control Manager on each server.

### Before you begin

You must configure the details on the primary Avaya Control Manager server in Data Center 1. The Avaya Control Manager HA replication provides these details into the Avaya Control Manager database in Data Center 2. Ensure that you have access to Avaya Control Manager servers in Data Center 1 and Data Center 2.

### Procedure

1. On the Avaya Control Manager webpage, click **Configuration > General > System Parameters**.
2. Scroll to the bottom and select the **Enable Oceana Disaster Recovery Support** check box.
3. Click **Save**.
4. To disable the Disaster Recovery option, clear the **Disaster Recovery** checkbox.

If any disaster recovery enabled systems are in a fail-over state, Avaya Control Manager disables the **Disaster Recovery** checkbox. The administrator cannot disable the Disaster Recovery option.

5. On the Avaya Control Manager webpage, click **Configuration > Locations**.
6. Select the location of your Avaya Oceana® and click **Edit**.
7. On the Location Edit page, click the **Systems** tab.
8. Verify that the **Toggle** button is available next to the **Delete** button on the tool bar.

This toggle button is used for switching Avaya Control Manager from Data Center 1 to Data Center 2 and vice versa.

9. Expand the width of the browser window and verify that there is a **Switched Over** column to the right-hand side of the browser.

## Configuring DC2 application details in the UCA server in DC1

### Before you begin

Ensure that you enable the Oceana Disaster Recovery options on the **System Parameters** page.

### Procedure

1. Log on to Avaya Control Manager.
2. Navigate to **Configuration > Avaya Oceana™ > Server Details**.
3. On the Oceana Server List page, click **Edit an Oceana Server**.
4. In the Failover Server tab, perform the following steps:
  - a. In the **Alias** field, enter an alias name for the Avaya Oceana® failover server.
  - b. In the **API URL** field, enter the URL of the Avaya Oceana® UCA REST interface.

For example: `https:// <AvayaOceanaCluster1_DR_FQDN>/services/UCASStoreService/uca`

#### Important:

If the Avaya Oceana® deployment and the Avaya Analytics™ deployment are using the same UCA server (Common setup), then the URLs configured for the Avaya Oceana® server must use the exact same URL as the Avaya Analytics™ server. That is, the Avaya Oceana® server URL and the Avaya Analytics™ server URL must use either an IP address or an FQDN. You cannot use an IP address on one server and the FQDN on the other server.

- c. From the **Version** drop-down list, select the Avaya Oceana® version.
  - d. In the **Avaya Oceana Workspaces Welcome Page URL** field, enter the server URL for Workspaces.
  - e. In the **Workspaces Widget Library URL** field, enter the Widget Library for Workspaces.
  - f. In the **OMNI Channel Database Server** field, enter the Database Server address for OMNI Channel.
  - g. In the **Authorization Service URL** field, enter the URL Server of the service.
  - h. From the **Breeze alias** drop-down list, select the alias of the Avaya Breeze® platform instance.
5. Click **Save**.
  6. Do one of the following:
    - Navigate to **Configuration > Customer Engagement > .**
    - In the **Search** field, type `Avaya Analytics` and click the **Avaya Analytics™ Configuration/Customer Engagement tile** link.
  7. On the Avaya Analytics Server List page, click **Edit an Analytics Server**.

8. In the **Failover Server** tab, perform the following steps:
  - a. In the **Alias** field, enter an alias name for the Avaya Analytics™ failover server.
  - b. In the **API URL** field, enter the URL of the Avaya Analytics™ UCA REST interface.
  - c. From the **Version** drop-down list, select the version number of Avaya Analytics™.
  - d. From the **Breeze alias** drop-down list, select the alias of the Avaya Breeze® platform instance.
9. Click **Save**.

## Configuring Data Center 2 application details in the Analytics server in Data Center 1

### About this task

Use this procedure to configure the Data Center 2 application details in the Avaya Analytics™ server.

### Procedure

1. On the Avaya Control Manager webpage, click **Configuration > Customer Engagement > Avaya Analytics™**.
2. On the Avaya Analytics Server List page, double-click the Avaya Analytics™ server.

You can view the following details for Data Center 2 by clicking on the tabs on the Avaya Analytics Server Edit page:

  - **Alias**
  - **API URL**
  - **Version**
  - **Enable Authorization**
3. Enter the value for each Data Center 2 application.
4. Click **Save**.
5. Click the **Streams Servers** tab to add additional details for the stream server.
6. On the Streams Servers page, double-click the **Analytics** row to enter the DR details for the failover server.
7. Enter appropriate values in each of the following fields for the failover server:
  - **Name**
  - **FQDN**
  - **Port**
  - **Alternate FQDN**
  - **TLS Flag**

8. Click **Save**.

## Enabling authorization in the Avaya Analytics™ server

### About this task

Use this procedure to enable Authorization in the Avaya Analytics™ server if customers have enabled token-based access.

### Procedure

1. On the Avaya Control Manager webpage, click **Configuration > Customer Engagement > Avaya Analytics™**.
2. On the Avaya Analytics Server List page, double-click the Avaya Analytics™ server.  
You can view the following details for Data Center 2 by clicking on the tabs on the Avaya Analytics Server Edit page:
  - **Alias**
  - **API URL**
  - **Version**
  - **Enable Authorization**
3. Select **Enable Authorization**.
4. In the **Authorization Service URL** field, enter the appropriate value.
5. In the **ACM instance on Breeze** field, enter the appropriate value.
6. Click **Save**.

---

## Configuring Omnichannel for disaster recovery

### Omnichannel database mirroring configurations

Avaya Oceana® supports the following two options for Omnichannel Database Disaster Recovery (DR):

- Omnichannel Campus (active only) with DR
- Omnichannel Campus (active and standby) with DR

Data Center 1 has the Campus installation and Data Center 2 has the DR installation. Depending on these options, you can choose the appropriate procedures to enable Omnichannel database mirroring from Data Center 1 to Data Center 2.

#### **Note:**

- Ensure full hostname and FQDN resolution between Data Center 1 and Data Center 2.

- Cache Mirroring traffic between Data Center 1 and Data Center 2 is 60 MB per second of journal data at peak. The round trip time between Data Center 1 and Data Center 2 is 50 milliseconds maximum.
- Do not disable Internet Control Message Protocol (ICMP) on any system configured as a mirror member. Cache Mirroring relies on ICMP to detect whether or not members are reachable.
- Select **Require SSL/TLS** only for the configurations using SSL/TLS certificates.

## Verifying the Omnichannel Database mirroring status

### About this task

All planned full and partial DR switchovers require that the Omnichannel DB servers in both locations are functioning properly and that data is mirrored between them. After a planned switchover, mirroring shall initiate from the DR site (DC2) to the original primary site (DC1).

In the event of unplanned switchovers due to Omnichannel failures, you must reinstate the failed servers first, and then reinstate the mirroring. Refer to [Clean up and reconfigure Mirror setup on DC1 and DC2](#) on page 154 for procedure on reinstating a failed Omnichannel server before proceeding with the switchover.

It is important to verify that data from the primary Omnichannel database is actually mirrored across a data link to the DR database before switchback. To do this, log on to the Omnichannel Database server in the DR site and verify the mirroring status from the primary to DR site. This is a necessary step to ensure operational readiness before switchback.

Use the following steps to verify the DB mirroring status using the Oceana Data Management (ODM) tool:

### Procedure

1. Connect to the primary Omnichannel database server.
2. Run the Omnichannel server software using an administrator account.
3. On the Omnichannel host, navigate to the application drive and start the ODM tool.

For example, navigate to

```
D:\Avaya\Oceana\MMDataManagement\OceanaDataManagementTool  
application executable for ODM.
```

4. Run the ODM tool using the same administrator account.
5. Navigate to **Configuration > Mirror Settings**.

The Mirror Status window shows the current mirroring status for all mirror members, including the primary Omnichannel database and the DR Omnichannel database.

## Checklist for configuring Cache Mirroring for Omnichannel Campus (active only) with DR

Use the following checklist to configure Cache Mirroring for Omnichannel Campus (active only) in Data Center 1 and DR in Data Center 2:

No.	Task	Description	✓
1	Configure Cache Mirroring on the active Omnichannel Database server in Data Center 1.	See <a href="#">Configuring Cache Mirroring on the active Omnichannel Database server in Data Center 1</a> on page 51.	
2	Configure Cache Mirroring on the backup Omnichannel Database server in Data Center 2.	See <a href="#">Configuring Cache Mirroring on the backup Omnichannel Database server in Data Center 2</a> on page 52.	
3	Secure the Cache Mirror on the active Omnichannel Database server in Data Center 1.	See <a href="#">Securing the Cache Mirror on the Omnichannel Database server in Data Center 1 and Data Center 2</a> on page 54.	
4	Authorize the backup Cache Mirror on the active Omnichannel Database servers in Data Center 1.	See <a href="#">Authorizing the backup Cache Mirror on the active Omnichannel Database server in Data Center 1</a> on page 56.	

## Configuring Cache Mirroring on the active Omnichannel Database server in Data Center 1

### About this task

Omnichannel Database utilizes the Cache Mirroring feature to replicate the Cache data between Data Center 1 and Data Center 2.

### Procedure

1. Start the Windows Services application by doing the following:
  - a. Click **Start > Run**.
  - b. In the Run dialog box, type `services.msc`.
  - c. Click **OK**.
2. In the Services window, do the following:
  - a. Right-click **ISCAgent service** and select **Start**.
  - b. Double-click the **ISCAgent service**.
  - c. Click the **General** tab.
  - d. In the **Startup type** field, select `Automatic`.
  - e. Click the **Recovery** tab.
  - f. In the **First failure**, **Second failure**, and **Subsequent failures** fields, select the **Restart the Service** option.

- g. In the **Reset fail count after** field, type 120.
  - h. In the **Restart service after** field, type 0.
  - i. Click **Apply**.
  - j. Click **OK**.
3. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDataManagement` folder.
4. Right-click the `OceanaDataManagementTool.exe` file and click **Run as administrator**.
5. Navigate to **Configuration > Mirror Settings > Create Mirror**.
6. Enter the details for **Arbiter address**, **Virtual IP** and **Network Interface**.
7. Select the **Require SSL/TLS** checkbox to **Set up SSL/TLS** .
  - a. In the **File containing trusted Certificate Authority X.509 certificate**, field enter the location of your CA.
  - b. In the **File containing this configuration's X.509 certificate** field, browse and select the server certificate.
  - c. In the **File containing associated private key** field, browse and select the key.
  - d. In the **Private key password** field, enter the new password
8. Click **Save**.
9. In the Oceana Data Management utility, click **Backup And Restore**.
10. In the navigation pane, click **Backup And Restore**
11. In the **Select/create file to backup to** field, click **Browse**.
12. On the Save As screen, do the following:
  - a. Select the location where you want to save the backup file.  
Do not save the backup file to the software, journal, or multimedia drive.
  - b. Specify a name for the backup file. When naming the file, use English or numeric characters only.
  - c. Click **Save**.
13. Click **Backup Database**.

The utility displays the `Backup complete!` message when the backup process is complete.
14. Verify that the backup file is created at the specified location.

## Configuring Cache Mirroring on the backup Omnichannel Database server in Data Center 2

### Procedure

1. Start the Windows Services application by doing the following:
  - a. Click **Start > Run**.

- b. In the Run dialog box, type `services.msc`.
  - c. Click **OK**.
2. In the Services window, do the following:
  - a. Right-click **ISCAgent service** and select **Start**.
  - b. Double-click the **ISCAgent service**.
  - c. Click the **General** tab.
  - d. In the **Startup type** field, select `Automatic`.
  - e. Click the **Recovery** tab.
  - f. In the **First failure**, **Second failure**, and **Subsequent failures** fields, select the **Restart the Service** option.
  - g. In the **Reset fail count after** field, type `120`.
  - h. In the **Restart service after** field, type `0`.
  - i. Click **Apply**.
  - j. Click **OK**.
3. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDDataManagement` folder.
4. Right-click the `OceanaDataManagementTool.exe` file and click **Run as administrator**.
5. Navigate to **Configuration > Mirror Settings > Join Mirror**.
6. In the **Type** attribute, select **Disaster Recovery**.
7. Type the IP address of the agent and select **Virtual address interface**.
8. If SSL is configured on the primary server select the **Require SSL/TLS** checkbox to set up SSL/TLS.
  - a. In the **File containing trusted Certificate Authority X.509 certificate**, field enter the location of your CA.
  - b. In the **File containing this configuration's X.509 certificate** field, browse and select the server certificate.
  - c. In the **File containing associated private key** field, browse and select the key.
  - d. In the **Private key password** field, enter the new password.
9. Click **Save**.
10. Copy the backup file from the active Omnichannel Database server in Data Center 1 to the backup Omnichannel Database server in Data Center 2.
11. In the Oceana Data Management utility, click **Backup And Restore**.
12. In the navigation pane, click **Backup And Restore**
13. In the **Select file to restore from** field, click **Browse**.

14. On the Open dialog box, do the following:
  - a. Browse to the location where you stored the backup file.
  - b. Select the backup `cbk` file.
  - c. Click **Open**.
15. Click **Restore Database**.
16. For **Are you restoring a mirrored backup**, click **Yes**.
17. Click Restore

 **Note:**

If data is submitted to the Data Center 1 database after the backup, this data is not lost once the replication starts from Data Center 1 to Data Center 2.

The system displays the `Restore complete!` message after the restore process is completed.

18. To verify whether the restore was successful, do the following:
  - a. On Cache Management Portal, click **System Operation > Mirror Monitor**.
  - b. Click **Details**.

Verify both Avaya Oceana® databases in the list.

## Securing the Cache Mirror on the Omnichannel Database server in Data Center 1 and Data Center 2

### About this task

This procedure is only required if SSL/TLS secure connections are needed to and from the Omnichannel Database servers. This is applicable for both DR options.

### Before you begin

Configure Cache Mirroring on the active Omnichannel Database server in Data Center 1 and Data Center 2.

### Procedure

1. On Primary server in DC1 do the following
  - a. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDaDataManagement` folder.
  - b. Right-click the `OceanaDataManagementTool.exe` file and click **Run as administrator**.
  - c. Navigate to **Configuration > Mirror Settings > Create Mirror**.
  - d. Select the **Require SSL/TLS** checkbox.
    - In the **File containing trusted Certificate Authority X.509 certificate** field, enter the location of your CA.

- In the **File containing this configuration's X.509 certificate** field, browse and select the server certificate.
  - In the **File containing associated private key** field, browse and select the key.
  - In the **Private key password** field, enter the new password.
- e. Click **Save** or **Update** button.
2. Go to async server in DC2 and do the following:
- a. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDataManagement` folder.
  - b. Right-click the `OceanaDataManagementTool.exe` file and click **Run as administrator**.
  - c. Navigate to **Configuration > Mirror Settings > Join Mirror**.
  - d. Select the **Require SSL/TLS** checkbox.
    - In the **File containing trusted Certificate Authority X.509 certificate** field, enter the location of your CA.
    - In the **File containing this configuration's X.509 certificate** field, browse and select the server certificate.
    - In the **File containing associated private key** field, browse and select the key.
    - In the **Private key password** field, enter the new password.
  - e. Click **Save** or **Update** button.
3. Go back to primary server on DC1.
- a. In your web browser, enter the following URL to open Cache Management Portal:  
`http://<DC1OmnichannelServerIP>:57772/csp/sys/UtilHome.csp`  
Where, <DC1OmnichannelServerIP> is the IP address of the active Omnichannel Database server in Data Center 1.
  - b. On the Cache Management Portal login page, do the following:
    - In the **User Name** field, type the user name.
    - In the **Password** field, enter the password.
    - Click **Login**.
  - c. On Cache Management Portal, click **System Administration > Configuration > Mirror Settings > Edit Mirror**.
  - d. On the Edit Mirror page, look for **Pending New Members** section.
  - e. Tick the async server and select **Authorize**.
  - f. Select **Ok**.

## Checklist for configuring Cache Mirroring for Omnichannel Campus (active and standby) with DR

Use the following checklist to configure Cache Mirroring for Omnichannel Campus (active and standby) in Data Center 1 and DR in Data Center 2:

No.	Task	Description	✓
1	Configure Omnichannel Database High Availability (HA) with active and standby Omnichannel Database servers within Data Center 1.	See <i>Deploying Avaya Oceana®</i> .	
2	Configure Cache Mirroring on the backup Omnichannel Database server in Data Center 2.	See <a href="#">Configuring Cache Mirroring on the backup Omnichannel Database server in Data Center 2</a> on page 52.	
3	Secure the Cache Mirror on the active Omnichannel Database server in Data Center 1 and Data Center 2.	See <a href="#">Securing the Cache Mirror on the Omnichannel Database server in Data Center 1 and Data Center 2</a> on page 54.	
4	Authorize the backup Cache Mirror on the active Omnichannel Database servers in Data Center 1.	See <a href="#">Authorizing the backup Cache Mirror on the active Omnichannel Database server in Data Center 1</a> on page 56.	

### Authorizing the backup Cache Mirror on the active Omnichannel Database server in Data Center 1

#### About this task

Use this procedure to authorize the other Cache Mirror(s) on the active Omnichannel Database server in Data Center 1. This procedure is only required if SSL/TLS secure connections are configured between the Omnichannel Database servers. This is applicable for both DR options.

#### Before you begin

- [Securing the Cache Mirror on the Omnichannel Database server in Data Center 1 and Data Center 2](#) on page 54

#### Procedure

1. In your web browser, enter the following URL to open Cache Management Portal:

`http://<ActiveOmnichannelServerIP>:57772/csp/sys/UtilHome.csp`

<ActiveOmnichannelServerIP> is the IP address of the server containing the active Omnichannel Database.

2. On the Cache Management Portal login page, do the following:
  - a. In the **User Name** field, type `_admin`.
  - b. In the **Password** field, type `Oceana16`.
  - c. Click **LOGIN**.
3. On Cache Management Portal, click **System Operations > Mirror Monitor**.
4. Under the Authorized Async Members section, click **Add**.
5. Specify the backup Cache Mirror name and the distinguished name in the fields  
 You can get these values in one of the following locations from the Cache Management Portal on the other Omnichannel Database servers depending on mirror type:
  - System Administration > Configuration > Mirror Settings > Edit Async.**
  - System Administration > Configuration > Mirror Settings > Edit Mirror.**
6. Click **Save**.

---

## Configuring Context Store for Disaster Recovery

### Configuration Checklist

No.	Task	Description	✓
1.	Enable SSL connection for Avaya Context Store replication from DC1 to DC2	<a href="#">Enabling SSL connection for Context Store replication from DC1 to DC2</a> on page 58	
2.	Retrieve the System Manager root certificate	<a href="#">Retrieving the System Manager root certificate</a> on page 58	
3.	Create a new keystore certificate file	<a href="#">Creating a new keystore certificate file</a> on page 59 <ul style="list-style-type: none"> <li>• <a href="#">Modifying end entity profile</a> on page 59</li> <li>• <a href="#">Creating a new keystore certificate file for Data Center 1 of Avaya Oceana Cluster 1</a> on page 60</li> </ul>	
4.	Add CA root certificate and keystore certificate files to DC2 Cluster 1 nodes	<a href="#">Adding CA root certificate and keystore certificate files to Data Center 2 Cluster 1 nodes</a> on page 61	
5.	Enable Context Store integration to External Data Mart in DC1	<a href="#">Enabling Context Store integration to External Data Mart in Data Center 1</a> on page 61	

## Enabling SSL connection for Context Store replication from DC1 to DC2

### About this task

Use this procedure to enable Context Store replication from DC1 to the geo-redundant Context Store in DC2.

#### **Note:**

Context Store replication functions only when DC1 has the security certificate.

### Procedure

1. Download the Root CA certificate to a location from where you can import it to Avaya Oceana® Cluster 1 nodes in DC2.
2. Create a new identity certificate or keystore certificate file signed by your Root CA for the Avaya Oceana® Cluster 1 FQDN and Avaya Breeze® platform nodes in DC2.
3. Log on as a root user and copy the Root CA certificate and generated keystore file to all Avaya Oceana® Cluster 1 nodes in DC2.

If you use Avaya Aura® System Manager as a CA function, you can retrieve the Root CA certificate as a `.pem` file from the primary System Manager in DC1.

On the System Manager host, verify that the file ownerships are set to `wsuser:susers` and the permissions are set to `775`, similar to the other files in the Gigaspaces security folder.

If you use a third-party CA, consult the CA documentation and procedures for methods to retrieve the CA certificate.

## Retrieving the System Manager root certificate

### About this task

Use this procedure to retrieve the System Manager root certificate.

### Before you begin

You must have access to the System Manager console.

### Procedure

1. Log in to the Avaya Aura® System Manager web console in Data Center 1.
2. On the System Manager web console, click **Services > Security > Certificate > Authority**.
3. In the navigation pane, click **CA Structures & CRLs**.

System Manager displays information of your primary System Manager CA certificate.

4. Click **Download PEM file** link to save a copy of System Manager CA certificate to your browser `Downloads` folder.

5. Go to `Downloads` folder and copy the CA certificate to a location that is accessible to Data Center 2 applications.

You must add the CA certificate file to all Avaya Oceana® Cluster 1 nodes in Data Center 2.

## Creating a new keystore certificate file

Use this procedure to create a new keystore certificate to enable Context Store replication from Data Center 1 to Data Center 2. This section provides a worked example on how to create a new identity certificate (keystore file) that contains the DC1 Avaya Oceana® Cluster 1 FQDN and all the nodes Management FQDNs, which are used to setup a secure SSL encrypted link between Context Store in Data Center 1 and Data Center 2.

The certificate enforces SSL encryption on the replication channel. For more information on the certificate-based authentication and creation of the keystore certificate, see *Avaya Context Store Snap-in Developer Guide*.

### Important:

You must enable SSL encryption for Context Store replication from Data Center 1 to Data Center 2 to work.

There are multiple ways of generating identity certificates for Avaya Oceana® entities. This procedure describes a simple method for creating an identity certificate for Data Center 1 Avaya Oceana® Cluster 1 and its nodes.

The new identity certificate for Data Center 1 Avaya Oceana® Cluster 1 must include the following in the Subject Alternative Name (SAN) fields:

- SAN DNS Name = DC1 Avaya Oceana® Cluster 1 FQDN
- SAN DNS Name = Avaya Oceana® Cluster 1 Node 1 Management FQDN
- SAN DNS Name = Avaya Oceana® Cluster 1 Node 2 Management FQDN
- SAN DNS Name = Avaya Oceana® Cluster 1 Node 3 Management FQDN

Entities that access Avaya Breeze® platform through HTTPS must resolve the Common Name (CN) and SAN fields in the certificate with the FQDNs of the Avaya Breeze® platform node.

To resolve the certificate CN or SAN fields, you must enter the Management FQDN of each Avaya Breeze® platform node in your DNS server. You must also enter DC1 Avaya Oceana® Cluster 1 FQDN in your DNS server.

## Modifying end entity profile

### About this task

Use this procedure to modify end entity profile to support multiple SAN fields. Avaya Oceana® certificates require more DNS entries than the entries supported by the default settings in System Manager. You can edit the end entity profile to allow additional DNS entries. Alternatively, you can create a new profile with the appropriate number of DNS entries for this certificate.

## Procedure

1. On the primary System Manager web console, click **Services > Security > Certificates > Authority**.
2. In the navigation pane, in the RA Functions area, click **End Entity Profiles**.
3. In the **List of End Entity Profiles** field, select the profile that you want to modify and click **Edit End Entity Profile**.

You can also create a new profile and use it for Avaya Oceana®.

4. Scroll down to the Other subject attributes area.
5. In the **Subject Alternative Names** field, select **DNS Name**.
6. Click **Add**.

You can continue to add additional DNS name fields to SAN until you add one Avaya Oceana® Cluster 1 FQDN and three node management FQDNs.

7. Click **Save**.

## Creating a new keystore certificate file for Data Center 1 of Avaya Oceana® Cluster 1

### Procedure

1. On the primary System Manager web console, click **Services > Security > Certificates > Authority**.
2. In the navigation pane, in the RA Functions area, click **Add End Entity**.
3. In the **End Entity Profile** field, select the profile that you modified or created earlier.
4. In the **Username** field, type a user name.
5. In the **Password** field, type a password.

You must use the user name and password while creating the certificate.

6. In the **CN Common Name** field, enter the full FQDN of DC1 Avaya Oceana® Cluster 1.
7. In the Subject Alternative Name area, in the first **DNS Name** field, enter the FQDN of DC1 Avaya Oceana® Cluster 1.
8. In the next **DNS Name** field, enter the Avaya Oceana® Cluster 1 Node 1 Management full FQDN.
9. In the next **DNS Name** field, enter the Avaya Oceana® Cluster 1 Node 2 Management full FQDN.
10. In the next **DNS Name** field, enter the Avaya Oceana® Cluster 1 Node 3 Management full FQDN.
11. In the **Token** field, select P12 file.
12. Click **Add**.

13. Open System Manager public web portal.
14. On the left panel, click **Public Web**.  
System Manager displays the public web portal for CA functionality.
15. In the web portal, on the **Enroll** menu, click **Create Keystore**.
16. Enter the **Username** and **Password** for the end entity certificate that you created.
17. From the **Key Length** list, select 2048 or 4096.
18. Click **Enroll**.  
The p12 certificate (keystore file) is downloaded to the `Downloads` folder in your browser.
19. Save the p12 and CA root certificates to a location that is accessible from Data Center 2. These files are copied to all Avaya Oceana® Cluster 1 nodes in Data Center 1.

## Adding CA root certificate and keystore certificate files to Data Center 2 Cluster 1 nodes

### About this task

Use this procedure to copy the CA Root certificate and the newly created keystore file to all Avaya Breeze® platform nodes in Data Center 2 Cluster 1.

### Procedure

1. Log in to the Avaya Oceana® Cluster 1 Node 1 as the `cust` user and change to the root user.
2. As a root user, go to `/opt/Avaya/dcm/gigaspacesecurity/` folder and copy the following:
  - CA Root Certificate
  - Newly generated Keystore certificate file for the Avaya Oceana® Cluster 1 nodes in DC1.
3. Repeat Step 1 and Step 2 for the other two nodes in Data Center 2 Avaya Oceana® Cluster 1.

## Enabling Context Store integration to External Data Mart in Data Center 1

### About this task

Use this procedure to enable Context Store integration to External Data Mart (EDM) in Data Center 1.

### Before you begin

Create database tables in the EDM database. For more information, see *Avaya Context Store Snap-in Reference*.

**Procedure**

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. In the **Cluster** field, click Avaya Oceana® Cluster 1.
  - b. In the **Service** field, click **ContextStoreManager**.
  - c. Scroll down to the External Data Mart Configuration area.
  - d. In the **EDM: Enable Persistence to database** field, type `true`.
  - e. Configure the other EDM attributes.  
 For more information, see *Avaya Context Store Snap-in Reference*.
  - f. Enter an appropriate value in each of the following fields:
    - **ContextStore ManagerSpace DataGrid Settings**
    - **ContextStoreSpace DataGrid Settings**
    - **EDM: Mirror Service container size**
3. Click **Commit**.

---

## Configuring Avaya Oceana® for Disaster Recovery

### Configuration Checklist

 **Important:**

You must install the following at DC1 and DC2.

- Ensure the deployment is complete for DC1 and DC2.
- Install required Avaya Oceana® snap-ins.
- Install all required Engagement Designer tasks and workflows.

For detailed information on installation procedures, see [Deploying Avaya Oceana®](#).

No.	Task	Description	✓
1.	Set cluster activity status for clusters in DC1	<a href="#">Setting cluster activity status for clusters in DC1</a> on page 63	
2.	Configure Oceana Monitor authorization for DC1	<a href="#">Configuring Oceana Monitor authorization for DC1</a> on page 64	

*Table continues...*

No.	Task	Description	✓
3.	Set disaster recovery attributes in OceanaConfiguration snap-in for DC1 UCASStoreService and Context Store	<a href="#">Setting disaster recovery attributes in OceanaConfiguration snap-in for Data Center 1 UCASStoreService and Context Store</a> on page 65	
4.	Configure Oceana Monitor authorization for DC2	<a href="#">Configuring Oceana Monitor authorization for DC2</a> on page 66	
5.	Set disaster recovery attributes	<a href="#">Setting disaster recovery attributes in OceanaConfiguration snap-in for Data Center 2 UCASStoreService and Context Store</a> on page 66	
6.	Set the cluster activity status for the clusters in DC2	<a href="#">Setting the cluster activity status for the clusters in DC2</a> on page 67	
7.	Unified Collaboration Administration data synchronization	<a href="#">Schedule database backups UCMServer and UCASStoreService</a> on page 68 <ul style="list-style-type: none"> <li>• <a href="#">Preparing DC2 for UCA restore from DC1</a> on page 69</li> <li>• <a href="#">Creating a backup of UCASStoreService on DC1</a> on page 70</li> <li>• <a href="#">Restoring UCASStoreService data on DC2</a> on page 71</li> <li>• <a href="#">Installing UCASStoreService on DC2</a> on page 72</li> </ul>	
8.	Web voice and web video requirements	<a href="#">Web voice and web video requirements</a> on page 74	
9.	Reboot DC1 and DC2 Avaya Oceana® clusters	<a href="#">Rebooting DC1 and DC2 Avaya Oceana clusters</a> on page 72	
10.	Verify replication status for all disaster recovery components	<ul style="list-style-type: none"> <li>• <a href="#">Verifying the UCA replication status</a> on page 72</li> <li>• <a href="#">Verifying Context Store replication status</a> on page 74</li> <li>• <a href="#">Verifying the Omnichannel Database mirroring status</a> on page 50</li> </ul>	

## Setting cluster activity status for clusters in DC1

### Before you begin

Ensure that the OceanaMonitorService is installed on the clusters in DC1 as a troubleshooting tool to validate Avaya Oceana® health state of the snapins and PU's.

## Procedure

1. Enter the following URL `https://<DataCenter1_AvayaOceanaCluster1_FQDN>/services/OceanaMonitorService/manager.html?affinity=` in your web browser to open the Oceana Manager page.

 **Important:**

You can create a bookmark of this URL in your web browser, so that you can open the Oceana Manager page when System Manager is unavailable.

To change the global status of the Avaya Oceana® and Avaya Breeze® platform Clusters in DC1 or DC2, you need to access the Oceana Manager page.

2. **(Optional)** To open the Oceana Manager page through System Manager, do the following:
  - a. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
  - b. On the Cluster Administration page, in the **Service URL** column for Avaya Oceana® Cluster 1, select **Oceana Manager**.
3. Log in to Oceana Manager using an Admin account.
4. On the Oceana Manager page, do the following:
  - a. Check the status of Primary and Backup DC clusters and also check Data Replication and Service Install status have green check marks.
  - b. If the status of the clusters is `STANDBY`, click **Set Cluster Group to Active** to change the status to `ACTIVE`.
  - c. On the confirmation message box, click **OK**.
  - d. **(Optional)** If the Oceana Manager page does not display the updated status after some time, click **Refresh**.

## Configuring Oceana Monitor authorization for DC1

### About this task

Use this procedure to configure Oceana Monitor Authorization so that you can use Oceana Manager to switch between Data Center 1 and Data Center 2.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. In the **Cluster** field, click **DC1 Avaya Oceana® Configuration Cluster**.
  - b. In the **Service** field, click **Authorization Service Address**.

3. Identify **Oceana Authorization Cluster IP** and do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, enter the FQDN or IP address of the cluster that hosts the AuthorizationService snap-in in Data Center 1.
4. Click **Commit**.

## Setting disaster recovery attributes in OceanaConfiguration snap-in for Data Center 1 UCASStoreService and Context Store

### About this task

Use this procedure to centrally configure the disaster recovery attributes for the UCASStoreService and Context Store snap-ins from the OceanaConfiguration snap-in. In the previous versions of Avaya Oceana®, these attributes were set on the individual snap-ins.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. In **Cluster**, click DC1 Provisioning Cluster.
  - b. In **Service**, click **OceanaConfiguration**.
3. In the Geo-Redundancy area, in **Disaster Recovery Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In **Effective Value**, select `GEO Primary`.
4. Identify **Geo-Redundant Common Cluster** and do the following:
  - a. Select the **Override Default** check box.
  - b. In **Effective Value**, select Avaya Oceana® Cluster 1 that you created in DC2, which hosts the DR (DC2) UCASStoreService and Context Store snap-ins.
5. Identify the attribute **Keystore File Name** and do the following:
  - a. Select the **Override Default** check box.
  - b. In **Effective Value**, enter the name of the keystore file required for Context Store replication.  
  
For more information, see [Creating a new keystore certificate file](#) on page 59 and [Enabling SSL connection for Context Store replication from DC1 to DC2](#) on page 58.
6. Identify the attribute **Keystore Password** and do the following:
  - a. Select the **Override Default** check box.
  - b. In **Effective Value**, enter the password that you used when creating the keystore file containing the security certificate for DC2 Avaya Oceana® Cluster 1 nodes.

7. Click **Commit**.
8. Reboot Avaya Oceana® Cluster in Data Center 1.

## Configuring Oceana Monitor authorization for DC2

### About this task

Use this procedure to configure Oceana Monitor Authorization so that you can use Oceana Manager to switch between Data Center 1 and Data Center 2.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. In the **Cluster** field, click **DC2 Avaya Oceana® Configuration Cluster**.
  - b. In the **Service** field, click **Authorization Service Address**.
3. Identify **Oceana Authorization Cluster IP** and do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, enter the FQDN or IP address of the cluster that hosts the AuthorizationService snap-in in Data Center 2.
4. Click **Commit**.

## Setting disaster recovery attributes in OceanaConfiguration snap-in for Data Center 2 UCASStoreService and Context Store

### About this task

Use this procedure to centrally configure the disaster recovery attributes for the UCASStoreService and Context Store snap-ins from the OceanaConfiguration snap-in.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. In the **Cluster** field, click DC2 Provisioning Cluster.
  - b. In the **Service** field, click **OceanaConfiguration**.
3. In the Geo-Redundancy area, in the **Disaster Recovery Mode** field, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, select **GEO Secondary**.

4. Identify **Geo-Redundant Common Cluster** and do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, select Avaya Oceana® Cluster 1 that you created in Data Center 1, which is hosting the primary UCASStoreService and Context Store snap-ins.
5. Identify the attribute **Keystore File Name** and do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, enter the name of the keystore file.  
 CA signed certificate for the DR Cluster 1 and its nodes required for Context Store replication.  
  
 For more information, see [Creating a new keystore certificate file](#) on page 59 and [Enabling SSL connection for Context Store replication from DC1 to DC2](#) on page 58.
6. Identify the attribute **Keystore Password**, and do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, enter the password that you used when creating the keystore file containing the security certificate for DC2 Avaya Oceana® Cluster 1 nodes.
7. Click **Commit**.
8. Reboot Avaya Oceana® Cluster in Data Center 2.

## Setting the cluster activity status for the clusters in DC2

### Before you begin

You must install OceanaMonitorService on the clusters in DC2.

### Procedure

1. Open the Oceana Manager page by entering the following URL in your web browser:

```
https://<DataCenter2_AvayaOceanaCluster1_FQDN>/services/OceanaMonitorService/manager.html?affinity=
```

#### **Important:**

You can create a bookmark of this URL in your web browser, so that you can open the Oceana Manager page even when System Manager is unavailable.

2. **(Optional)** To open the Oceana Manager page through System Manager, do the following:
  - a. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
  - b. On the Cluster Administration page, in the **Service URL** column for Avaya Oceana® Cluster 2, select **Oceana Manager**.
3. Log in to Oceana Manager using an Admin account.

4. On the Oceana Manager page, do the following:
  - a. Check the status of Primary and Backup DC clusters and also check Data Replication and Service Install status have green check marks.
  - b. If the status of the clusters is `ACTIVE`, click **Set Cluster Group to Standby** to change the status to `STANDBY`.
  - c. On the confirmation message box, click **OK**.
  - d. **(Optional)** If the Oceana Manager page does not display the updated status after some time, click **Refresh**.
  - e. Verify that all clusters and nodes in DC2 are now in the `Deny` state.

## Schedule database backups UCMServer and UCASStoreService

Unified Collaboration Administration (UCA) data replication handles data added after the replication is enabled. If the UCA instance in Data Center 1 contains data, you must perform a manual backup and restore to restore the data from Data Center 1 to Data Center 2. After the backup and restore is done, ensure that the two UCA instances are in an initial synchronized state.

## Scheduling Database Backups UCMServer and UCASStoreService

### About this task

Use this procedure to schedule automatic backups of the UCASStoreService/UCMServer database to maintain a reasonably up to date data set in the event of an unplanned switchover and recovery from Data Center 1 to Data Center 2.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
  2. From the **Backup and Restore** field, select **Configure**.

System Manager displays the Backup Storage Configuration page.
  3. In the **FQDN or IP Address** field, enter the FQDN or IP Address of the backup storage server.
  4. In the **Login** field, enter the user name that you use to log in to the backup storage server.
  5. In the **Password** field, enter the password that you use to log in to the backup storage server.
  6. In the **SSH Port** field, enter the port number of the backup storage server.
  7. In the **Directory** field, enter the path to a directory in the backup storage server.
  8. In the **Retained backup copies per cluster per snap-in DB** field, specify the maximum number of backup file copies that you want to retain on the backup storage server.
- If you do not specify any value, the backup storage server retains all backup files.

9. Click **Commit**.
10. Select the check box for the DR Avaya Oceana® Cluster 1.
11. From the **Backup and Restore** field, select **Backup**.
12. On the Cluster Database Backup Confirmation dialog box, select the required service check box and click **Continue**.

Select the **UCMService** and **UCAStoreService database** check boxes to be included in the backup.

13. In the **Backup Password** field, enter a password for the backup.

 **Important:**

Make a note of the password because you require this password to restore UCMService.

14. In the **Schedule Job** field, click **Schedule later**.
15. In the **Task Time** field, specify the date, time, and time zone for the first backup.
16. In the **Recurrence** field, select the **Tasks are repeated** option and specify the recurring backup schedule.
17. In the **Range** field, specify a range for the recurring backup schedule.
18. Click **Backup**.
19. After the backup process is complete, verify that the **Status** column on the Backup and Restore Status page displays the status *Completed*.

## Preparing DC2 for UCA restore from DC1

### About this task

In the event scheduled backups have not been configured or completed recently, use this procedure to manually backup UCAStoreService in preparation to restore this data in Avaya Oceana® deployment in Data Center 2. The UCAStoreService database contains all the information related to users, accounts, attributes, providers, and resources that are common to Data Center 1 and Data Center 2 in Avaya Oceana® disaster recovery deployment.

 **Note:**

You can perform the following procedure at any time before enabling UCAStoreService replication and it does not affect the operation of the systems in Data Center 1.

### Procedure

1. On the DC1 System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
2. Select the check box for **UCAStoreService** and click **Uninstall**.
3. In the pop-up window, select the **Oceana Cluster 1 in the DC2** site (DR location).

Do not uninstall UCAStoreService from the Data Center 1 (primary site).

4. Click **Yes** to the confirmation dialog box.

You can use the System Manager web console to monitor progress of uninstallation of UCASStoreService from DC2 Avaya Oceana® Cluster 1.

## Creating a backup of UCASStoreService on DC1

### About this task

UCASStoreService stores information related to users, accounts, attributes, providers, and resources. The Avaya Breeze® platform upgrade maintains the UCASStoreService database. However, you must create a backup as a precaution to retrieve the data. Avaya Control Manager, Unified Collaboration Administration (UCA), and the Omnichannel server backup the data independently. Therefore, you must create the backups and restore them in coordination.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console of DC1, click **Elements > Avaya Breeze® > Cluster Administration**.
3. From the **Backup and Restore** field, select **Configure**.  
System Manager displays the Backup Storage Configuration page.
4. In **FQDN or IP Address**, enter the FQDN or IP Address of the backup storage server.
5. In **Login**, enter the user name to log in to the backup storage server.
6. In **Password**, enter the password to log in to the backup storage server.
7. In **SSH Port**, enter the port number of the backup storage server.
8. In **Directory**, enter the path to a directory in the backup storage server.
9. In **Retained backup copies per cluster per snap-in DB**, specify the maximum number of backup file copies to retain on the backup storage server.

If you do not specify any value, the backup storage server retains all backup files.

10. Click **Test Connection**.
11. In the Test Connection Result dialog box, verify the following messages:

```
SSH connection ok.  
Backup directory ok.  
File transfer test ok.  
File remove test ok.
```

12. Click **OK**.
13. Click **Commit**.

#### **Note:**

Configuring the backup location is a one-time configuration, after which the successive backups reuse the same information.

14. Select the check box for Avaya Oceana® Cluster 1.
15. In **Backup and Restore**, select **Backup**.  
System Manager displays the Cluster DB Backup page.
16. Select the **UCASStoreService** check box.
17. In **Backup Password**, enter a password for the backup.

 **Important:**

Note the password as it is required to restore the UCASStoreService database.

18. In **Schedule Job**, click **Run immediately**.
19. Click **Backup**.

After the backup process is complete, verify that the **Status** column on the Backup and Restore Status page displays the status `Completed`.

## Restoring UCASStoreService data on DC2

### About this task

If the Unified Collaboration Administration (UCA) instance in DC1 contains data, you must create a manual backup and restore the UCASStoreService data from DC1 to the Avaya Oceana® Cluster 1 on DC2.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
3. In the Services page, click **UCASStoreService**.
4. Verify that the UCASStoreService is not in the `Installed` state in the DR cluster.

 **Important:**

You cannot restore the UCASStoreService data backup if the service is in the `Installed` state in the DR cluster. Therefore, ensure to uninstall the service by selecting the UCASStoreService check box and clicking **Uninstall**.

5. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
6. In **Backup and Restore**, select **Restore**.
7. On the Backup and Restore Status page, in the Backup and Restore Jobs area, select the check box of the latest backup file.
8. Click **Restore**.
9. In the Cluster Database Restore Confirmation dialog box, select Avaya Oceana® Cluster 1.
10. Click **Continue**.

On the Backup and Restore Status page, ensure that the **Status** column for the restore operation displays the value `Completed`.

## Installing UCASStoreService on DC2

### About this task

After restoring the UCASStoreService data to the Avaya Oceana® Cluster 1 on DC2, you must install the UCASStoreService on Avaya Oceana® Cluster 1 on DC2.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
3. On the Services page, select the **UCASStoreService** check box.
4. Click **Install**.
5. In the **Confirm Install service: UCASStoreService** dialog box, select the Avaya Oceana® Cluster 1 check box on the DC2.
6. Click **Commit**.
7. On the Services page, verify that the state of the service is `Installing`.

After the installation is complete, the service state changes to `Installed`.

## Rebooting DC1 and DC2 Avaya Oceana® clusters

For a disaster recovery deployment, you must reboot all the Avaya Oceana® clusters in DC1 and DC2.

Use Oceana Monitor and other System Manager web console indicators to determine when the system is fully operational.

After the reboot, you can verify the replication status of UCASStoreService and Context Store.

## Verify replication status for all disaster recovery components

### Verifying the UCA replication status

#### About this task

#### Important:

- The UCA replication check does not work with the token-based access turned on.  
To disable the token access from Avaya Aura® System Manager, select `Cluster 1` then select `UCASStoreService` and set *Enable Tokenless Access* to `true`.
- To verify if the UCA replication is functioning between primary and disaster recovery (DR) sites, you must make an administrative change in the Avaya Control Manager application and then submit the change to the primary UCA instance. The system replicates this

change from the primary UCA to the DR UCA. You must add a new test attribute to Avaya Oceana® and verify that this is replicated across the DR UCA instance.

- When verification is complete revert `UCAStoreService` and set *Enable Tokenless Access* to `false`.
- You must ensure that there are no active UCA alarms. If there are any active UCA alarms, you must resolve them before the switchover.

## Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From the drop-down list next to Primary Avaya Oceana® Cluster 1, select **Oceana Monitor**.
3. On the Monitor Service page, click **Cluster 1 > Grid Info** and wait for the pop-up to display the status of all snap-in PUs.
4. Verify the PU status of **uca-gateway-pu** and **uca-store-space** PUs are `INTACT`.  
If it is not present or has a status `Scheduled` or `Broken`, then the system indicates that the UCA replication is not operational. You must resolve this issue before proceeding with the switchover.
5. On the primary site, go to the **Show Cluster Messages** tab, select the **UCAStoreService** PU.
6. Verify that the `HEARTBEAT` message for the replication channel state is `ACTIVE`.
7. Repeat steps 1 through 6 for Avaya Oceana® Cluster 1 in Data Center 2.

### \* Note:

On the **Cluster Messages** tab, in the **UCAStoreService** messages, check the last Cluster DB updated message time on all nodes on both the primary and DR sites.

Perform the subsequent steps only after successfully completing up to step 6.

8. Log on to the primary Avaya Control Manager server instance.
9. Add a new test attribute and save the attribute to the primary UCA instance.
10. Reload the cluster message, select **UCAStoreService**, and check the new time of the Cluster DB updated message.

The time of the updated message must coincide with the newly added attribute.

11. To check for any replication errors alarmed on System Manager, do the following.
  - a. Go to **Services > Events > Alarms**.
  - b. Click **Advanced Search**.
  - c. In the Criteria section, select **Description contains Replication**.
  - d. Click **Search**.

**!** **Important:**

You must ensure that there are no active alarms. If there are any recent alarms, then you must investigate the issue to ensure replication is operational before a switchover.

If the replication to DR gives an error, you can back up the replication and synchronize the updates manually. Ensure the replication is working.

## Verifying Context Store replication status

### About this task

To verify if Context Store replication is functioning between primary and DR sites, you can use Oceana Monitor to validate the presence of the Context Store replication gateway PU.

Optionally, you must also create a context to verify that the replication is working.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. In the drop-down list next to the Primary Avaya Oceana® Cluster 1, select **Oceana Monitor**.
3. On the Monitor Service page, click **Cluster 1 > Grid Info** and wait for the pop-up to display the status of all snap-in PUs.
4. Verify that the PU **cs-gateway** is present with status `INTACT`.

If it is not present or has a status `Scheduled` or `Broken`, then it indicates that the Context Store replication is not operational. You must resolve this issue before proceeding with the switchover.

5. Repeat steps 1 to 4 for Avaya Oceana® Cluster 1 in Data Center 2.
6. Create a context in DC1 Context Store.

Context Store provides a Postman collection of API calls which can be used for all context operations such as creating and retrieving contexts from Context Store. You can download the Postman collection from **Products & Resources > Context Store > Context Store Snapin > Select Release > Downloads** at [www.devconnectprogram.com](http://www.devconnectprogram.com).

7. Verify that the context is present in DC 1 Context Store and in DC2 Context Store.

---

## Configuring Web Voice Web Video

### Web voice and web video requirements

Web voice and video is an optional configuration in Avaya Oceana® deployments. You can skip these procedures if there is no web voice or video required in the solution.

The following are the requirements for web voice and web video:

- Deploy the Web Voice and Web Video solution in Data Center 1 and Data Center 2 and ensure that each data center has its own Disaster Management Zone (DMZ).
- Configure web and mobile clients with the FQDNs of the Authorization token service, AvayaMobileCommunications cluster, and Avaya Aura® Web Gateway server.
- Configure DNS to map the FQDNs to the public addresses exposed on the active data center.

You can switchover a data center by changing the DNS mapping to the alternative data center. For example:

- Initial DNS mapping in Data Center 1:
  - FQDN of the Authorization token service is mapped to the public address of the Authorization token service in Data Center 1.
  - FQDN of the Avaya Aura® Web Gateway server is mapped to the public address of the Avaya Aura® Web Gateway server in Data Center 1.
  - FQDN of the AvayaMobileCommunications cluster is mapped to the public address of the AvayaMobileCommunications cluster in Data Center 1.
- DNS mapping for switchover in Data Center 2:
  - Change the DNS mapping of the Authorization token service FQDN to map to the public address of the Authorization token service in Data Center 2.
  - Change the DNS mapping of the Avaya Aura® Web Gateway server FQDN to map to the public address of the Avaya Aura® Web Gateway server in Data Center 2.
  - Change the DNS mapping of the AvayaMobileCommunications cluster FQDN to map to the public address of the AvayaMobileCommunications cluster in Data Center 2.

---

## Configuring Avaya Analytics™ Disaster Recovery

### Overview

Avaya Analytics™ disaster recovery provides a planned approach to re-establish critical services at a secondary data center when a complete outage occurs at the primary data center.

This section provides information on how to configure a geographically redundant Avaya Oceana®, so that when a primary data center outage occurs, the redundant site can be made operational.

In this configuration, two instances of Avaya Analytics™ are deployed in two separate data centers with Write Ahead Log (WAL) streaming between the operational reporting databases. With WAL streaming, the primary data center database continuously streams updates to the secondary data center.

Avaya Analytics™ also provides support for disaster recovery scenarios where you might lose the primary DB node in DC1 for an extended period of time and you want to configure your DC2 system to stream from the failed over replica node on DC1 instead of the default primary node.

### Analytics Geo Enhancements

The Analytics Geo solution is enhanced for Historical Reporting so that the custom reports and local users in the metadata are replicated from a primary DC to a secondary DC.

- Replication of Historical Reporting Local users in metadata to DC2.
- Replication of Historical Reporting custom reports in metadata to DC2.

 **Note:**

In this configuration where two instances of Avaya Analytics™ are deployed the Historical Reporting Administrator credentials must be identical as this is replicated between both DC1 and DC2.


 **Warning:**

If Geo Primary performs a full backup during a network outage and Geo Standby cannot access the NFS server on Geo Primary, Geo Standby loses the WAL archive sequence to catch up after the network outage is resolved.

Losing the WAL archive sequence to catch up causes the Geo alarm to trigger as the last update received on Standby exceeds the time limit.

Consequently, it is necessary to run the CCM analytics script on Geo Standby to recreate the standby system based on the new backup and WAL archives.

## Configuration Checklist

No.	Task	Description	
1.	Configure Avaya Analytics™ for Disaster Recovery	<a href="#">Configuring Avaya Analytics for Disaster Recovery</a> on page 76	
2.	Switch over from primary to secondary data center	<a href="#">Switching over from primary data center to secondary data center</a> on page 80	
3.	Reverse replication direction after switching from primary to secondary role	<a href="#">Reversing replication direction after switching from primary to secondary role</a> on page 82	

## Configuring Avaya Analytics™ for Disaster Recovery

### About this task

Use this procedure to configure geo-redundancy at the primary (Data Center1) and the standby site (Data Center2).

### Before you begin

Complete the Avaya Analytics™ deployment on Avaya Common Services.

During Avaya Analytics™ deployment on Avaya Common Services for DC1 and DC2 sites, ensure that the same passwords are employed for Postgres user, Measure Processor user, and Historical Reporting user in the spreadsheet as below:

- Postgres user:

ORCA tab - crunchydb:password

- Measure Processor user:

ORCA tab - crunchydb:encodedMpuserPassword

- Historical Reporting user:

MSTR tab - dbLogin:loginPW

ORCA tab - crunchydb:encodedMstuserPassword

Geo configuration synchronizes the passwords in the database. Therefore, if the implementation passwords do not match, the internal connection strings become invalid on DC2 after the Geo configuration.

### **Warning:**

When you configure Geo, you can take a backup. Restoring this backup later onto the Geo Primary system interferes with the Geo Standby functionality. Therefore, if you are restoring a full backup or incremental backup on Geo Primary, reconfigure Geo Standby to sync with the restored Geo Primary system.

### **Procedure**

1. To configure the primary data center, do the following:
  - a. Log in to the Cluster Control Manager (CCM) console in the DC1 cluster as the cust user.
  - b. To switch to the root user, enter `su`.
  - c. To run the `Analytics Administration` script as root user, use the following command:
 

```
ccm release orca analytics
```
  - d. To select the **Geo/High Availability** option, enter the corresponding number.
  - e. To select the **Geo Options** option, enter the corresponding number.
  - f. To configure the primary cluster, select **Configure Primary Geo cluster** by entering the corresponding number.
  - g. In the **Proceed to Primary Geo cluster config** field, enter `y`.
  - h. Enter **CCM IP address** of the Geo Standby cluster.
  - i. Enter the Username to login to ccm of the Geo Standby cluster(DC2).
  - j. Enter the password to login to ccm of the Geo Standby cluster(DC2) and click enter.

**\* Note:**

The script will take few minutes to run, meanwhile it returns **IP address** and **PV name**, make a note of it.

You must use this IP address and PV name for configuring the standby data center.

2. To return to the previous page, type `b` and press **Enter**.
3. To quit from the current page, type `q` and press **Enter**.
4. To return to the main menu, type `m` and press **Enter**.
5. Log in to the Cluster Control Manager (CCM) console in the DC2 cluster as the `cust` user.
6. To switch to the root user, enter `su`.
7. To disable firewall on DC2(Standby), do the following:

- a. Run `cluster_ssh`.

It displays the available nodes on the system. For example;

- a. `node164182.puneccq.avaya.com`
- b. `node164183.puneccq.avaya.com`
- c. `node164184.puneccq.avaya.com`

- b. Run the firewall config command for each node and exit.

**\* Note:**

The IP Address argument is the same IP provided as output from Geo Primary config.

- c. For example; Select [1].

```
Last login: Tue May 31 21:10:27 2022 from 135.27.164.178
DeployType=Cluster Node
[ccmuser@node164182 ~]$ sudo firewall-cmd --permanent --direct --add-rule
ipv4 filter OUTPUT 0 -o eth0 -d IP_Address -j ACCEPT
[ccmuser@node164182 ~]$ sudo systemctl restart firewalld
[ccmuser@node164182 ~]$ exit
```

8. To configure the standby data center, do the following:
  - a. Log in to the Cluster Control Manager (CCM) console in the DC2 cluster as the `cust` user.
  - b. To switch to the root user, enter `su`.
  - c. To run the `Analytics Administration` script as root user, use the following command:
 

```
ccm release orca analytics
```
  - d. To select the **Geo/High Availability** option, enter the corresponding number.
  - e. To select the **Geo Options** option, enter the corresponding number.

- f. To configure the standby cluster, select **Configure Standby Geo cluster** option by entering the corresponding number.
- g. In the **Proceed to Standby Geo cluster config** field, enter `y`.  
Entering `n` cancels the operation.
- h. At the prompt for IP address, enter the IP address and at the prompt of PV name, enter PV name that you noted while configuring the primary data center.

 **Note:**

The script will take few minutes to run.

9. To return to the previous page, type `b` and press **Enter**.
10. To quit from the current page, type `q` and press **Enter**.
11. To return to the main menu, type `m` and press **Enter**.

 **Note:**

Once the above steps are completed successfully the Analytics database and MicroStrategy database will start to sync.

The MSTR will not be accessible for standby data center.

## Configuring Avaya Analytics™ 4.x server details for real-time reporting

### About this task

Avaya Analytics™ provides producers and measures to Avaya Workspaces for use in real-time reporting dashboards. Using Avaya Workspaces, users can view real-time reporting dashboards to monitor up-to-date statistics for your contact center and resources.

You configure the Avaya Analytics™ 4.x server details in Avaya Control Manager so that Avaya Workspaces can receive data from Avaya Analytics™.

 **Important:**

Use this procedure only if your solution uses Avaya Analytics™ 4.x.

### Procedure

1. Log on to the Avaya Control Manager interface with administrator credentials.
2. On the Avaya Control Manager webpage, click **Configuration > Customer Engagement > Avaya Analytics™**.
3. On the **Avaya Analytics Server List** page, click **Add**.
4. In the **Alias** field, type an alias name for the Avaya Analytics™ 4.x server.
5. In the **API URL** field, type the URL that the Avaya Analytics™ 4.x server communicates with. For example, type `https://<AvayaOceanaCluster1_FQDN>/services/UCASStoreService/uca`.

 **Important:**

The URL must match the UCA URL configured on the Oceana Server List page. You can verify this URL by navigating to **Configuration > Avaya Oceana > Server Details**.

6. From the **Version** field, select the appropriate version for your release of Avaya Oceana®.
7. Select the **Enable Authorization** option.
8. Click **Save**.
9. On the Avaya Control Manager webpage, click **Configuration > Locations**.
10. On the Location List page, select the location where you want to add the Avaya Analytics™ server.
11. Click **Edit**, or double-click the location.
12. On the Location Edit page, select the **Systems** tab.
13. Click the **+** sign.
14. In the **System Type** field, select **Avaya Analytics**.  
The **System Name** field populates the name of the newly created Avaya Analytics™ server.
15. Click **Save**.
16. Click **Confirm** on the Warning message dialog box.
17. On the Avaya Control Manager webpage, click **Configuration > Customer Engagement > Avaya Analytics™**.
18. Select the check box for the Avaya Analytics™ 4.x server and click **Edit**.
19. Select the **Stream Servers** tab.
20. On the **Avaya Analytics Stream Server Add** page, click **Add**.
21. In the **Name** field, type a name for the Avaya Analytics™ 4.x server.
22. In the **FQDN** field, type the FQDN of the Avaya Analytics™ 4.x server. This is the cluster FQDN configured during deployment.
23. In the **Port** field, type `443/orca-streams-rest`.
24. Select the **TLS Flag** check box.
25. Click **Save**.

## Switching over from primary data center to secondary data center

### About this task

Using the following steps you can promote DC2 to primary role after DC1 failure. DC1 does not synchronize data after this operation until a rebuild from DC2 is available.

 **Note:**

You must perform this switch over only during a maintenance window.

**Before you begin**

Ensure that the secondary data center is on standby mode.

**Procedure**

1. Log in to the Cluster Control Manager (CCM) console as the customer user.
2. To switch to the root user, type `su` and press **Enter**.
3. To run the `Analytics Administration` script, use the following command:  

```
ccm release orca analytics
```
4. To select the **Geo/High Availability** option, enter the corresponding number.
5. To select the **Geo options** option, enter the corresponding number.
6. To select the **Switch over: Promote secondary data center database to primary** option, enter the corresponding number.

 **Warning:**

You must use this option only on the secondary data center.

7. In the **Proceed to Geo switchover**, enter `y`.  
 Entering `n` cancels the operation.
8. In the **Continuing will switch over this data center to Primary data center** field, type `y` and press **Enter**.  
 This operation is successful only when a server is available on standby mode.
9. To return to the previous page, type `b` and press **Enter**.
10. To quit from the current page, type `q` and press **Enter**.
11. To return to the main menu, type `m` and press **Enter**.  
 After successful completion of the above steps, do the following:
12. To restart below services using post install scripts, do the following:
  - a. Restart Measure Processors.  
 To run `Analytics Administration` script, use the following command:  

```
ccm release orca analytics.
```
  - b. Select **Troubleshooting > General > Restart Measure Processors**.  
 Wait till all the measure processors are up.
  - c. Restart `orca-scheduler` and `orca-admin-data-service`.
  - d. Restart `mstr` pods.

```
Run k delete pods -n mstr mstr-srv-- --force --grace-period=0
```

```
Run k delete pods -n mstr mstr-web-- --force --grace-period=0
```

13. To return to the previous page, type `b` and press **Enter**.
14. To quit from the current page, type `q` and press **Enter**.
15. To return to the main menu, type `m` and press **Enter**.

## Reversing replication direction after switching from primary to secondary role

### About this task

After a primary data center failure, when the Data Center1 (DC1) is functional and ready to resume contact processing, you must re-instate DC1 as the operational data center. The disaster recovery at Data Center2 (DC2) functions indefinitely as the primary after switchover.

#### **Note:**

You need a maintenance window to perform the recovery. During this maintenance window, traffic is shut down both in DC1 and DC2.

In this procedure, DC2 is the DC1, with no active replica after a failover.

### Procedure

1. On the DC2, which is currently the primary site, do the following on the Cluster Control Manager (CCM) console:
  - a. To run the `Analytics Administration` script as root user, use the following command:

```
ccm release orca analytics
```
  - b. To select the **Geo/High Availability** option, enter the corresponding number.
  - c. To select the **Geo options** option, enter the corresponding number.
  - d. To configure DC2 to start replicating data back to DC1, select the **Configure Primary Geo cluster** option by entering the corresponding number.
  - e. Make a note of the IP address and PV names that you receive at the end of this process.

#### **Note:**

The script will take few minutes to run, meanwhile it returns **IP address** and **PV name**.

You must use this IP address and PV name for configuring the standby data center.

2. On the DC1 to make it a standby, do the following on the Cluster Control Manager (CCM) console:
  - a. Log in to the Cluster Control Manager (CCM) console in the DC1 cluster as the cust user.
  - b. To switch to the root user, enter `su`.
  - c. To disable firewall on DC1(standby), do the following:
  - d. Run `cluster_ssh`.

It displays the available nodes on the system. For example;

- a. node164182.punecq.avaya.com
- b. node164183.punecq.avaya.com
- c. node164184.punecq.avaya.com
- e. Run the firewall config command for each node and exit.

**\* Note:**

The IP Address argument is the same IP provided as output from Geo Primary config.

- f. For example; Select [1].

```
Last login: Tue May 31 21:10:27 2022 from 135.27.164.178
DeployType=Cluster Node
[ccmuser@node164182 ~]$ sudo firewall-cmd --permanent --direct --add-rule
ipvs4 filter OUTPUT 0 -o eth0 -d IP Address -j ACCEPT
[ccmuser@node164182 ~]$ sudo systemctl restart firewalld
[ccmuser@node164182 ~]$ exit
```

3. To quit from the current page, type `q` and press **Enter**.
4. To run the `Analytics Administration` script as root user, use the following command:
5. To select the **Geo/High Availability** option, enter the corresponding number.
6. To select the **Geo options** option, enter the corresponding number.
7. To configure the primary cluster, select the **Configure Standby Geo cluster** option by entering the corresponding number.
8. In the **Proceed to Standby Geo cluster config** field, enter `y`.
9. At the prompt for IP address, enter the IP address and PV names that you noted from the secondary data center.

**\* Note:**

The script will take few minutes to run.

At this point, DC2 is primary and data is now replicating to DC1. To return DC1 to primary role, you must repeat the switch over process in the reverse order.

10. To return to the previous page, type `b` and press **Enter**.

11. To quit from the current page, type `q` and press **Enter**.
12. To return to the main menu, type `m` and press **Enter**.

 **Note:**

Once the above steps are completed successfully the Analytics database and MicroStrategy database will start to sync.

The MSTR will not be accessible for standby data center.

# Chapter 5: Planned Partial and Full Switchovers

---

## Planned switchover from DC1 to DC2

This chapter provides information and instructions to take DC1 out of production and into a shutdown or standby mode to perform a switchover to DC2.

Avaya Oceana® supports the following options for full and partial switchover operations during planned maintenance windows:

- Planned full switchover of all Disaster Recovery (DR) components of the solution - All components with a DR capability undergo a switchover.
- Planned partial switchover of Avaya Oceana® (Avaya Breeze® platform nodes and Omnichannel Database) - Customers do not have to switchover any of the following surrounding applications deployed with DR capabilities in an Avaya Oceana® and Avaya Analytics™ DR solution provided they are fully operational.
  - Avaya Aura® Communication Manager with ESS.
  - Avaya Control Manager with any of its supported HA or DR deployments.
  - Avaya Aura® Session Manager with a Geo-Redundant System Manager deployment.

### Planned full or partial switchover

You can perform a planned full or partial switchover even when there are no failures in any part of the solution. You can perform this activity in the following scenarios:

- To test the DR configuration and capabilities in the event of unexpected partial or full failures. Preventive testing enables failover and maintenance timeframes to be recorded based on individual customer configurations.
- Partial switchovers may be required to perform software and patch upgrades. Testing the DR capabilities of the Avaya Oceana® and Avaya Analytics™ components, supports the planning of scheduled maintenance times required to perform these activities.

### Advantages of performing a planned switchover

Planned maintenance windows are defined as customer-agreed time periods where the deployed solution is taken out of production and put into a shutdown or standby mode to perform a switchover and a switchback between the two parts of the DR solution.

There are several advantages of performing a planned switchover of Avaya Oceana® and Avaya Analytics™ DR solution:

- Existing contacts can be processed in a controlled manner.

- New contacts cannot enter into the system queue after the switchover procedures start.
- Logged-in agents can access the currently queued contacts.
- Active contacts can be cleared before the shutdown or failover in both primary and failover scenarios.
- Supervisor users logged in using Avaya Workspaces can view real-time reports and displays to ensure a graceful shutdown of all existing contacts.

## Partial and Full Switchover - Preparation and Validation

### Checklist for full or partial controlled switchover

The following is a checklist of lists the preparation and validation steps before you perform a full or partial controlled switchover:

**\* Note:**

The following preparation and validation steps are mandatory for full and partial controlled switchovers.

No.	Task	Description	✓
1	Prepare for switchover: Before starting any switchover operations on a production Avaya Oceana® and Avaya Analytics™ DR system, you must refer to several key documents.	See the following documents: <ul style="list-style-type: none"> <li>• <a href="#">Administering Avaya Aura® System Manager</a></li> <li>• <a href="#">Installing Avaya Control Manager</a></li> <li>• <a href="#">Administering Avaya Aura® Communication Manager</a></li> <li>• <a href="#">Administering Avaya Aura® Application Enablement Services</a></li> </ul>	
2	Plan and agree on maintenance window times and durations.	See <a href="#">Planned maintenance windows time and duration</a> on page 89.	

*Table continues...*

No.	Task	Description	✓
3	Validate identical software levels on the following applications across DC1 and DC2: <ul style="list-style-type: none"> <li>• Avaya Aura® System Manager</li> <li>• Avaya Control Manager</li> <li>• Avaya Aura® Communication Manager</li> <li>• AES</li> <li>• Avaya Oceana®</li> <li>• Avaya Analytics™</li> <li>• Avaya Breeze® platform</li> <li>• Omnichannel</li> </ul>	See <a href="#">Validate identical software levels</a> on page 89.	
4	Validate Avaya Oceana® solution replication before switchover.	See <a href="#">Validate Avaya Oceana components replication</a> on page 89.	
5	Validate Avaya Aura® System Manager primary to DR replication status and health status from DC1 to DC2 is fully operational.	<a href="#">Validate the System Manager primary to DR replication status</a> on page 90.	
6	Validate Avaya Aura® System Manager and Avaya Breeze® platform replication status to all Avaya Breeze® platform nodes in DC1 and DC2.	See <a href="#">Validate the System Manager and Avaya Breeze platform replication status</a> on page 91.	
7	Validate the Avaya Control Manager database HA deployment	See <a href="#">Validating the Avaya Control Manager database HA deployment</a> on page 91.	
8	Verify the Context Store replication status from DC1 to DC2.	See <a href="#">Verify the Context Store replication status</a> on page 91.	
9	Verify the Omnichannel database mirroring status from DC1 to DC2.	See <a href="#">Verifying the Omnichannel database mirroring status</a> on page 92.	
10	Verify Avaya Aura® Communication Manager to ESS data replications.	See <a href="#">Verifying Avaya Aura Communication Manager to ESS data replications</a> on page 92.	
11	Verify the Avaya Analytics™ DB Replication from DC1 to DC2.	See <a href="#">Verifying the Avaya Analytics DB replication from DC1 to DC2</a> on page 92.	
12	Validate snap-in shutdown or deployment status in the DR site.	See <a href="#">Validate Avaya Oceana snap-in shutdown or deployment status in DC1 and DC2</a> on page 93.	

Table continues...

No.	Task	Description	✓
13	Verify UCA replication status from DC1 to DC2.	See <a href="#">Verifying the UCA replication status</a> on page 93.	
14	Verify the deployment status of EmailService in DC2.	See <a href="#">Verifying the deployment status of EmailService in DC2</a> on page 94.	
15	Verify the shutdown status of CustomerControllerService in DC2.	See <a href="#">Verifying the shutdown status of CustomerControllerService in DC2</a> on page 95.	
16	Verify the shutdown status of MessagingService in DC2.	See <a href="#">Verifying the shutdown status of MessagingService in DC2</a> on page 95.	
17	Verify the shutdown status of GenericChannelAPI in DC2.	See <a href="#">Verifying the shutdown status of GenericChannelAPI in DC2</a> on page 96.	
18	Verify the deployment status of the AMC snap-in for Avaya WebRTC Connect.	See <a href="#">Verifying the deployment status of the AMC snap-in for Avaya WebRTC Connect</a> on page 96.	
19	Verify the CSC deployment status in DC1 and DC2.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Verifying the CSC deployment status in DC1</a> on page 97</li> <li>• <a href="#">Verifying the CSC deployment status in DC2</a> on page 97</li> </ul>	
20	Launch Oceana Monitor for DC1 and DC2 locations and verify there are no un-deployed PUs across all Oceana clusters.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Launch Oceana Monitor for DC1 and DC2 locations and verify PUs</a> on page 97</li> <li>• <a href="#">Viewing Oceana Monitor Service pages</a> on page 98</li> <li>• <a href="#">Oceana Services Overview page</a> on page 98</li> <li>• <a href="#">Monitor Service page</a> on page 98</li> </ul>	

## Planned maintenance windows time and duration

Planned maintenance windows require planning and scheduling. During the planned maintenance window, the solution is out of operation for some time. Times for switchover and switchback vary depending on whether a partial or full DR switchover or switchback is implemented.

## Validate identical software levels

The software versions and levels on primary and DR sites must be identical for planned switchover and switchback testing.

You must validate the following applications and platforms:

- Avaya Aura® System Manager
- Avaya Control Manager
- Avaya Breeze® platform
- Avaya Aura® Communication Manager and ESS
- Avaya Aura® Application Enablement Services
- Avaya Analytics™
- Avaya Oceana® Snap-ins

- Snap-in versions on primary and DR must be identical before starting a switchover.

There may be different software versions during the upgrade process for software upgrade maintenance windows. Ensure that DC1 and DC2 applications are at the same software release version before you re-enable solution replication from each application in DC1 to DC2. The software versions of the applications in DC1 and DC2 must be the same for replication to work between the two applications.

Create a table to record the software versions of each application for primary and DR sites. This step is unnecessary for unplanned maintenance windows due to application failures.

## Validate Avaya Oceana® components replication

Before any planned switchover from a primary to a Disaster Recovery (DR) site, you must verify that the health status of the applications replicating data from the primary to the DR site is completely operational.

The following Avaya Oceana® core applications replicate data from the primary site to the DR site:

- Unified Collaboration Administration (UCA)
- System Manager and Avaya Breeze® platform replication
- Avaya Context Store Snap-in (CS)
- Omnichannel database using CACHE mirroring

The following surrounding applications in Avaya Oceana® replicate data from the primary to the DR site:

- Avaya Aura® System Manager primary to System Manager Geo in the DR location

- Avaya Control Manager database replication from primary to DR location
- Avaya Aura® Communication Manager from primary to DR ESS

 **Important:**

Validate the replicating function of all these replicating applications before a partial or a full DR switchover. If you do not validate, it leads to issues during the switchback process.

## Validate the System Manager primary to DR replication status

### About this task

For any planned partial or full DR switchover and switchback, you must verify the health status of the System Manager replication state between the primary System Manager and the DR System Manager.

### Procedure

1. On the primary System Manager web console, in the **Application State** widget, verify the following states:
  - GR Server Role is PRIMARY
  - GR Server Mode is ACTIVE
  - GR Replication is ENABLED

2. Click **Services > Geographic Redundancy > GR Health**.

Verify the following elements are in a Successful state and in green:

- Database Replication
- File Replication
- Directory Replication

If any element is in red and is in a Failure or Stopped state, do not proceed with the switchover. Contact the system administrator to correct any problems.

3. On the DR System Manager web console, in the **Application State** widget, verify the following states:
  - GR Server Role is SECONDARY
  - GR Server Mode is STANDBY
  - GR Replication is ENABLED

4. Verify the status of elements in **GR Health**.

If any element is in red and is in a Failure or Stopped state, do not proceed with the switchover. Contact the system administrator to correct any problems.

## Validate the System Manager and Avaya Breeze® platform replication status

### About this task

For a planned switchover and switchback testing, you must check replication between System Manager and Avaya Breeze® platform components.

### Procedure

1. On the System Manager web console, click **Services > Replication**.
2. Validate that the synchronization status of all replica groups is **Synchronized**.  
System Manager displays the word **Synchronized** in green.
3. Click **Avaya Breeze replica group**.
4. Check if the **Breeze Node Synchronization** status is in the **Synchronized** state and that the synchronization date is one month or less from the current date.

If any Avaya Breeze® platform element displays the status as **Synchronizing** or **Repairing**, wait until the process completes and the status is **Synchronized**. If any Avaya Breeze® platform node is not synchronized, do not proceed with the switchover process until you address the issue.

## Validating the Avaya Control Manager database HA deployment

For all switchovers, you must verify that the Avaya Control Manager database HA feature is operational before proceeding with the switchover.

### \* Note:

Avaya Control Manager offers many multiplex high-availability configuration features. The configurations include load balancing and database-enabled features. For more information on multiplex high availability configuration features, see [Multiplex high availability configuration](#).

## Verify the Context Store replication status

### About this task

To verify if Context Store replication is functioning between primary and DR sites, you can use Oceana Monitor to validate the presence of the Context Store replication gateway PU.

Optionally, you must also create a context to verify that the replication is working.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. In the drop-down list next to the Primary Avaya Oceana® Cluster 1, select **Oceana Monitor**.
3. On the Monitor Service page, click **Cluster 1 > Grid Info** and wait for the pop-up to display the status of all snap-in PUs.
4. Verify that the PU **cs-gateway** is present with status `INTACT`.

If it is not present or has a status `Scheduled` or `Broken`, it indicates that the Context Store replication is not operational. You must resolve this issue before proceeding with the switchover.

5. Repeat steps 1 to 4 for Avaya Oceana® Cluster 1 in Data Center 2.
6. Create a context in DC1 Context Store.

Context Store provides a Postman collection of API calls that can be used for all context operations, such as creating and retrieving contexts from Context Store. You can download the Postman collection from **Products > Avaya Oceana Solution > Context Store Snapin > Select Release > Downloads** at [www.devconnectprogram.com](http://www.devconnectprogram.com).

7. Verify that the context is present in DC1 Context Store and in DC2 Context Store.

## Verifying the Omnichannel database mirroring status

### About this task

To verify that data from the primary Omnichannel database is mirrored to the DR site, you must use the Oceana Data Management (ODM) tool to check the mirroring status.

Use this procedure to verify the database mirroring status using the ODM tool.

### Procedure

1. Connect to the primary Omnichannel database server.
2. Launch the Oceana Data Management (ODM) tool.
3. Log in as an administrator.
4. Navigate to **Configuration > Mirror Settings**.

The Mirror Status window shows the current mirroring status for all mirror members, including the primary Omnichannel database and the DR Omnichannel database.

## Verifying Avaya Aura® Communication Manager to ESS data replications

You must perform administration configurations on the primary Avaya Aura® Communication Manager to verify that any data from the primary communication manager is replicated to the ESS in the DR site. Run a save translation command, login to the ESS server, and verify if the change is available on the ESS system.

For more information on administration configurations on Avaya Aura® Communication Manager, see the *Avaya Communication Manager Administrator* document.

## Verifying the Avaya Analytics DB replication from DC1 to DC2

### About this task

Use this procedure to verify the replication status between primary and replica pods on DC1 and between DC1 and DC2.

### Procedure

1. Log in to the Cluster Control Manager (CCM) console as the customer user.

2. To switch to the root user, type `su` and press **Enter**.
3. To run the `Analytics Administration` script, use the following command:  

```
ccm release orca analytics
```
4. To select the **Troubleshooting** option, enter the corresponding number.
5. To select the **Database** option, enter the corresponding number.
6. To check the status of Crunchy pod replication, enter the corresponding number.

Verify that the output shows a successful connection to the remote cluster and there are no warnings about a time lag in replication.

## Validate Avaya Oceana<sup>®</sup> snap-in shutdown or deployment status in DC1 and DC2

Before any planned switchover from a primary to a Disaster Recovery (DR) site, you must validate the deployment status of Avaya Oceana<sup>®</sup> snap-ins and the configured attribute values. There can be previous switchovers and switchbacks where attributes are modified as part of these processes. It is important to validate these attribute values for channel snap-ins. Otherwise, this impacts a successful switchover process and requires manual intervention to correct any issues. Validating the attribute values also requires an additional restart of the Avaya Oceana<sup>®</sup> clusters to complete the switchover.

## Verifying the UCA replication status

### About this task

Use this procedure to verify that UCA replication is operational and the test attribute is replicated to the DR instance.

When you make an administrative change using the primary Avaya Control Manager, the changes are replicated from the primary UCA to the DR UCA.

### Important:

Ensure that there are no active UCA alarms. If there are any active UCA alarms, resolve them before the switchover.

### Procedure

1. Log on to the System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Cluster Administration > Primary Cluster**.
3. In the **Cluster** field, select **Oceana Monitor**.
4. To view the PU status of all the snap-ins, select **Cluster 1 > Grid Info**.
5. Verify if the PU status of **ucaStoreSpace-GATEWAY** is `INTACT`.

If the status is `Scheduled` or `Broken`, UCA replication is not operational.

You must correct the issue before proceeding with the switchover.

6. On the primary site, in the **Show Cluster Messages** tab, select the **UCAStoreService** PU.
7. Verify that the `HEARTBEAT` message for the replication channel state is `ACTIVE`.
8. Repeat steps 1 to 6 for Avaya Oceana® Cluster 1 in Data Center 2.

 **Note:**

On the **Cluster Messages** tab, in **UCAStoreService** messages, check the time of the last cluster DB updated message on all nodes on the Primary and the DR site.

 **Important:**

Perform the subsequent steps after successfully completing steps 1 to 6.

9. Log on to the Avaya Control Manager on DC1.
10. Add a new test attribute and save the attribute to the primary UCA instance.

For more information on creating a new test attribute, see the *Adding Attributes to Avaya Control Manager* section in *Deploying Avaya Oceana®*.

 **Note:**

If the test attribute does not appear, UCA replication is not operational from primary to DR or the request to save a new attribute to the primary UCA server is not successful. Ensure that you correct these issues before proceeding with the switchover.

11. Reload the cluster message, select **UCAStoreService**, and check the new time of the cluster DB updated message.

The time of the updated message must coincide with the newly added attribute.

## Verifying the deployment status of EmailService in DC2

### About this task

The EmailService snap-in handles email contacts within the Avaya Oceana® solution.

Before the switchover to the DR site, ensure that the deployment status attribute in the DR site for the EmailService snap-in is set as `false`.

If the email channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
3. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR Avaya Oceana® Cluster 3.
  - b. **Service:** Select **EmailService**.

4. In the **Deployment status of emailmanager** attribute, verify if the value of this field is set to `false`.

If this field is set to `true`, set it to `false` and commit the change.

If you change this value to `true`, there is no need to reboot Avaya Oceana® Cluster 3.

## Verifying the shutdown status of CustomerControllerService in DC2

### About this task

The CustomerControllerService snap-in handles chat contacts within the Avaya Oceana® solution.

Before the switchover to the DR site, ensure that the shutdown mode status attribute in the DR site for the CustomerControllerService snap-in is set as `true`.

If the chat channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
3. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR Avaya Oceana® Cluster 3.
  - b. **Service:** Select **CustomerControllerService**.
4. In the **Shutdown Mode** attribute field, verify if the value of this field is set to `true`.

If you change this value to `true`, there is no need to reboot Avaya Oceana® Cluster 3.

## Verifying the shutdown status of MessagingService in DC2

### About this task

The MessagingService snap-in handles Avaya Oceana® channel snap-ins such as the SMS, Social, or Async channels.

Before the switchover to the DR site, ensure that the shutdown mode status attribute in the DR site for the MessagingService snap-in is set as `true`.

If SMS, Social, or Async channels are not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
3. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR Avaya Oceana® Cluster 3.
  - b. **Service:** Select **MessagingService**.

4. In the **Shutdown Mode** attribute field, verify if the value of this field is set to `true`.

If you change this value to `true`, there is no need to reboot Avaya Oceana® Cluster 3.

## Verifying the shutdown status of GenericChannelAPI in DC2

### About this task

The GenericChannelAPIService snap-in injects generic contacts into Avaya Oceana®.

Before the switchover to the DR site, ensure that the shutdown mode status attribute in the DR site for this snap-in is set as `true`, while the primary site is in production.

If the Generic channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
3. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR Avaya Oceana® Cluster 3.
  - b. **Service:** Select **GenericChannelAPIService**.
4. In the **Shutdown Mode** attribute field, verify if the value of this field is set to `true`.

If you change this value to `true`, there is no need to reboot Avaya Oceana® Cluster 3.

## Verifying the deployment status of the AMC snap-in for Avaya WebRTC Connect

### About this task

The Avaya Mobile Communications (AMC) snap-in enables WebRTC Connect voice and video contacts to enter Avaya Oceana®.

You must verify the deployment status of the AMC snap-in Processing Unit (PU) to ensure that the snap-in is active and operational before the switchover.

If the WebRTC Connect channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. Log on to System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration > DR Cluster 1**.
3. In the **Cluster** field, select **Oceana Monitor**.
4. To view the PU status of all the snap-ins, select **Cluster 2 > Grid Info**.

Verify if the PU status is `Intact`. If the status is `Scheduled` or `Broken`, the AMC snap-in is not operational. You must resolve the issue before proceeding with the switchover.

Otherwise, when the switchover is complete, WebRTC Connect voice or video contacts will not be routed in Avaya Oceana®.

5. Click **Show Cluster Messages** and click the AMC snap-in.

Verify that there are no alarms or errors.

## Verifying the CSC deployment status in DC1

### About this task

Use this procedure to verify the deployment status for the CallServerConnector (CSC) PU on DC1.

### Procedure

1. In your web browser, enter the following URL to view the Monitor Service page:  
`https://<Cluster IP>/services/OceanaMonitorService/monitor.html`
2. On the Monitor Service page, click **Cluster 1 > Show cluster Messages**.  
The page displays all the PUs in Cluster 1.
3. From the **Filters** column, select the **CallServerConnector** PU.
4. Verify that the HEARTBEAT message for the **CallServerConnector** PU is **INTACT**.

## Verifying the CSC deployment status in DC2

### About this task

Use this procedure to verify the deployment status for the CallServerConnector (CSC) PU on DC2.

### Procedure

1. In your web browser, enter the following URL to view the Monitor Service page:  
`https://<Cluster IP>/services/OceanaMonitorService/monitor.html`
2. On the Monitor Service page, click **Cluster 2 > Show cluster Messages**.  
The page displays all the PUs in Cluster 2 (DR Cluster).
3. From the **Filters** column, select the **CallServerConnector** PU.
4. Verify that the HEARTBEAT message for the **CallServerConnector** PU is **ACTIVE**.

## Launch Oceana Monitor for DC1 and DC2 locations and verify PUs

Launch Oceana Monitor for DC1 and DC2 locations and verify there are no un-deployed PU's across all Oceana clusters.



## Viewing Oceana Monitor Service pages

### Procedure

1. In your web browser, enter the following URL to view the Monitor Service page:  
`https://<Cluster IP>/services/OceanaMonitorService/monitor.html`
2. On the Monitor Service page, click the cluster node to view the information about the cluster.
3. In your web browser, enter the following URL to view the Oceana Services Overview page:  
`https://<Cluster IP>/services/OceanaMonitorService/services.html`

## Oceana Services Overview page

The Oceana Services Overview page provides the following information about each snap-in of Avaya Oceana®:

- Name of the snap-in
- Symbol specifying whether Oceana Monitor Service has detected the snap-in
  - The  symbol indicates that Oceana Monitor Service has detected the snap-in.
  - The  symbol indicates that Oceana Monitor Service has not detected the snap-in.
- Version of the snap-in
- Name of the cluster where the snap-in is installed
- Latest Heartbeat message of the snap-in

The Heartbeat message includes the node reporting the Heartbeat, the status level of the Heartbeat (OK, WARN, ERROR), and the time since the last update. Heartbeat background indicates the status of the Heartbeat.

## Monitor Service page

The Monitor Service page provides the following information about each cluster of Avaya Oceana®:

- Name of the cluster
- IP address of the cluster
- Number of nodes in the cluster
- IP address of each node of the cluster
- Cluster view of the snap-ins installed
- View of snap-in lifecycle messages

When you click the cluster node, the Monitor Service page displays the following buttons:

Button name	Description
Show Node Details	Displays information about the nodes of the cluster.

*Table continues...*

Button name	Description
<b>Show Grid Info</b>	Displays the following information about the processing units of the cluster: <ul style="list-style-type: none"> <li>• Name of the processing unit</li> <li>• Embedded space of the processing unit</li> <li>• Number of instances</li> <li>• Type of the processing unit</li> <li>• Status of the processing unit</li> </ul>
<b>Show Cluster Messages</b>	Displays the service messages for all the snap-ins installed on the cluster.
<b>Show Service Details</b>	Displays the following information about each of the snap-ins installed on the cluster: <ul style="list-style-type: none"> <li>• Name of the snap-in</li> <li>• Version of the snap-in</li> <li>• Service messages of the snap-in</li> </ul>

## Partial controlled switchover

### Checklist for Partial Controlled Switchover

The following checklist provides the list of steps to perform a Partial Controlled Switchover.

No.	Task	Description	✓
1	Configure the primary site voice channel shutdown.	See <a href="#">Configure the primary site voice channel shutdown</a> on page 100.	
2	Configure the primary site email shutdown.	See <a href="#">Configure the primary site email shutdown</a> on page 101.	
3	Configure the primary site chat shutdown.	See <a href="#">Configure the primary site chat shutdown</a> on page 102.	
4	Configure the primary site MessagingService shutdown.	See <a href="#">Configure the primary site MessagingService shutdown</a> on page 102.	
5	Configure the primary site GenericChannelAPI service shutdown.	See <a href="#">Configure the primary site GenericChannelAPI service shutdown</a> on page 103.	

*Table continues...*

No.	Task	Description	✓
6	Take a backup of UCMSERVICE deferred email data.	See <a href="#">Backing up the UCMSERVICE database during planned switchover and switchback</a> on page 104.	
7	Set the maintenance mode for front end web voice and web video.	See <a href="#">Setting the maintenance mode for front end web voice and web video</a> on page 106.	
8	Switch to DR site Oceana and POM system.	See <a href="#">Oceana POM switchover</a> on page 106.	
9	Validate contacts in DC1.	See <a href="#">Validating contacts</a> on page 106.	
10	Log out supervisors and agents from DC1.	See <a href="#">Logging out supervisors and agents</a> on page 106.	
11	Change the cluster activity status for clusters in DC1.	See <a href="#">Changing the Cluster Activity status for the clusters in Data Center 1</a> on page 106.	
12	Switch over the Omnichannel database server in the primary site DC1 to the Omnichannel database server in the DR site DC2.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Omnichannel database switchover</a> on page 107</li> <li>• <a href="#">Promoting Omnichannel server in DC2</a> on page 107</li> <li>• <a href="#">Pointing ACM to the new Omnichannel database server in DC2</a> on page 108</li> </ul>	
13	Switch over Avaya Analytics™ from DC1 to DC2.	See <a href="#">Switching over Avaya Analytics from DC1 to DC2</a> on page 109.	

## Configure the primary site voice channel shutdown

### About this task

For a planned shutdown of the PSTN voice channel, the following are the two methods to shutdown incoming voice contacts from the front-end options supported in Avaya Oceana®.

- For Avaya Oceana® deployments with a front-end application running on Avaya Experience Portal, a flag is used at the start of the workflow for startup or shutdown operations. Using this flag, the administrator can redirect incoming voice calls to an automated response. The automated response rejects the incoming call or transfers the calls to an alternate call handling mechanism. The Avaya Oceana® 3. x Avaya Experience Portal based sample voice application contains sample code to implement this using Call Application Variables (CAVs) which specify which data center is operational at any given time. Setting this flag to any of the data center ensures incoming PSTN voice contacts are only routed to that data center. This is a simple and effective method to turn on or turn off incoming voice to an Avaya Oceana® DR system.
- For Avaya Oceana® deployments with Call Center Elite as front end, a CM variable indicating Avaya Oceana® in service or out of service is configured and checked on new incoming voice

contacts. If the flag is set to indicate out of service, then new incoming voice contacts are routed to alternate fallback options until the switchover to the DR infrastructure is complete.

You can skip these instructions if you do not have PSTN channel deployed on Avaya Oceana®.

### Procedure

1. Log in to the Avaya Experience Portal web portal with the Administrator user role.
2. In the navigation pane, click **System Configuration > Applications**.
3. Select the application you want to modify, and click **Configurable Application Variables**.
4. In the **Active Data Center** field, click **DataCenter2**.
5. Click **Save**.

New incoming voice contacts arriving at the application in the Avaya Experience Portal, are routed to the Avaya Oceana® system in the DR location.

## Configure the primary site email shutdown

### About this task

For a planned switchover of EmailService, you must change the deployment status. An Avaya Oceana® administrator with access to System Manager can change the status. Failure to shut down the email service in the primary site means that all incoming emails to Avaya Oceana® monitored mailboxes are queued by the primary email service after switchover is complete.

For a planned switchover of EmailService, an administrator must shut down EmailService on primary site by using a flag in Avaya Oceana® Cluster 3. When the administrator shuts down the EmailService:

- New emails are not retrieved from the email server.
- Outgoing emails are queued within the Cache database.

After completing the switchover process, EmailService processes all emails in the DR site and sends the outgoing emails from the DR site.

If you do not have email channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **EmailService**.
3. In **Deployment status of emailmanager**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `true` to `false`.

4. Click **Commit**.

## Configure the primary site chat shutdown

### About this task

For a planned switchover, the administrator can manually stop chat contacts from entering the Avaya Oceana® and allow existing contacts to get processed out of the system.

If you do not have chat channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **CustomerControllerService**.
3. In **Shutdown Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

#### **Note:**

You must configure the customer deployed chat front-end application to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each chat deployment can utilize different methods to integrate to the Oceana back-end systems.

## Configure the primary site MessagingService shutdown

### About this task

For a planned switchover, the administrator can manually stop SMS, Social, and Async contacts from entering the Avaya Oceana® solution and enable the existing contacts to get processed out of the system.

If you do not have SMS, Social, and Async channels deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **MessagingService**.

3. In **Shutdown Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

 **Note:**

You must configure the customer deployed Social Media, SMS, or Async front-end applications to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each deployment can utilize different methods to integrate to the Oceana back-end systems.

## Configure the primary site GenericChannelAPI service shutdown

### About this task

For a planned switchover, the administrator can manually stop new generic contacts from entering the Avaya Oceana® and allow existing contacts to get processed out of the system.

An administrator must set the primary site GenericChannelAPI service on Avaya Oceana® Cluster 3 to True.

If you do not have generic channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **GenericChannelAPI**.
3. In **Shutdown Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

 **Note:**

You must configure the customer deployed Generic Channel front-end application to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each generic channel deployment can utilize different methods to integrate to the Oceana back-end systems.

## UCMService Backup and Restore Procedures

### Backing up the UCMService database during planned switchover and switchback

#### About this task

UCMService stores the metadata related to deferred emails. UCMService requires this data to retrieve expired deferred emails and route them back to the appropriate agent. The information is updated in real-time.

You must take backups during the following events:

- Planned switchover and recovery
- Unplanned switchover and recovery

#### \* Note:

You can skip the procedure for the following:

- The email channel is not deployed at this installation, and, therefore, there are no deferred email capabilities.
- The partial or full DR switchover is for test purposes, and do not keep new UCM data post switch back to the primary site.
- You are not restoring the UCM DB from the DR site.

Use this procedure to take a manual backup of the UCMService database during planned switchover and switchback.

#### Before you begin

Ensure that all agents are logged out of their accounts.

#### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From **Backup and Restore**, select **Configure**.  
System Manager displays the **Backup Storage Configuration** page.
3. In the **FQDN or IP Address** field, enter the FQDN or IP Address of the backup storage server.
4. In the **Login** field, enter the user name that you use to log in to the backup storage server.
5. In the **Password** field, enter the password that you use to log in to the backup storage server.
6. In the **SSH Port** field, enter the port number of the backup storage server.
7. In the **Directory** field, enter the path to a directory in the backup storage server.
8. In the **Retained backup copies per cluster per snap-in DB** field, specify the maximum number of backup file copies to retain on the backup storage server.

If you do not specify any value, the backup storage server retains all backup files.

9. Click **Commit**.
10. Select the check box for Avaya Oceana® Cluster 1.
11. From **Backup and Restore**, select **Backup**.  
System Manager displays the Cluster DB Backup page.
12. On the **Cluster Database Backup** confirmation dialog box, select the **UCMService** check box, and click **Continue**.
13. In **Backup Password**, enter a password for the backup.

 **Important:**

Note the password entered. You will require this password to restore the UCMService.

14. In **Schedule Job**, click **Run immediately**.
15. Click **Backup**.
16. After the backup process is complete, verify the **Status** column on the **Backup and Restore Status** page. The status must display *Completed*.

## Restoring the UCMService data for Avaya Oceana® Cluster 1 in Data Center 2

### About this task

Use this procedure to restore a UCMService database backup to the DR Avaya Oceana® site.

If the email channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Before you begin

- Ensure that all agents are logged out of their accounts.
- Ensure that the state of Avaya Oceana® Cluster 1 and Avaya Oceana® Cluster 3 is *Deny New Service*.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From **Backup and Restore**, select **Restore**.
3. On the Backup and Restore Status page, in the Backup and Restore Jobs section, select the check box for the latest backup file and click **Restore**.
4. On the Cluster Database Restore Confirmation dialog box, select Avaya Oceana® Cluster 1 and click **Continue**.
5. On the Backup and Restore Status page, ensure that the **Status** column for the restore operation displays the value *Completed*.
6. Install UCMService on Avaya Oceana® Cluster 1.

7. Reboot Avaya Oceana® Cluster 1 and then Avaya Oceana® Cluster 3.

## Setting the maintenance mode for front end web voice and web video

For a planned switchover, you must modify the front-end web portals that host the Avaya WebRTC Connect voice or video capabilities to indicate to the end users that the service is temporarily unavailable. Use a flag to toggle between in service and out of service.

## Oceana POM switchover

The Oceana POM Outbound solution does not support disaster recovery. Therefore, you must stop all running campaigns on the primary Proactive Outreach Manager server before switching to the DR site Oceana and POM system.

For more information about switching over and restarting Proactive Outreach Manager, see *Implementing Avaya Proactive Outreach Manager*.

## Validating contacts

For a planned switchover, you must ensure that new contacts do not arrive into the primary Avaya Oceana® once the shutdown process starts. You must also close any Queued or In Progress contacts which an agent is processing. To check if the status of all the current contacts for all channels are Processed and Closed, log in as an Avaya Oceana® supervisor and use Avaya Analytics™ real time displays. For more information, refer Avaya Oceana® and Avaya Analytics™ documentation suite.

## Logging out supervisors and agents

For a planned switchover, ensure that all Avaya Oceana® agents are logged out. Supervisors can verify using **My team** widget. Supervisors must co-ordinate locally to ensure that the agents are logged out. Supervisors must then logout.

## Changing the Cluster Activity status for the clusters in Data Center 1

### Before you begin

Ensure OceanaMonitorService is installed on the clusters in Data Center 1.

### Procedure

1. Open the Oceana Manager page by entering the following URL in your web browser:

```
https://<DataCenter1_AvayaOceanaCluster1_FQDN>/services/  
OceanaMonitorService/manager.html?affinity=)
```

**!** Important:

Create a bookmark of this URL in your web browser, so that you can open the Oceana Manager page even when System Manager is unavailable.

2. **(Optional)** To open the Oceana Manager page through System Manager, do the following:
  - a. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
  - b. On the Cluster Administration page, in the **Service URL** column for Avaya Oceana® Cluster 1, select **Oceana Manager**.
3. Log in to Oceana Manager using an Admin account.
4. On the Oceana Manager page, do the following:
  - a. Verify that the status of the clusters is `ACTIVE`.
  - b. Click **Set Cluster Group to Standby**.
 

The cluster status changes to `STANDBY` and all nodes are placed in the Deny New Service mode.
  - c. Click **OK** on the confirmation message box.
  - d. Wait for 5-10 minutes for the Oceana Manager page to display the updated status.
  - e. **(Optional)** If the Oceana Manager page does not display the updated status after some time, click **Refresh**.
  - f. Refresh the Clusters page in Avaya Breeze® platform and validate that all the clusters in the primary site are in Deny state.

## Omnichannel database switchover

You can manually switchover the Omnichannel database server in the primary site Data Center 1 to the Omnichannel database server in the DR site Data Center 2 in partial or full DR switchover scenarios.

**\* Note:**

Do not restart the cluster. You can perform switchover from:

- A single active server in Data Center 1 to the async Omnichannel server in Data Center 2.
- An active or standby server in Data Center 1 to the async server in Data Center 2.

## Promoting Omnichannel server in DC2

### About this task

Use this procedure to promote the async server in the DR site when the active server in primary and async server in DR location is available, and mirroring is operational for planned maintenance windows. You can use this procedure irrespective of whether a dual server pair is deployed on the primary site.

## Procedure

On Server C in the DR site, do the following:

1. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDataManagement` folder.
2. Double-click `OceanaDataManagementTool.exe`.
3. In the Oceana Data Management utility, click **Backup And Restore**.
4. In the navigation pane, expand the **Backup And Restore** node, and then click **Backup And Restore**.
5. Click **Mirror Configuration**.
6. In the **Select Mirror Scenario** field, select `Switchover Cache up on both servers - DR server`.
7. Click **Execute**.
8. Set up Avaya Control Manager (ACM) to point to the new Omnichannel database primary server.

For more information on setting up the ACM to point to the new Omnichannel database, see [Pointing ACM to the new Omnichannel database server in DC2](#) on page 108.

## Pointing ACM to the new Omnichannel database server in DC2

### About this task

Use this procedure to set up Avaya Control Manager to point to the new Omnichannel database primary server.

### Procedure

1. Log on to Avaya Control Manager.
2. Navigate to **Configuration > Avaya Oceana™ > Server Details**.
3. Double-click the administered Avaya Oceana® server or select the administered Avaya Oceana® server and click **Edit**.
4. Click the **System Properties** tab.
5. Expand **Omni Channel**.
6. In **Omni Channel Database Server**, enter the name, host name, or IP address of the Omnichannel Database DR server (Server C) as administered in the HTTPS certificate installed on the Omnichannel Database server. The name must match the name on the certificate, and the certificate must also be trusted to avoid any certificate errors.

For more information on configuring the Omnichannel certificate, refer to the *Retrieve certificate files* section in the *Deploying Avaya Oceana®* document.

## Switching over Avaya Analytics™ from DC1 to DC2

### About this task

Using the following steps you can promote DC2 to primary role after a fail over. DC1 does not synchronize data after this operation until a rebuild from DC2 is available.

#### **Note:**

You must perform this switch over only during a maintenance window.

### Before you begin

Ensure that the secondary data center is on standby mode.

### Procedure

1. Log in to the Cluster Control Manager (CCM) console as the customer user.
2. To switch to the root user, type `su` and press **Enter**.
3. To run the `Analytics Administration` script, use the following command:  
`ccm release orca analytics`
4. To select the **Geo/High Availability** option, enter the corresponding number.
5. To select the **Geo options** option, enter the corresponding number.
6. To select the **Switch over: Promote secondary data center database to primary** option, enter the corresponding number.

#### **Warning:**

You must use this option only on the secondary data center.

7. In the **Proceed to Geo switchover**, enter `y`.  
Entering `n` cancels the operation.
8. In the **Continuing will switch over this data center to Primary data center** field, type `y` and press **Enter**.  
This operation is successful only when a server is available on standby mode.
9. To return to the previous page, type `b` and press **Enter**.
10. To quit from the current page, type `q` and press **Enter**.
11. To return to the main menu, type `m` and press **Enter**.

## Full controlled switchover

### Checklist for Full Controlled Switchover

The following checklist provides the list of steps to perform a Full Controlled Switchover.

No.	Task	Description	✓
1	Shut down and switchover to DR site voice channel.	See <a href="#">Shut down and switchover to DR site voice channel</a> on page 111.	
2	Switch over from Avaya Aura® Communication Manager to ESS in the DR site.	See <a href="#">Switchover from Avaya Aura Communication Manager to ESS in DR site</a> on page 112.	
3	Configure the primary site voice channel shutdown.	See <a href="#">Configure the primary site voice channel shutdown</a> on page 113.	
4	Switch over voice channels from DC1 to DC2.	See <a href="#">Switching over Voice Channels from Avaya Oceana DC1 to Avaya Oceana DC2</a> on page 113.	
5	Configure the primary site email shutdown.	See <a href="#">Configure the primary site email shutdown</a> on page 116.	
6	Configure the primary site chat shutdown.	See <a href="#">Configure the primary site chat shutdown</a> on page 117.	
7	Configure the primary site MessagingService shutdown.	See <a href="#">Configure the primary site MessagingService shutdown</a> on page 118.	
8	Configure the primary site GenericChannelAPI service shutdown.	See <a href="#">Configure the primary site GenericChannelAPI service shutdown</a> on page 118.	
9	Restore UCMSvc after switchover	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Backing up the UCMSvc database during planned switchover and switchback</a> on page 119.</li> <li>• <a href="#">Restoring the UCMSvc data for Avaya Oceana Cluster 1 in Data Center 2</a> on page 120.</li> </ul>	
10	Set the maintenance mode for front end web voice and web video.	See <a href="#">Setting the maintenance mode for front end web voice and web video</a> on page 121.	
11	Switch over Oceana and POM system to the DR site.	See <a href="#">Oceana POM switchover</a> on page 121.	
12	Validate contacts in DC1.	See <a href="#">Validating contacts</a> on page 121.	

Table continues...

No.	Task	Description	✓
13	Log out supervisors and agents from DC1.	See <a href="#">Logging out supervisors and agents</a> on page 122.	
14	Switch over System Manager from DC1 to DC2 Geo System Manager.	See <a href="#">Switchover System Manager from DC1 to DC2 Geo System Manager</a> on page 122.	
15	Change the cluster activity status for clusters in DC2.	See <a href="#">Changing cluster activity status for clusters in Data Center 2</a> on page 126.	
16	Verify Avaya Breeze® platform node controller for Data Center 2.	See <a href="#">Verifying Avaya Breeze platform node controller for Data Center 2</a> on page 127.	
17	Switch over the Omnichannel database server in the primary site DC1 to the Omnichannel database server in the DR site DC2.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Omnichannel database switchover</a> on page 127.</li> <li>• <a href="#">Promoting Omnichannel server in DC2</a> on page 127.</li> <li>• <a href="#">Pointing ACM to the new Omnichannel database server in DC2</a> on page 128.</li> </ul>	
18	Switch over Avaya Analytics™ from DC1 to DC2.	See <a href="#">Switching over Avaya Analytics from DC1 to DC2</a> on page 128.	
19	Switch over Avaya Control Manager from primary to DR site.	See <a href="#">Avaya Control Manager switchover from primary to DR site</a> on page 129.	
20	Avaya Control Manager Toggle Button utility for switchover and switchback	<a href="#">Avaya Control Manager Toggle Button utility for switchover and switchback</a> on page 130	
21	Reconfigure Avaya Control Manager in full and partial DR switchover scenarios.	See <a href="#">Overview</a> on page 130.	
22	Use the Toggle button to switch Avaya Control Manager in Data Center 1 to use Avaya Oceana® applications in Data Center 2.	See <a href="#">Using Toggle button to switch Avaya Control Manager in Data Center 1 to use Avaya Oceana applications in Data Center 2</a> on page 131.	
23	Configure the Web Voice and Web Video switchover.	See <a href="#">Configure the Web Voice and Web Video switchover</a> on page 131.	

## Shut down and switchover to DR site voice channel

### About this task

You can omit these instructions if the PSTN channel is not deployed in the solution.

Before switching back to the primary, you must shut down the existing PSTN Voice channel in a graceful manner. The following are some recommendations to shut down incoming voice contacts for the two front end options supported in Avaya Oceana® 3.x.

- For Avaya Oceana® deployments with a front-end application running on Avaya Experience Portal, it is recommended to have a flag is used at the start of the workflow for startup or shutdown operations. Using this flag, the administrator can redirect incoming voice calls to an automated response. The automated response rejects the incoming call or transfers the calls to an alternate call handling mechanism. The Avaya Oceana® 3.x solution uses Avaya Experience Portal voice application, which contains sample code to implement this using Call Application Variables (CAVs). Also, specifies the data center that is operational at a given time. Setting this flag to any of the data center ensures incoming PSTN voice contacts are only routed to that data center. This is a simple and effective method to turn on or turn off incoming voice to an Avaya Oceana® DR system.
- For Avaya Oceana® deployments with Call Center Elite as front end, a CM variable indicating Avaya Oceana® in service or out of service is configured and checked on new incoming voice contacts. If the flag is set to indicate out of service, then new incoming voice contacts are routed to alternate fallback options until the switchback to the DR infrastructure is complete.

### Procedure

1. Log in to the Avaya Experience Portal web portal with the Administrator user role.
2. In the navigation pane, click **System Configuration > Applications**.
3. Select the application you want to modify, and click **Configurable Application Variables**.
4. In the **Active Data Center** field, click **DataCenter2**.
5. Click **Save**.

When new incoming voice contacts come in through the Avaya Experience Portal application, they are routed to the Avaya Oceana® system in the primary location DC1.

## Switchover from Avaya Aura® Communication Manager to ESS in DR site

For full DR switchover, you must shutdown the Communication Manager in Data Center 1 so that the ESS in Data Center 2 can come into operation. The phone sets and gateways re-register with the ESS. Once the registration is complete, the agents can start handling voice contacts that are routed through Avaya Aura® Call Center Elite while Avaya Oceana® and Avaya Analytics™ are switched over to the DR site

For partial DR switchovers, you do not have to shut down the Communication Manager in Data Center 1 if the Avaya Aura® applications are fully functional.

## Configure the primary site voice channel shutdown

### About this task

For a planned shutdown of the PSTN voice channel, the following are the two methods to shutdown incoming voice contacts from the front-end options supported in Avaya Oceana®.

- For Avaya Oceana® deployments with a front-end application running on Avaya Experience Portal, a flag is used at the start of the workflow for startup or shutdown operations. Using this flag, the administrator can redirect incoming voice calls to an automated response. The automated response rejects the incoming call or transfers the calls to an alternate call handling mechanism. The Avaya Oceana® 3. x Avaya Experience Portal based sample voice application contains sample code to implement this using Call Application Variables (CAVs) which specify which data center is operational at any given time. Setting this flag to any of the data center ensures incoming PSTN voice contacts are only routed to that data center. This is a simple and effective method to turn on or turn off incoming voice to an Avaya Oceana® DR system.
- For Avaya Oceana® deployments with Call Center Elite as front end, a CM variable indicating Avaya Oceana® in service or out of service is configured and checked on new incoming voice contacts. If the flag is set to indicate out of service, then new incoming voice contacts are routed to alternate fallback options until the switchover to the DR infrastructure is complete.

You can skip these instructions if you do not have PSTN channel deployed on Avaya Oceana®.

### Procedure

1. Log in to the Avaya Experience Portal web portal with the Administrator user role.
2. In the navigation pane, click **System Configuration > Applications**.
3. Select the application you want to modify, and click **Configurable Application Variables**.
4. In the **Active Data Center** field, click **DataCenter2**.
5. Click **Save**.

New incoming voice contacts arriving at the application in the Avaya Experience Portal, are routed to the Avaya Oceana® system in the DR location.

## Switching over Voice Channels from Avaya Oceana® DC1 to Avaya Oceana® DC2

Use the following procedure to test and verify the complete DR voice capabilities for Avaya Oceana®. This is a complete switchover scenario.

### Pre-requisites:

1. Deploy and configure an Avaya Oceana® DR solution.
2. Add the settings described in this document to enable DR for voice.
3. Verify Avaya Oceana® voice channel in the regular primary active state.

No.	Task	Description	✓
1.	Verify Enterprise Survivable Server (ESS) is registered with Communication Manager	<a href="#">Verifying the status of Survivable Processor</a> on page 38	
2.	Verify Computer Telephony Integration (CTI) link status	<p>In the regular primary active state, there must be two active CTI links:</p> <ul style="list-style-type: none"> <li>• <b>Link 1</b> - Connecting the Communication Manager and the DC1 Application Enablement Services.</li> <li>• <b>Link 2</b> - Connecting the Communication Manager and the DC2 Application Enablement Services.</li> </ul> <p>When the Communication Manager is offline, the <b>Link 1</b> becomes inactive. The <b>Link 2</b> is active, but it is now between the ESS and the DC2 Application Enablement Services with the Survivable Hierarchy.</p>	
3.	Verify the Call Server Connector (CSC) to Application Enablement Services connection	<a href="#">Verifying the Call Server Connector (CSC) to Application Enablement Services connection</a> on page 115	
4.	Turn the DC1 Communication Manager and Application Enablement Services offline to make ESS active	Power off the Communication Manager or make it non-reachable so that the ESS becomes active.	
5.	Verify that the ESS is active	<a href="#">Verifying the status of Survivable Processor</a> on page 38	
6.	Verify station login using the ESS IP address	<p>When ESS is active, you must be able to log a station in using the ESS IP address. Station login details are the same on ESS as they are on Communication Manager because all the configuration data is copied from the Communication Manager to ESS, when you run the <code>save translations</code> command.</p> <p><a href="#">Verifying a station login using Enterprise Survivable Server IP address</a> on page 116</p>	
7.	Verify CTI Link status	<p>When the Communication Manager is offline, the CTI <b>Link 2</b> must be the only active link.</p> <p><a href="#">Verifying the Computer Telephony Integration (CTI) Link status</a> on page 116</p>	

Table continues...

No.	Task	Description	✓
8.	Verify that the DC1 Application Enablement Services Khepri connectors are inactive	When the Communication Manager is offline, the <b>DMCC Service Summary</b> page on the DC1 Application Enablement Services must display that the two Khepri connectors are no longer active.  <a href="#">Verifying that the DC1 Application Enablement Services Khepri connectors are inactive</a> on page 116	
9.	Switch over Avaya Oceana®	The DC1 Avaya Oceana® working with the DC2 ESS, is not a supported DR scenario. Therefore, you must switch Avaya Oceana® over to the DC2 to test ESS functionality with Avaya Oceana® for voice channel.	
10.	Verify CTI Link status	Verify that the CTI <b>Link 2</b> is active, as in step 7 above. This is the connection between the ESS and DC2 Application Enablement Services.	
11.	Verify DC2 Application Enablement Services Khepri connectors are active	The solution is completely switched over and the two Khepri connectors between the DC2 Application Enablement Services and Avaya Oceana® are active.  <a href="#">Verifying that the DC2 Application Enablement Services Khepri connectors are active</a> on page 116	
12.	Log an agent configured to handle voice contacts into Avaya Workspaces.	Log the agent's station into a softphone using the ESS IP address. Then log the agent into Avaya Workspaces and make a call to the Avaya Oceana® ingress Vector Directory Number (VDN), or Avaya Experience Portal application, if configured.  The agent must be able to login without any errors and the call must be presented to the logged in agent.  For more information on logging into Avaya Workspaces, refer <a href="#">Using Avaya Workspaces for Avaya Oceana®</a> .	

## Verifying the Call Server Connector (CSC) to Application Enablement Services connection

### Procedure

1. Log on to the DC1 Application Enablement Services web admin portal.
2. Navigate to **Status > Status and Control > DMCC Service Summary**.

There must be two Khepri Call Server Connector entries with two common cluster node SIPs as the **Far-end Identifiers**.

## Verifying a station login using Enterprise Survivable Server IP address

### Procedure

1. Open a softphone application.
2. Log in using the Enterprise Survivable Server (ESS) IP address for call server.

You must be able to log in successfully.

## Verifying the Computer Telephony Integration (CTI) Link status

### Procedure

1. Log on to the Enterprise Survivable Server (ESS) System Access Terminal (SAT).
2. Run the command: `status aevcs cti-link`
3. Verify that the **Service State** is `Established`.

## Verifying that the DC1 Application Enablement Services Khepri connectors are inactive

### Procedure

1. Log on to the DC1 Application Enablement Services web admin portal.
2. Navigate to **Status > Status and Control > DMCC Service Summary**.

The Khepri Call Server Connector entries are not displayed.

## Verifying that the DC2 Application Enablement Services Khepri connectors are active

### Procedure

1. Log on to the DC2 Application Enablement Services web admin portal.
2. Navigate to **Status > Status and Control > DMCC Service Summary**.

There must be two Khepri Call Server Connector entries with two DC2 common cluster node SIPs as the **Far-end Identifiers**.

## Configure the primary site email shutdown

### About this task

For a planned switchover of EmailService, you must change the deployment status. An Avaya Oceana® administrator with access to System Manager can change the status. Failure to shut down the email service in the primary site means that all incoming emails to Avaya Oceana® monitored mailboxes are queued by the primary email service after switchover is complete.

For a planned switchover of EmailService, an administrator must shut down EmailService on primary site by using a flag in Avaya Oceana® Cluster 3. When the administrator shuts down the EmailService:

- New emails are not retrieved from the email server.
- Outgoing emails are queued within the Cache database.

After completing the switchover process, EmailService processes all emails in the DR site and sends the outgoing emails from the DR site.

If you do not have email channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **EmailService**.
3. In **Deployment status of emailmanager**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `true` to `false`.
4. Click **Commit**.

## Configure the primary site chat shutdown

### About this task

For a planned switchover, the administrator can manually stop chat contacts from entering the Avaya Oceana® and allow existing contacts to get processed out of the system.

If you do not have chat channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **CustomerControllerService**.
3. In **Shutdown Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

**\* Note:**

You must configure the customer deployed chat front-end application to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each chat deployment can utilize different methods to integrate to the Oceana back-end systems.

## Configure the primary site **MessagingService** shutdown

### About this task

For a planned switchover, the administrator can manually stop SMS, Social, and Async contacts from entering the Avaya Oceana® solution and enable the existing contacts to get processed out of the system.

If you do not have SMS, Social, and Async channels deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **MessagingService**.
3. In **Shutdown Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

**\* Note:**

You must configure the customer deployed Social Media, SMS, or Async front-end applications to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each deployment can utilize different methods to integrate to the Oceana back-end systems.

## Configure the primary site **GenericChannelAPI** service shutdown

### About this task

For a planned switchover, the administrator can manually stop new generic contacts from entering the Avaya Oceana® and allow existing contacts to get processed out of the system.

An administrator must set the primary site GenericChannelAPI service on Avaya Oceana® Cluster 3 to True.

If you do not have generic channel deployed on Avaya Oceana®, you can skip this procedure.

## Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Avaya Oceana® Cluster 3.
  - b. **Service:** Select **GenericChannelAPI**.
3. In **Shutdown Mode**, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

### \* Note:

You must configure the customer deployed Generic Channel front-end application to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each generic channel deployment can utilize different methods to integrate to the Oceana back-end systems.

## UCMService Backup and Restore Procedures

### Backing up the UCMService database during planned switchover and switchback

#### About this task

UCMService stores the metadata related to deferred emails. UCMService requires this data to retrieve expired deferred emails and route them back to the appropriate agent. The information is updated in real-time.

You must take backups during the following events:

- Planned switchover and recovery
- Unplanned switchover and recovery

### \* Note:

You can skip the procedure for the following:

- The email channel is not deployed at this installation, and, therefore, there are no deferred email capabilities.
- The partial or full DR switchover is for test purposes, and do not keep new UCM data post switch back to the primary site.
- You are not restoring the UCM DB from the DR site.

Use this procedure to take a manual backup of the UCMService database during planned switchover and switchback.

## Before you begin

Ensure that all agents are logged out of their accounts.

## Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From **Backup and Restore**, select **Configure**.  
System Manager displays the **Backup Storage Configuration** page.
3. In the **FQDN or IP Address** field, enter the FQDN or IP Address of the backup storage server.
4. In the **Login** field, enter the user name that you use to log in to the backup storage server.
5. In the **Password** field, enter the password that you use to log in to the backup storage server.
6. In the **SSH Port** field, enter the port number of the backup storage server.
7. In the **Directory** field, enter the path to a directory in the backup storage server.
8. In the **Retained backup copies per cluster per snap-in DB** field, specify the maximum number of backup file copies to retain on the backup storage server.  
If you do not specify any value, the backup storage server retains all backup files.
9. Click **Commit**.
10. Select the check box for Avaya Oceana® Cluster 1.
11. From **Backup and Restore**, select **Backup**.  
System Manager displays the Cluster DB Backup page.
12. On the **Cluster Database Backup** confirmation dialog box, select the **UCMService** check box, and click **Continue**.
13. In **Backup Password**, enter a password for the backup.  
**!** **Important:**  
Note the password entered. You will require this password to restore the UCMService.
14. In **Schedule Job**, click **Run immediately**.
15. Click **Backup**.
16. After the backup process is complete, verify the **Status** column on the **Backup and Restore Status** page. The status must display *Completed*.

## Restoring the UCMService data for Avaya Oceana® Cluster 1 in Data Center 2

### About this task

Use this procedure to restore a UCMService database backup to the DR Avaya Oceana® site.

If the email channel is not deployed on Avaya Oceana<sup>®</sup>, you can skip this procedure.

### Before you begin

- Ensure that all agents are logged out of their accounts.
- Ensure that the state of Avaya Oceana<sup>®</sup> Cluster 1 and Avaya Oceana<sup>®</sup> Cluster 3 is `Deny New Service`.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Cluster Administration**.
2. From **Backup and Restore**, select **Restore**.
3. On the Backup and Restore Status page, in the Backup and Restore Jobs section, select the check box for the latest backup file and click **Restore**.
4. On the Cluster Database Restore Confirmation dialog box, select Avaya Oceana<sup>®</sup> Cluster 1 and click **Continue**.
5. On the Backup and Restore Status page, ensure that the **Status** column for the restore operation displays the value `Completed`.
6. Install UCMService on Avaya Oceana<sup>®</sup> Cluster 1.
7. Reboot Avaya Oceana<sup>®</sup> Cluster 1 and then Avaya Oceana<sup>®</sup> Cluster 3.

## Setting the maintenance mode for front end web voice and web video

For a planned switchover, you must modify the front-end web portals that host the Avaya WebRTC Connect voice or video capabilities to indicate to the end users that the service is temporarily unavailable. Use a flag to toggle between in service and out of service.

## Oceana POM switchover

The Oceana POM Outbound solution does not support disaster recovery. Therefore, you must stop all running campaigns on the primary Proactive Outreach Manager server before switching to the DR site Oceana and POM system.

For more information about switching over and restarting Proactive Outreach Manager, see *Implementing Avaya Proactive Outreach Manager*.

## Validating contacts

For a planned switchover, you must ensure that new contacts do not arrive into the primary Avaya Oceana<sup>®</sup> once the shutdown process starts. You must also close any Queued or In Progress contacts which an agent is processing. To check if the status of all the current contacts for all channels are Processed and Closed, log in as an Avaya Oceana<sup>®</sup> supervisor and use Avaya Analytics<sup>™</sup> real time displays. For more information, refer Avaya Oceana<sup>®</sup> and Avaya Analytics<sup>™</sup> documentation suite.

## Logging out supervisors and agents

For a planned switchover, ensure that all Avaya Oceana<sup>®</sup> agents are logged out. Supervisors can verify using **My team** widget. Supervisors must co-ordinate locally to ensure that the agents are logged out. Supervisors must then logout.

## System Manager switchover

### Checklist for Avaya Aura<sup>®</sup> System Manager switchover

**\* Note:**

For partial switchover of Avaya Oceana<sup>®</sup> and Avaya Analytics<sup>™</sup> applications, do not perform System Manager switchover. System Manager switchover is required only for a full DR switchover or a failure of the actual primary System Manager.

**\* Note:**

The procedure to bring the DR System Manager into production involves disabling operational geographic redundancy replication and shutting down the primary System Manager. There is no switchover from the primary System Manager application to the DR System Manager application.

No.	Task	Description	✓
1	Disable the Geographic Redundancy replication.	Disable Avaya Aura <sup>®</sup> System Manager Geographic Replication at Data Center 1.  <a href="#">Disabling the Geographic Redundancy replication</a> on page 123	
2	Shut down System Manager at Data Center 1.	You must shut down Avaya Aura <sup>®</sup> System Manager to trigger the Avaya Breeze <sup>®</sup> platform snap-ins to switch to the System Manager instance at Data Center 2.  <a href="#">Shutting down System Manager from the web console</a> on page 123	
3	Activate System Manager at Data Center 2.	Activate Avaya Aura <sup>®</sup> System Manager at Data Center 2.  <a href="#">Activating the secondary System Manager server</a> on page 125	

*Table continues...*

No.	Task	Description	✓
4	Verify the Avaya Breeze® platform node controller.	Confirm that the Avaya Breeze® platform nodes are switched from System Manager in Data Center 1 to System Manager in Data Center 2.  <a href="#">Verifying Breeze node controller</a> on page 170	

## System Manager user interface – Primary or DR location

If you are performing a partial DR switchover, then you must perform the following procedures using the interface of the primary System Manager. If you are performing a full DR switchover, System Manager Geo switchover is completed and the following procedures are implemented using the interface of the Geo System Manager in the DR location.

### Disabling the Geographic Redundancy replication

#### Before you begin

Log on to the System Manager web console of the primary server.

#### Procedure

1. On the System Manager web console, click **Services > Geographic Redundancy**.
2. Click **Disable Replication**.
3. In the dialog box, click **Yes**.

The system displays the progress information in the **Disable GR Status** section.

If the disabling process is successful, the system displays the Geographic Redundancy replication status as *Disabled*. The system stops replicating the data from the primary and secondary System Manager server. If the disabling process fails, the system displays an error message on the web console of the primary System Manager.

### Shutting down System Manager from the web console

#### About this task

When you start the shutdown process, you cannot access the System Manager web console.

#### Before you begin

Log on to the System Manager web console of the active server.

#### Procedure

1. On the System Manager web console, click **Services > Shutdown > Shutdown System Manager**.
2. In the Running and Pending Scheduled Jobs section, view the running and pending scheduled jobs.

3. In the Active User Sessions section, view the active user sessions.
4. On the System Manager web console, click **Services > Shutdown > Shutdown History**.
5. In Initiate Shutdown, click **Shutdown System Manager**.

System Manager displays the Shutdown System Manager dialog box with the following message.

The system initiates System Manager shut down after the grace period of 10 minutes, and stops all running jobs. Once you click Yes, you cannot abort this operation.

The system notifies all the users who logged in before System Manager shuts down is initiated.

Are you sure you want to shutdown System Manager?

6. To start the shutdown process, click **Yes**.

### Shutdown System Manager field descriptions

#### Initiate Shutdown

Button	Description
Shutdown System Manager	Displays the Shutdown System Manager dialog box to select an option to start the shutdown process.

#### Initiate Reboot

Button	Description
Reboot System Manager	Displays the Reboot System Manager dialog box to select an option to start the reboot process.

### Running and Pending Scheduled Jobs

Name	Description
Job Name	The job name as displayed on the Scheduler page.
Job Type	The job type as displayed on the Scheduler page.
Job Status	The status of the job.
Scheduled By	The name of the user who created the job
Start Time	The date and time the job is scheduled to start.

### Active User Sessions

Name	Description
User Name	The user name who is currently active.
Session Duration	The session duration since when the user is active.

*Table continues...*

Name	Description
<b>Is Current Session Status</b>	The status of the current session. The status can be: <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>

## Activating the secondary System Manager server

### About this task

- When you activate the secondary System Manager server, the system stops replicating the data from the primary System Manager server to the secondary System Manager server. During activation, you cannot gain access to the web console of the secondary System Manager server for some time.
- In the same browser instance, do not open the primary and secondary System Manager server in different tabs. The system might display an unknown error after the activation, deactivation, or recovery is complete. You can ignore this error message.

### Before you begin

Log on to the System Manager web console of the secondary server.

### Procedure

1. On the System Manager web console, click **Services > Geographic Redundancy > GR Health**.
2. Click **Activate Secondary Server**.

The system displays the Geographic Redundancy (GR) Health Current status dialog box.

3. In the Select the reason for activation, choose one of the following options:
  - **Primary Down:** When the primary System Manager server becomes nonoperational, the server hardware is faulty and unusable, or the application server fails to recover.
  - **Network Split:** When the enterprise network splits and servers fail to communicate with each other.
  - **Maintenance:** When the maintenance activities such as backup, restore, upgrade, and shutdown are in progress.
  - **Other:** Any other reason where the primary System Manager server becomes unusable and needs the secondary System Manager server to become operational.

4. Click **Yes**.

The system displays the initialization of the activation process.

5. Click **Yes**.

The activation process takes about 15–20 minutes to complete.

If the activation process fails, the system displays an error message on the secondary System Manager web console and rolls back to the previous state. If the activation process is successful, the secondary System Manager server changes to the active mode and provides complete System Manager functionality.

Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

## Changing cluster activity status for clusters in Data Center 2

### Before you begin

Ensure that the OceanaMonitorService is installed on the clusters in Data Center 2.

### Procedure

1. Open the Oceana Manager page in the DR location by entering the following URL in your web browser:

```
https://<DataCenter2_AvayaOceanaCluster1_FQDN>/services/OceanaMonitorService/manager.html?affinity=)
```

#### Important:

Create a bookmark of this URL in your web browser, so that you can open the Oceana Manager page even when System Manager is unavailable.

2. **(Optional)** To open the Oceana Manager page through System Manager, do the following:
  - a. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
  - b. On the Cluster Administration page, in the **Service URL** column for Avaya Oceana® Cluster 1, select **Oceana Manager**.
3. Log in to Oceana Manager using an Admin account.
4. On the Oceana Manager page, do the following:
  - a. Verify that the status of the clusters is `STANDBY`.
  - b. Click **Set Cluster Group to Active**.

The cluster status changes to `ACTIVE` and all nodes are placed in the Accept New Service mode.
  - c. Click **OK** on the confirmation message box.
  - d. Wait for 5-10 minutes for the Oceana Manager page to display the updated status.
  - e. **(Optional)** If the Oceana Manager page does not display the updated status after some time, click **Refresh**.
5. In System Manager, select DR Cluster 1 drop-down menu and start Oceana Monitor.

On Cluster 1, verify the PUs deployed and status is **Intact** including CSC. CSC PU is not deployed if the **Oceana > CSC > AES > CM** configuration is not done and validated. On Cluster 3, verify the PUs deployed and status is **Intact** including the Email PU. Verify that all nodes and clusters in the DR location are set to status **Accepting**. If any clusters or nodes are in **Deny** state, then re-do the above steps or manually set them to **Accepting** state using the Avaya Breeze® platform EM cluster overview page.

## Verifying Avaya Breeze® platform node controller for Data Center 2

### About this task

Use this procedure:

- To verify that the Avaya Breeze® platform nodes are switched from System Manager in Data Center 1 to System Manager in Data Center 2 after System Manager switchover.
- If a full DR switchover is in progress.

This procedure is not required in a partial DR switchover because the Avaya Breeze® platform nodes are managed by the primary System Manager.

### Procedure

1. On the System Manager web console, click **Services > Inventory > Manage Elements**.
2. In the **Managed by** field, verify that system displays **Secondary** for the Avaya Breeze® platform nodes.

## Omnichannel database switchover

You can manually switchover the Omnichannel database server in the primary site Data Center 1 to the Omnichannel database server in the DR site Data Center 2 in partial or full DR switchover scenarios.

### \* Note:

Do not restart the cluster. You can perform switchover from:

- A single active server in Data Center 1 to the async Omnichannel server in Data Center 2.
- An active or standby server in Data Center 1 to the async server in Data Center 2.

## Promoting Omnichannel server in DC2

### About this task

Use this procedure to promote the async server in the DR site when the active server in primary and async server in DR location is available, and mirroring is operational for planned maintenance windows. You can use this procedure irrespective of whether a dual server pair is deployed on the primary site.

### Procedure

On Server C in the DR site, do the following:

1. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDDataManagement` folder.
2. Double-click `OceanaDataManagementTool.exe`.
3. In the Oceana Data Management utility, click **Backup And Restore**.
4. In the navigation pane, expand the **Backup And Restore** node, and then click **Backup And Restore**.

5. Click **Mirror Configuration**.
6. In the **Select Mirror Scenario** field, select `Switchover Cache up on both servers - DR server`.
7. Click **Execute**.
8. Set up Avaya Control Manager (ACM) to point to the new Omnichannel database primary server.

For more information on setting up the ACM to point to the new Omnichannel database, see [Pointing ACM to the new Omnichannel database server in DC2](#) on page 108.

## Pointing ACM to the new Omnichannel database server in DC2

### About this task

Use this procedure to set up Avaya Control Manager to point to the new Omnichannel database primary server.

### Procedure

1. Log on to Avaya Control Manager.
2. Navigate to **Configuration > Avaya Oceana™ > Server Details**.
3. Double-click the administered Avaya Oceana® server or select the administered Avaya Oceana® server and click **Edit**.
4. Click the **System Properties** tab.
5. Expand **Omni Channel**.
6. In **Omni Channel Database Server**, enter the name, host name, or IP address of the Omnichannel Database DR server (Server C) as administered in the HTTPS certificate installed on the Omnichannel Database server. The name must match the name on the certificate, and the certificate must also be trusted to avoid any certificate errors.

For more information on configuring the Omnichannel certificate, refer to the *Retrieve certificate files* section in the *Deploying Avaya Oceana®* document.

## Switching over Avaya Analytics™ from DC1 to DC2

### About this task

Using the following steps you can promote DC2 to primary role after a fail over. DC1 does not synchronize data after this operation until a rebuild from DC2 is available.

#### **Note:**

You must perform this switch over only during a maintenance window.

### Before you begin

Ensure that the secondary data center is on standby mode.

## Procedure

1. Log in to the Cluster Control Manager (CCM) console as the customer user.
2. To switch to the root user, type `su` and press **Enter**.
3. To run the `Analytics Administration` script, use the following command:
 

```
ccm release orca analytics
```
4. To select the **Geo/High Availability** option, enter the corresponding number.
5. To select the **Geo options** option, enter the corresponding number.
6. To select the **Switch over: Promote secondary data center database to primary** option, enter the corresponding number.

 **Warning:**

You must use this option only on the secondary data center.

7. In the **Proceed to Geo switchover**, enter `y`.  
 Entering `n` cancels the operation.
8. In the **Continuing will switch over this data center to Primary data center** field, type `y` and press **Enter**.  
 This operation is successful only when a server is available on standby mode.
9. To return to the previous page, type `b` and press **Enter**.
10. To quit from the current page, type `q` and press **Enter**.
11. To return to the main menu, type `m` and press **Enter**.

## Avaya Control Manager switchover from primary to DR site

This section provides information on the options available on switchover from a primary set of Avaya Control Manager servers in the primary site to the alternate set of servers in the DR site. For a planned maintenance window and a partial DR switchover, it is not required to switchover Avaya Control Manager servers. Enable the Avaya Control Manager 9.x Toggle feature to switch Avaya Control Manager to use the Avaya Oceana® and Avaya Analytics™ components in the DR site.

For a planned maintenance window and a full DR switchover, you must perform switchover of Avaya Control Manager application and database server. Enable the Avaya Control Manager 9.x Toggle feature to switch Avaya Control Manager DR to use the Avaya Oceana®, Avaya Analytics™, and ESS components in the DR site. Due to failures of the Avaya Oceana® applications where Avaya Control Manager is operational, Avaya Control Manager switchover is not required to use the Avaya Oceana® and Avaya Analytics™ applications in the DR location.

For more information on unplanned maintenance windows due to failures, see the respective chapters in this document. Avaya Control Manager supports several HA and DR models that is beyond the scope of this Avaya Oceana® Disaster recovery guide. These models are independent

of the Avaya Oceana® DR deployment. For more information on how to setup Avaya Control Manager HA and DR, see Avaya Control Manager documentation suite.

For more information see, *Installing Avaya Control Manager for Enterprise - Multiplex High Availability* and *Installing Avaya Control Manager for Enterprise - Legacy High Availability* documents.

## Avaya Control Manager Toggle Button utility for switchover and switchback

Avaya Control Manager provides the Toggle button feature to avoid manual intervention of the administrator to make configuration changes post switchover to Avaya Oceana® DR applications. The toggle button configures Avaya Control Manager to use the Avaya Oceana® UCA server instance in the DR location after the switchover is complete. On a switchback, the toggle button reverts the Avaya Control Manager application to use the Avaya Oceana® UCA server instance at the primary site. However, on a switchback, the administrator must manually re-configure Avaya Control Manager to use the primary Avaya Oceana® and Avaya Analytics™ applications as the toggle back feature does not preserve these settings.

## Reconfiguring Avaya Control Manager in full DR switchover scenarios

### Overview

With the Toggle feature of Avaya Control Manager, an administrator can toggle a flag to configure Avaya Control Manager with the settings required for Avaya Oceana® in the primary or DR locations. This toggle feature allows the Avaya Control Manager application server to identify which Avaya Oceana® UCA instance to administer Avaya Oceana® configuration data. The toggle button can also be used when performing a switchover or a switchback. In releases prior to Avaya Oceana® 3.7, after the Avaya Oceana® and Avaya Control Manager switchover to the DR location, an Avaya Control Manager administrator must manually re-configure the settings for the following applications in the Avaya Oceana® UCA instance in the DR site. The administrator performs these update tasks using the Avaya Control Manager web application. These settings are added at deployment time and when a switchover or switchback is required, the toggle button is used in Avaya Control Manager.

- Omnichannel DB IP/FQDN
- Workspaces Widget Server IP/FQDN
- Workspaces Home Page URL

For both the partial and full DR switchover scenarios, the toggle button can be used on the ACM application server in the DR location to adjust to values suitable to the Avaya Oceana® deployment at the DR site.

## Using Toggle button to switch Avaya Control Manager in Data Center 1 to use Avaya Oceana® applications in Data Center 2

### Before you begin

You must have access to the Data Center 1 and Data Center 2 Avaya Control Manager servers.

### Procedure

1. On the Avaya Control Manager webpage in DC1, go to Locations tab.
2. Select Data Center 1 location and click **Edit**.
3. Select the applications that you want to switchover to the set of applications in the DR site.  
For a partial DR switchover, select Avaya Oceana® and Avaya Analytics™.
4. Click **Toggle** to use the applications from Avaya Oceana® in DC2

Verify switched over status in the Switched Over Column for Avaya Oceana® and Avaya Analytics™ servers.

For a full DR switchover, perform this procedure on Avaya Control Manager in Data Center 2 after the Avaya Control Manager switchover from Data Center 1 to Data Center 2. Select the Communication Manager server entry for switchover.

## Configure the Web Voice and Web Video switchover

### About this task

Use this procedure to re-configure a deployed customer web voice and video capabilities after completing the switchover to Avaya Oceana® in the DR site.

### Procedure

1. Change the DNS mapping of the Authorization token service FQDN to map to the public address of the Authorization token service in the DR site
2. Change the DNS mapping of the Avaya Aura® Web Gateway server FQDN to map to the public address of the Avaya Aura® Web Gateway server in the DR site.
3. Change the DNS mapping of the AvayaMobileCommunications cluster FQDN to map to the public address of the AvayaMobileCommunications cluster in the DR site  
After the DNS changes take effect, all new call requests from web and mobile clients go to the DR site.
4. Ensure WebRTC Connect on the DR site is configured with suitable WebRTC routing numbers and implicit user details for the DR site operation.

## Partial and Full Switchover - Configuration and Validation

### Checklist for full or partial controlled switchover

The following checklist lists the configuration and validation steps after you perform a full or partial controlled switchover.

**\* Note:**

The configuration and validation steps listed here are mandatory for both full or partial controlled switchovers.

No.	Task	Description	✓
1	Verify CSC deployment status in DC2.	See <a href="#">Verifying the CSC deployment status in DC2</a> on page 132.	
2	Restore the UCMSERVICE data for Avaya Oceana® cluster 1 in Data Center 2.	See <a href="#">Restoring the UCMSERVICE data for Avaya Oceana Cluster 1 in Data Center 2</a> on page 133.	
3	Configure the DR site EmailService startup.	See <a href="#">Configure the DR site EmailService startup</a> on page 133.	
4	Configure the DR site Chat startup.	See <a href="#">Configure the DR site Chat startup</a> on page 134.	
5	Configure the DR site MessagingService for Social or SMS startup.	See <a href="#">Configure the DR site MessagingService for Social, SMS or Async startup</a> on page 134.	
6	Configure the DR site GenericChannelAPI Service startup.	See <a href="#">Configure the DR site GenericChannelAPI Service startup</a> on page 135.	
7	Verify DR Application Enablement Services server to enable switch connection.	See <a href="#">Verify the DR Application Enablement Services</a> on page 136.	
8	Avaya Workspaces Agent switchover: Login Agents using DC2 Workspaces and test deployed Channel Routing.	See <a href="#">Avaya Workspaces Agent switchover</a> on page 136.	
9	Validate and test deployed channels: Launch Oceana Dashboard and verify all deployed channels are in the Green status.	See <a href="#">Validate and test deployed channels</a> on page 137.	

## Verifying the CSC deployment status in DC2

### About this task

Use this procedure to verify the deployment status for the CallServerConnector (CSC) PU on DC2.

### Procedure

1. In your web browser, enter the following URL to view the Monitor Service page:

`https://<Cluster IP>/services/OceanaMonitorService/monitor.html`

2. On the Monitor Service page, click **Cluster 2 > Show cluster Messages**.

The page displays all the PUs in Cluster 2 (DR Cluster).

3. From the **Filters** column, select the **CallServerConnector** PU.
4. Verify that the `HEARTBEAT` message for the **CallServerConnector** PU is `ACTIVE`.

## Restoring the UCMSERVICE data for Avaya Oceana® Cluster 1 in Data Center 2

### About this task

Use this procedure to restore a UCMSERVICE database backup to the DR Avaya Oceana® site. If the email channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Before you begin

- Ensure that all agents are logged out of their accounts.
- Ensure that the state of Avaya Oceana® Cluster 1 and Avaya Oceana® Cluster 3 is `Deny New Service`.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From **Backup and Restore**, select **Restore**.
3. On the Backup and Restore Status page, in the Backup and Restore Jobs section, select the check box for the latest backup file and click **Restore**.
4. On the Cluster Database Restore Confirmation dialog box, select Avaya Oceana® Cluster 1 and click **Continue**.
5. On the Backup and Restore Status page, ensure that the **Status** column for the restore operation displays the value `Completed`.
6. Install UCMSERVICE on Avaya Oceana® Cluster 1.
7. Reboot Avaya Oceana® Cluster 1 and then Avaya Oceana® Cluster 3.

## Configure the DR site EmailService startup

### About this task

Use this procedure to enable the email channel in the DR site.

If the email channel is not deployed on Avaya Oceana® Cluster 3, you can skip this procedure.

### Procedure

1. On the System Manager web console of Data Center 2, click **Elements > Avaya Breeze® > Configuration > Attributes**.

2. On the DR site Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **EmailService**.
3. In **Deployment status of emailmanager**, do the following:
  - a. Select the **Override Default** check box.
  - b. In **Effective Value**, change the value from `false` to `true`.
4. Click **Commit**.

## Configure the DR site Chat startup

### About this task

Use this procedure to enable the Chat channel in the DR site.

If the Chat channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the DR site Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **CustomerControllerService**.
3. In **Shutdown Mode** attribute, do the following:
  - a. Select the **Override Default** check box.
  - b. In **Effective Value**, change the value from `true` to `false`.
4. Click **Commit**.

#### **Note:**

You must configure the customer deployed chat front-end application to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each chat deployment can utilize different methods to integrate to the Oceana back-end systems.

## Configure the DR site MessagingService for Social, SMS or Async startup

### About this task

Use this procedure to enable the Social or SMS channel in the DR site.

If the Social or SMS channel is not deployed on Avaya Oceana®, you can skip this procedure.

## Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the DR site Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **MessagingService**.
3. In the **Shutdown Mode** attribute field, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `true` to `false`.
4. Click **Commit**.

### **Note:**

You must configure the customer deployed Social, Async, or SMS channel front-end application to point to the Oceana DR system. The instructions to complete the task are beyond the scope of this DR guide as each Social or SMS channel deployment can utilize different methods to integrate to the Oceana back-end systems.

## Configure the DR site GenericChannelAPI Service startup

### About this task

Use this procedure to enable the Generic channel in the DR site.

If the Generic channel is not deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the DR site Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **GenericChannelAPI**.
3. In the **Shutdown Mode** attribute field, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `true` to `false`.
4. Click **Commit**.

### **Note:**

You must configure the customer deployed Generic channel front-end application to point to the Oceana DR system. The instructions to complete the task are beyond

the scope of this DR guide as each Generic channel deployment can utilize different methods to integrate to the Oceana back-end systems.

## Verify the DR Application Enablement Services

### About this task

In the setup instructions for Avaya Oceana® disaster recovery solution, there are two switch connections configured from Application Enablement Services in the DR location:

- Switch Connection 1 is the primary Communication Manager.
- Switch Connection 2 is the ESS configured under the survivable hierarchy features in AES.

For a partial DR switchover, Switch Connection 1 remains in the **online** state and Switch Connection 2 remains in the **offline** state even after the Avaya Oceana® Clusters in the DR location are set to an Accept Mode. This proves that the AES survivable hierarchy feature is working as expected.

### Procedure

1. Log in to the DR Application Enablement Services web portal, and go to **Communication Manager Interface > Switch Connections**.

The Switch Connection tab displays the following two entries configured from Application Enablement Services:

- Switch Connection 1
- Switch Connection 2

If there are no connections, then contact the system administrator to add the required number of switch connections.

2. On the Application Enablement Services administration portal, go to **Status > Status and Control > Switch Connection Summary**.

The two switch connections are displayed in this menu.

3. Verify the Switch Connection entry for the ESS server is set to **offline**.
4. Verify the Switch Connection entry for the main Communication Manager in the primary location is set to **online**.
5. Close the AES window after verification.

## Avaya Workspaces Agent switchover

Agents must re-login to Avaya Oceana® after a switchover. The agents need Avaya Workspaces URL for Data Center 2.

The default Avaya Workspaces URL for both locations are:

- Primary Site:

```
https://<UAC Cluster IP/FQDN DC1>/services/UnifiedAgentController/  
workspaces/#/login
```

- DR Site:

```
https://<UAC Cluster IP/FQDN DC2>/services/UnifiedAgentController/  
workspaces/#/login
```

Ensure all Oceana and Analytics users have the required Security Certificates installed in their client PC trust store to successfully access Workspaces and Analytics functionality when the DR site is in operation.

## Validate and test deployed channels

After switchover, verify if the elements in the DR location are active. You must also validate routing of the deployed channels.

# Chapter 6: Planned Partial and Full Recovery and Switchback

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## Planned switchback from DC2 to DC1

This chapter provides information and instructions to take DC2 out of production and into a shutdown or standby mode to perform a switchback to DC1.

### Switchback from planned maintenance windows

After planned partial or full switchovers to the DR site, implement a planned switchback to re-instate the primary site as the operational data center. However, due to the licensing restrictions with ESS, the disaster recovery at the DR site functions only for a limited time.

### Switchback from Full DR Switchover

When you re-instate DC1, ensure that the data in Avaya Aura® System Manager and Avaya Control Manager is aligned with the data in Avaya Aura® Communication Manager. The administrative changes from DC2 are not present on Avaya Aura® Communication Manager in DC1, so Avaya Aura® System Manager and Avaya Control Manager must have data corresponding to Avaya Aura® Communication Manager before the switchback to DC1.

### Switchback from Partial DR Switchover

In a partial switchover, Avaya Aura® System Manager, Avaya Aura® Communication Manager, and Avaya Control Manager are not switched from the primary site to the DR site.

When you re-instate the primary site, the Avaya Aura® System Manager and Avaya Control Manager are aligned with the data on Avaya Aura® Communication Manager.

#### **Note:**

You need a maintenance window to perform the recovery regardless of the switchover option. During this maintenance window, Avaya Oceana® cannot process any contacts. For example, if the contact center needs to process voice contacts during the maintenance window, it is recommended to use the fallback to Elite feature that gets automatically invoked once Avaya Oceana® is out of service. There is no fallback alternative for Digital Contacts.

### Advantages of performing a planned switchback

Planned maintenance windows are defined as customer-agreed time periods where the deployed solution is taken out of production and put into a shutdown or standby mode to perform a switchover and a switchback between the two parts of the DR solution.

There are several advantages of performing a planned switchback of Avaya Oceana® and Avaya Analytics™ DR solution.

- Existing contacts can be processed in a controlled manner.
- New contacts cannot enter into the system queue after the switchover procedures start.
- Logged-in agents can access the currently queued contacts.
- All contacts can be cleared before the shutdown of either side of the DR system, primary or DR.
- Supervisor users logged in using Avaya Workspaces can view real-time reports and displays to ensure a graceful shutdown of all existing contacts.

## Switchback from Partial and Full switchover - Preparation and Validation

### Checklist for full or partial controlled switchback

The following is a checklist of the preparation and validation steps before you perform a full or partial controlled switchback:

**\* Note:**

The preparation and validation steps listed here are mandatory for a full or partial controlled switchback.

No.	Task	Description	✓
1	Prepare for switchback: Before starting any switchback operations on a production Avaya Oceana® and Avaya Analytics™ DR system, you must refer several key documents.	See the following documents: <ul style="list-style-type: none"> <li>• <a href="#">Administering Avaya Aura® System Manager</a></li> <li>• <a href="#">Installing Avaya Control Manager</a></li> <li>• <a href="#">Administering Avaya Aura® Communication Manager</a></li> <li>• <a href="#">Administering Avaya Aura® Application Enablement Services</a></li> </ul>	
2	Agree on a date, time, and duration for planned maintenance windows with customers as Avaya Oceana® and Avaya Analytics™ will be unavailable.	See <a href="#">Planned maintenance window for Switchback</a> on page 141.	

*Table continues...*

No.	Task	Description	✓
3	Validate identical software levels on the following applications across DC1 and DC2: <ul style="list-style-type: none"> <li>• Avaya Aura® System Manager</li> <li>• Avaya Control Manager</li> <li>• Avaya Aura® Communication Manager</li> <li>• AES</li> <li>• Avaya Oceana®</li> <li>• Avaya Analytics™</li> <li>• Avaya Breeze® platform</li> <li>• Omnichannel</li> </ul>	See <a href="#">Validate identical software levels on following applications across DC1 and DC2.</a> on page 141.	
4	Validate Avaya Control Manager database HA replication status.	<a href="#">Validate Avaya Control Manager Database HA Replication Status</a> on page 142.	
5	Verify the Omnichannel database mirroring status from DC1 to DC2.	See <a href="#">Validation of Omnichannel Database mirroring from DC2 to DC1.</a> on page 142.	
6	Validate Avaya Oceana® core components replication operational before switchback.	See <a href="#">Validating Avaya Oceana core components replication operational before switchback</a> on page 143.	
7	Verify the CallServerConnector component in the primary site.	See <a href="#">Verifying the CallServerConnector component in the primary site</a> on page 143.	
8	Verify the deployment mode status of the primary site email snap-in.	See <a href="#">Verifying deployment mode status of primary site email snap-in</a> on page 143.	
9	Verify the shutdown mode status of the primary site CustomerController chat snap-in.	See <a href="#">Verifying the shutdown mode status of primary site CustomerController chat snap-in</a> on page 144.	
10	Verify the shutdown mode status of the primary site MessagingService snap-in.	See <a href="#">Verifying the shutdown mode status of primary site MessagingService snap-in</a> on page 144.	
11	Verify the shutdown mode status of the primary site GenericChannelAPI snap-in.	See <a href="#">Verifying the shutdown mode status of primary site GenericChannelAPI snap-in</a> on page 145.	

Table continues...

No.	Task	Description	✓
12	Verify deployment status of AMC snap-in for Avaya WebRTC Connect contacts.	See <a href="#">Verifying deployment status of AMC snap-in for Avaya WebRTC Connect contacts</a> on page 145.	
13	Prepare primary DC1 Avaya Oceana® for potential UCA and UCM DB restore.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Preparing DC1 for UCA and UCM database restore</a> on page 146</li> <li>• <a href="#">Preparing UCAStoreservice in DC1 for database restore</a> on page 146</li> <li>• <a href="#">Preparing UCMService in DC1 for database restore</a> on page 147</li> </ul>	
14	Reboot Avaya Oceana® Cluster 1 in the Primary DC1 site.	See <a href="#">Rebooting Avaya Oceana Cluster 1 on DC1</a> on page 147.	
15	Log supervisors and agents out of DC2.	See <a href="#">Logging out supervisors and agents from the DR site</a> on page 148.	
16	Validate contacts in DC2.	See <a href="#">Validating contacts</a> on page 148.	

## Planned maintenance window for Switchback

Planned maintenance windows for switchback require planning and scheduling for the switchback. During the maintenance window, the solution is out of operation. However, the time for switchback varies depending on whether you implemented a partial or full DR switchover.

The other major difference between a switchback and a switchover is that you must reinstate all failed elements that caused a switchover in DC1 before the switchback can take place and restore normal disaster recovery functionality.

## Validate identical software levels on Data Center 1 and Data Center 2

The software versions and levels on Data Center 1 and Data Center 2 must be identical for a planned switchover and switchback testing,

You must validate the following applications and platforms:

- Avaya Aura® System Manager
- Avaya Control Manager

- Avaya Breeze® platform
- Avaya Aura® Communication Manager and ESS
- Avaya Aura® Application Enablement Services
- Avaya Analytics™
- Avaya Oceana® Snap-ins
  - Snapin versions on primary and DR must be identical before starting an upgrade

For software upgrade maintenance windows, it is acceptable to have different software versions during the upgrade process.

For unplanned maintenance windows due to application failures, there is no difference in software versions. Instead, you can create a checklist to record the software versions of each application for DC1 and DC2.

## Validate Avaya Control Manager Database HA Replication Status

### About this task

For all switchback operations, verify the Avaya Control Manager Database HA feature is operational before proceeding with either of the procedures. For instructions on performing this validation, see *Avaya Control Manager HA* guides available on Avaya support site.

## Verifying Omnichannel database mirroring status

### About this task

For all planned full and partial DR switchbacks, the Omnichannel DB servers in both locations are not failed and data is mirrored between each other. After a planned switchback, mirroring is from the DR (DC2) site to the original primary (DC1) site.

For unplanned switchbacks due to Omnichannel failures, reinstate the failed servers first and then reinstate mirroring. Before starting the switchback, read the later chapters of this document to find out how to reinstate a failed Omnichannel server.

Verify that mirroring is enabled from the DR to primary servers before a switchback. This is a baseline requirement before starting a switchback.

The Omnichannel database replicates data from DC2 to DC1 after a planned switchover using Cache Mirroring from DR to the primary. If this was an unplanned switchover due to failures, then Omnichannel Database does not replicate any data, and you must reinstate its replication capabilities after completing the switchback to DC1.

Omnichannel DB must have its replicating function validated before attempting a switchback. Failure to perform this validation can lead to issues during the switchback process.

For more information, see procedure in [Verifying the Omnichannel Database mirroring status](#) on page 50.

## Validating Avaya Oceana® core components replication operational before switchback

### About this task

Before any planned switchback to the re-instated DC1, verify that the health status of the application replicating data from the DC2 to DC1 is fully operational.

The Omnichannel database replicates data from DC2 to DC1 after a planned switchover using Cache Mirroring from DR to primary. If this was an unplanned switchover due to failures, then Omnichannel Database does not replicate any data, and you must reinstate its replication capabilities after completing the switchback to DC1.

Omnichannel DB must have its replicating function validated before attempting a switchback. Failure to perform this validation can lead to issues during the switchback process.

## Verifying the CallServerConnector component in the primary site

### About this task

Before switchback, you must verify the CallServerConnector component in the primary site as the CallServerConnector attributes handle the call control and the agent control functions on DC1.

### Procedure

1. On the Monitor Service page, click **Cluster 1 > Show cluster Messages**.  
You can see all the PUs in Cluster 1.
2. From the **Filters** column, select **CallServerConnector** PU.
3. Verify that the `HEARTBEAT` message for **CallServerConnector** PU is `INTACT`.

## Verifying deployment mode status of primary site email snap-in

### About this task

Before a switchback, validate that the email snap-in deployment mode status attribute in the primary site is `true`.

If you do not have an email channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary site Service Clusters tab, do the following:
  - a. **Cluster:** Select primary Cluster 3.
  - b. **Service:** Select `EmailService`.
3. In the **Advanced** area, in the **Deployment status of emailmanager** field, ensure that the field value is set to `true`.

**\* Note:**

Setting the field value to `true` triggers the deployment as it is the default value.

4. Click **Commit**.

You do not need to reboot Avaya Oceana® Cluster 3.

## Verifying the shutdown mode status of primary site CustomerController chat snap-in

### About this task

The CustomerController snap-in enables the chat contacts to enter the Avaya Oceana® ecosystem. Before a switchback from the DR site, validate that the shutdown mode status attribute in the primary site for this snap-in is `false`.

If you do not have a chat channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary Site Service Clusters tab, do the following:
  - a. **Cluster:** Select `primary Cluster 3`.
  - b. **Service:** Select `CustomerControllerService`.
3. In the **Advanced** area, in the **Shutdown mode status** field, ensure that the field value is set to `false`.
4. Click **Commit**.

You do not need to reboot Avaya Oceana® Cluster 3.

## Verifying the shutdown mode status of primary site MessagingService snap-in

### About this task

The MessagingService snap-in works on the front-end of many Avaya Oceana® channel snap-ins such as SMS, Social, or Async. Before a switchback, you must check the status of the shutdown mode attribute for this snap-in in the primary site. This will help make sure that the switchback goes smoothly.

If you do not have an SMS, Social, or Async channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.

2. On the primary Site Service Clusters tab, do the following:
  - a. **Cluster:** Select `primary Cluster 3`.
  - b. **Service:** Select `MessagingService`.
3. In the **Advanced** area, in the **Shutdown Mode status** field, ensure that the field value is set to `false`.
4. Click **Commit**.

You do not need to reboot Avaya Oceana® Cluster 3.

## Verifying the shutdown mode status of primary site GenericChannelAPI snap-in

### About this task

The GenericChannelAPI snap-in gets the generic contacts into the Avaya Oceana®. Before a switchback, you must check the status of the shutdown mode attribute for this snap-in in the primary site. This will help make sure that the switchback goes smoothly.

If you do not have a generic channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the primary Site Service Clusters tab, do the following:
  - a. **Cluster:** Select `primary Cluster 3`.
  - b. **Service:** Select `GenericChannelAPI`.
3. In the Advanced area, in the **Shutdown Mode** status field, validate that the field value is set to `false`.
4. Click **Commit**.

You do not need to reboot Avaya Oceana® Cluster 3.

## Verifying deployment status of AMC snap-in for Avaya WebRTC Connect contacts

### About this task

The Avaya Mobile Communications (AMC) snap-in enables WebRTC Connect voice and video contacts to enter Avaya Oceana®. Before a switchback.

You must verify the deployment status of the AMC snap-in Processing Unit (PU) using Oceana Monitor to ensure if the snap-in is active and operational. This will help make sure that the switchback goes smoothly.

If you do not have WebRTC Connect channel deployed on Avaya Oceana®, you can skip this procedure.

## Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration > Primary Cluster 1**.
2. In the **Cluster** field, select **Oceana Monitor**.
3. Select **Cluster 2 > Grid Info** to view the PU status of all the snap-ins.

Verify if the PU status is `Intact`. If the status is `Scheduled` or `Broken`, the AMC snap-in is not operational. You must resolve the issue before proceeding with the switchover. Otherwise, when the switchover is complete, WebRTC Connect voice or video contacts will not be routed in Avaya Oceana®.

## Preparing DC1 for UCA and UCM database restore

### About this task

After a partial or full DR switchover, when there are additions and changes to the databases, restore Unified Collaboration Administration (UCA) and Unified Collaboration Model (UCM) data.

#### **Note:**

After a partial or full DR switchover, the data for UCA and UCM can be restored as part of the switchover process. If the customer does not require any data from DC2 to be restored, do not uninstall or reboot the cluster.

## Procedure

1. Log on to Avaya Aura® System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
3. On the Service Clusters tab, select **UCAStoreService**.
4. In the Startup Configuration group, set the **Disaster recovery role** attribute to `GEO_MASTER` on DC1 and `GEO_SLAVE` on DC2.

#### **Important:**

**Disaster recovery role** is a mandatory attribute if you require geographical disaster recovery. After configuration, if you change the **Disaster recovery role** attribute, you must reboot the cluster for the changes to take effect.

5. Click **Commit**.

## Preparing UCAStoreservice in DC1 for database restore

### About this task

Uninstall the Unified Collaboration Administration (UCA) service from the primary Cluster 1 in DC1 so that the UCA database restore from DC2 is picked up by the UCA in DC1.

## Procedure

1. Log on to Avaya Aura® System Manager.

2. On the System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
3. On the Services page, select the check box of **UCAStoreService** and click **Uninstall**.
4. In the **Confirm Uninstall service: UCAStoreService** dialog box, select the check box of **primary Cluster 1** and click **Commit**.
5. On the Services page, verify that the state of the service is `Uninstalling`.

The state changes to `Uninstalled` when the process is complete.

## Preparing UCMService in DC1 for database restore

### About this task

Use this procedure to uninstall the UCMService from primary Cluster 1 for the Unified Collaboration Model (UCM) database restore. Uninstalling the UCMService does not impact the current ongoing Avaya Oceana® disaster recovery operations.

### Procedure

1. Log on to Avaya Aura® System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
3. On the Services page, select the check box of **UCMService** and click **Uninstall**.
4. In the **Confirm Uninstall service: UCMService** dialog box, select the check box of **primary Cluster 1** and click **Commit**.
5. On the Services page, verify that the state of the service is `Uninstalling`.

The state changes to `Uninstalled` when the process is complete.

## Rebooting Avaya Oceana® Cluster 1 on DC1

### About this task

Reboot cluster 1 nodes on DC1. You can reboot outside the maintenance window allocated for the actual switchback to DC1.

### Procedure

1. Log on to Avaya Aura® System Manager.
2. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
3. Select **Primary cluster 1** and reboot.

Wait until the reboot of all nodes is complete and the nodes are back in service in `Deny` mode.

## Logging out supervisors and agents from the DR site

For a planned switchback, ensure that all Avaya Oceana® agents are logged out. Supervisors can verify agent status using the **My Agents** widget. Supervisors must co-ordinate locally to ensure that the agents are logged out. It is also suggested that supervisors view the Analytics real time dashboard to validate if all users are logged out.

## Validating contacts

For a planned switchback, you must ensure that new contacts do not arrive into the DR Avaya Oceana® once the shutdown starts. You must close any Queued or In Progress contacts that an agent is processing. For example, to check if the status of all the current contacts for all channels is Processed and Closed, log in as an Avaya Oceana® supervisor and use Avaya Analytics™ real time displays. For more information, refer to the Avaya Oceana® and Avaya Analytics™ documentation suite.


 **Note:**

Queued contacts are lost if not processed before the switchback to DC1.

## Switchback - Partial controlled failover

### Checklist for Partial Controlled Switchback

The following checklist provides the list of steps to perform a Partial Controlled Switchback.

No.	Task	Description	
1	Shut down and switch back the DR site voice channel to the primary site.	See <a href="#">Shut down and switchover to DR site voice channel</a> on page 149.	
2	Configure the DR site email shutdown.	See <a href="#">Configuring DR site email shutdown</a> on page 150.	
3	Configure the DR site MessagingService shutdown.	See <a href="#">Configuring DR site MessagingService shutdown</a> on page 150.	
4	Configure the DR site chat shutdown.	See <a href="#">Configuring DR site chat shutdown</a> on page 151.	
5	Configure the primary site GenericChannelAPI service shutdown.	See <a href="#">Configuring DR site GenericChannelAPI Service shutdown</a> on page 151.	
6	Set the maintenance mode for web voice and web video.	See <a href="#">Setting the maintenance mode for web voice and web video</a> on page 152.	

*Table continues...*

No.	Task	Description	✓
7	Shut down the DR outbound channel.	See <a href="#">Oceana POM switchback</a> on page 152.	
8	Change the cluster activity status for clusters in DC2.	See <a href="#">Changing the Cluster Activity status for the clusters in Data Center 2</a> on page 152.	
9	Reconfigure Avaya Oceana® addresses to DC1.	See <a href="#">Reconfiguring Avaya Oceana addresses to DC1</a> on page 153.	
10	Point ACM to the Omnichannel database server in DC1.	See <a href="#">Pointing ACM to the new Omnichannel database server in DC2</a> on page 154.	
11	Clean up and reconfigure the Mirror setup on DC1 and DC2.	See <a href="#">Clean up and reconfigure Mirror setup on DC1 and DC2</a> on page 154.	
12	Configure Omnichannel database mirroring between DC1 and DC2.	See <a href="#">Configuring Omnichannel database mirroring between DC1 and DC2</a> on page 158.	
13	Configure the Web Voice and Web Video after Switchback.	See <a href="#">Configuring the Web Voice and Web Video after Switchback</a> on page 158.	
14	Avaya Workspaces Agent switchover.	See <a href="#">Avaya Workspaces agent switchover</a> on page 158.	
15	Validate and test deployed channels.	See <a href="#">Validate and test deployed channels</a> on page 158.	

## Shut down and switchover to DR site voice channel

### About this task

You can omit these instructions if the PSTN channel is not deployed in the solution.

Before switching back to the primary, you must shut down the existing PSTN Voice channel in a graceful manner. The following are some recommendations to shut down incoming voice contacts for the two front end options supported in Avaya Oceana® 3.x.

- For Avaya Oceana® deployments with a front-end application running on Avaya Experience Portal, it is recommended to have a flag is used at the start of the workflow for startup or shutdown operations. Using this flag, the administrator can redirect incoming voice calls to an automated response. The automated response rejects the incoming call or transfers the calls to an alternate call handling mechanism. The Avaya Oceana® 3.x solution uses Avaya Experience Portal voice application, which contains sample code to implement this using Call Application Variables (CAVs). Also, specifies the data center that is operational at a given time. Setting this flag to any of the data center ensures incoming PSTN voice contacts are only routed to that data center. This is a simple and effective method to turn on or turn off incoming voice to an Avaya Oceana® DR system.
- For Avaya Oceana® deployments with Call Center Elite as front end, a CM variable indicating Avaya Oceana® in service or out of service is configured and checked on new incoming voice

contacts. If the flag is set to indicate out of service, then new incoming voice contacts are routed to alternate fallback options until the switchback to the DR infrastructure is complete.

### Procedure

1. Log in to the Avaya Experience Portal web portal with the Administrator user role.
2. In the navigation pane, click **System Configuration > Applications**.
3. Select the application you want to modify, and click **Configurable Application Variables**.
4. In the **Active Data Center** field, click **DataCenter2**.
5. Click **Save**.

When new incoming voice contacts come in through the Avaya Experience Portal application, they are routed to the Avaya Oceana® system in the primary location DC1.

## Configuring DR site email shutdown

### About this task

For switchbacks, if email is deployed, you must change the deployment mode status of the EmailService snap-in from true to false. An Avaya Oceana® administrator with access to System Manager can change the status.

If the email channel is not deployed on Avaya Oceana®, you can skip this procedure.

When the administrator shuts down the EmailService using the shutdown mode flag:

- New emails are not retrieved from the email server.
- Outgoing emails are queued within the Cache database.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **EmailService**.
3. In the **Deployment Mode** status, do the following:
  - a. Select the **Override Default** check box
  - b. In the **Effective Value** field, change the value from `true` to `false`.
4. Click **Commit**.

## Configuring DR site MessagingService shutdown

### About this task

For a planned switchback, an administrator can manually stop new incoming SMS, Social and Async contacts from entering the Avaya Oceana® and allow existing contacts to be processed gracefully out of the system.

If you do not have SMS, Social, or Async channels deployed on Avaya Oceana<sup>®</sup>, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana<sup>®</sup> Cluster 3.
  - b. **Service:** Select **MessagingService**.
3. In **Shutdown Mode** status, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

## Configuring DR site chat shutdown

### About this task

For a planned switchback, an administrator can manually stop new incoming chat contacts from entering Avaya Oceana<sup>®</sup> and allow existing contacts to be processed gracefully out of the system.

If you do not have the chat channel deployed on Avaya Oceana<sup>®</sup>, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana<sup>®</sup> Cluster 3.
  - b. **Service:** Select **CustomerControllerService**.
3. In **Shutdown Mode** status, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

## Configuring DR site GenericChannelAPI Service shutdown

### About this task

For a planned switchback, an administrator can manually stop new incoming Generic contacts from entering Avaya Oceana<sup>®</sup> and allow existing contacts to be processed gracefully out of the system.

If you do not have the Generic channel deployed on Avaya Oceana<sup>®</sup>, you can skip this procedure.

## Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **GenericChannelAPI**.
3. In **Shutdown Mode** status, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

## Setting the maintenance mode for web voice and web video

For a planned switchover, you must modify the front-end web portals that host the Avaya WebRTC Connect voice or video capabilities to indicate to the end users that the service is temporarily unavailable. Use a flag to toggle between in service and out of service.

## Oceana POM switchback

The Outbound channel does not support disaster recovery. Therefore, you must stop running campaigns on the Proactive Outreach Manager server before shutting Avaya Oceana®.

## Changing the Cluster Activity status for the clusters in Data Center 2

### Before you begin

You must install OceanaMonitorService on the clusters in Data Center 2.

### Procedure

1. Open the Oceana Manager page by entering the following URL in your web browser:

```
https://<DataCenter1_AvayaOceanaCluster1_FQDN>/services/OceanaMonitorService/manager.html?affinity=)
```

#### **Important:**

Create a bookmark of this URL in your web browser to open the Oceana Manager page even when System Manager is unavailable.

2. **(Optional)** To open the DR Oceana Manager page through System Manager, do the following:
  - a. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.

- b. On the Cluster Administration page, in the **Service URL** column for Avaya Oceana® Cluster 1, select **Oceana Manager**.
3. Log in to Oceana Manager using an Admin account.
4. On the Oceana Manager page, do the following:
  - a. Verify that the status of the clusters is `ACTIVE`.
  - b. Click **Set Cluster Group to Standby** to change the status to `STANDBY` and place all nodes in the Deny New Service mode.
  - c. On the confirmation message box, click **OK**.
  - d. **(Optional)** If the Oceana Manager page does not display the updated status after some time, click **Refresh**.
  - e. Refresh the Clusters page in Avaya Breeze® platform EM and validate that all the clusters in the DR site are in Deny state.

## Reconfiguring Avaya Oceana® addresses to DC1

### About this task

Use this procedure to restore and reconfigure multiple fields in Avaya Control Manager to point to local hostnames or IP addresses at Data center 1.

### Procedure

1. Log on to Avaya Control Manager with an administrator user role.
2. On the Avaya Control Manager webpage, click **Configuration > Avaya Oceana™ > Server Details**.
3. Double-click the **UCAServer** instance.
4. Select the **System Properties** tab.
5. Expand **Omni Channel**.
6. In the **Omni Channel Database Server** field, update the hostname or IP address pointing to the Omnichannel server in Data center 1.

#### **Note:**

Enter the hostname of the VIP if using Omnichannel database mirroring. Otherwise, enter the name of the Omnichannel Database server as administered in the HTTPS certificate installed on the Omnichannel Database server. However, for lab deployments customers you can use IP address.

7. In the **Workspaces** field, enter the Welcome Page URL for Data Center 1 operations.
8. In the **Workspaces** field, enter the Widget Web Server URL link for Data Center 1 operations.
9. Click **Save**.

## Pointing ACM to the new Omnichannel database server in DC2

### About this task

Use this procedure to set up Avaya Control Manager to point to the new Omnichannel database primary server.

### Procedure

1. Log on to Avaya Control Manager.
2. Navigate to **Configuration > Avaya Oceana™ > Server Details**.
3. Double-click the administered Avaya Oceana® server or select the administered Avaya Oceana® server and click **Edit**.
4. Click the **System Properties** tab.
5. Expand **Omni Channel**.
6. In **Omni Channel Database Server**, enter the name, host name, or IP address of the Omnichannel Database DR server (Server C) as administered in the HTTPS certificate installed on the Omnichannel Database server. The name must match the name on the certificate, and the certificate must also be trusted to avoid any certificate errors.

For more information on configuring the Omnichannel certificate, refer to the *Retrieve certificate files* section in the *Deploying Avaya Oceana®* document.

## Clean up and reconfigure Mirror setup on DC1 and DC2

For switchback to Cache server DC1 site, you must manually remove mirroring configuration and re-setup. Perform the procedure only when all Cache servers in DC1 and DC2 are available.

### ! Important:

For both planned maintenance and un-planned switchovers, mirroring must be re-configured as part of the switchback procedure.

Before performing the procedures, ensure that you have deployed the following Omnichannel Database servers:

- Omnichannel Server A as the original primary member on DC1
- Omnichannel Server B as the original standby member on DC1 if you have dual server pair setup on DC1
- Omnichannel Server C as the original async member on DC1 which is now the primary member after switchover

### \* Note:

If you do not have dual server setup on DC1, you can ignore [Removing mirroring configuration on Omnichannel Server B](#) on page 155.

## Removing mirroring configuration on Omnichannel Server A

### Procedure

On the Omnichannel Server A in the primary site, do the following:

1. In your web browser, enter the following URL to open Cache Management Portal:

`http://<DC1OmnichannelServerIP>:57772/csp/sys/UtilHome.csp`

<DC1OmnichannelServerIP> is the IP address of the active Omnichannel Database server in Data Center 1.

2. On the Cache Management Portal login page, do the following:
  - a. In the **User Name** field, type `_admin`.
  - b. In the **Password** field, type `Oceana16`.
  - c. Click **LOGIN**.
3. Go to **System Administration > Configuration > Mirror Settings > Edit async**.
4. Select **Remove mirror configuration**.
5. For Remove mirror attribute, select **Yes**.
6. Click **Remove**.
7. Remove any Journal files beginning with MIRROR in  
`E:\AVAYA\OCEANA\DATABASES\JOURNAL` where E represents the Journal drive.

## Removing mirroring configuration on Omnichannel Server B Procedure

On the Omnichannel Server B in the DR site, do the following:

1. In your web browser, enter the following URL to open Cache Management Portal:

`http://<DC1OmnichannelServerIP>:57772/csp/sys/UtilHome.csp`

Where, <DC1OmnichannelServerIP> is the IP address of the active Omnichannel Database server in Data Center 1.

2. On the Cache Management Portal login page, do the following:
  - a. In the **User Name** field, type `_admin`.
  - b. In the **Password** field, type `Oceana16`.
  - c. Click **LOGIN**.
3. Go to **System Administration > Configuration > Mirror Settings > Edit mirror**.
4. Select **Remove mirror configuration**.
5. Select **Clear mirror flag**.
6. In the System Management tray, right-click the greyed out Cache cube icon.
7. Select **Stop Cache**.
8. Select **Restart**.
9. Navigate to the Cache Management Portal.
10. Go to **System Administration > Configuration > Mirror Settings > Edit mirror**.

11. Select **Remove mirror configuration**.
12. For Remove mirror attribute, select **Yes**.
13. Click **Remove**.
14. Remove any Journal files beginning with MIRROR in  
E:\AVAYA\OCEANA\DATABASES\JOURNAL where E represents the Journal drive.

## Removing mirroring configuration on Omnichannel Server C

### Procedure

On the Omnichannel Server C in the DR site, do the following:

1. In your web browser, enter the following URL to open Cache Management Portal:  
`http://<DC1OmnichannelServerIP>:57772/csp/sys/UtilHome.csp`  
where <DC1OmnichannelServerIP> is the IP address of the active Omnichannel Database server in Data Center 1.
2. On the Cache Management Portal login page, do the following:
  - a. In the **User Name** field, type `_admin`.
  - b. In the **Password** field, type `Oceana16`.
  - c. Click **LOGIN**.
3. Navigate to **System Administration > Configuration > Mirror Settings > Edit mirror**.
4. Select **Remove mirror configuration**.
5. Select **Clear mirror flag**.
6. In system management tray, right-click the greyed out Cache cube icon.
7. Select **Stop Cache**.
8. Select **Restart**.
9. Navigate to the Cache Management Portal.
10. Navigate to **System Administration > Configuration > Mirror Settings > Edit mirror**.
11. Select **Remove mirror configuration**.
12. For Remove mirror attribute, select **Yes**.
13. Click **Remove**.
14. Remove any Journal files beginning with MIRROR in  
E:\AVAYA\OCEANA\DATABASES\JOURNAL where E represents the Journal drive.

## Creating a data backup on Server C

### Procedure

1. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDataManagement` folder.

2. Double-click the `OceanaDataManagementTool.exe` file.
3. In the Oceana Data Management utility, click **Backup And Restore**.
4. In the navigation pane, click **Backup And Restore**.
5. In the **Select/create file to backup to** field, click **Browse**.
6. On the Save As screen, select the location where you want to save the backup file.

 **Important:**

Do not save the backup file to the software, journal, or multimedia drive.

7. Specify a name for the backup file.

 **Note:**

When naming the file, use English or numeric characters only.

8. Click **Save**.
9. Click **Backup Database**.

The application displays the `Backup complete!` message when the backup process is complete.

### Next steps

Verify that the backup file is created at the specified location.

## Restoring data on Server A

### Procedure

1. Copy the backup file from Server C to Server A.
2. Navigate to the `OCEANA_INSTALL_DIR\Avaya\Oceana\MMDataManagement` folder.
3. Double-click the `OceanaDataManagementTool.exe` file.
4. In the Oceana Data Management utility, click **Backup And Restore**.
5. In the navigation pane, click **Backup And Restore**.
6. In the **Select file to restore from** field, click **Browse**.
7. On the Open dialog box, browse to the location where you stored the backup file.
8. Select the backup `.cbk` file.
9. Click **Open**.
10. Click **Restore Database**.
11. For **Are you restoring a mirrored backup**, click **Yes**.
12. Click **Restore**.

The application displays the `Restore complete!` message after the restore process is completed.

## Configuring Omnichannel database mirroring between DC1 and DC2

To re-establish configuration between DC1 and DC2, see [Omnichannel database mirroring configurations](#) on page 49.

## Configuring the Web Voice and Web Video after Switchback

### About this task

Use this procedure to re-configure any deployed Customer Web Voice and Video capabilities once the switchback to the Oceana in the primary site is complete.

### Procedure

1. Change the DNS mapping of the Authorization token service FQDN to map to the public address of the Authorization token service in the primary site.
2. Change the DNS mapping of the Avaya Aura® Web Gateway server FQDN to map to the public address of the Avaya Aura® Web Gateway server in the primary site.
3. Change the DNS mapping of the AvayaMobileCommunications cluster FQDN to map to the public address of the AvayaMobileCommunications cluster in the primary site.

After the DNS changes take effect, all new call requests from the web and mobile clients go to the primary site.

## Avaya Workspaces agent switchover

When all the elements in the restored primary location are active, the Avaya Workspaces agents must re-login to the primary Avaya Oceana® after a switchback. The agents require access to the Avaya Workspaces URL for the primary location.

The default Avaya Workspaces URL for both locations are:

Primary Site: `https://<UAC Cluster IP/FQDN DC1>/services/UnifiedAgentController/workspaces/#/login`

DR Site: `https://<UAC Cluster IP/FQDN DC2>/services/UnifiedAgentController/workspaces/#/login`

## Validate and test deployed channels

After a partial or full switchover, verify if the elements in the primary location are active. You must also validate the routing of the deployed channels.

# Switchback - Full controlled failover

## Checklist for Full Controlled Switchback

The following checklist provides the list of steps to perform a Full Controlled Switchback.

No.	Task	Description	✓
1	Shut down and switch back DR site voice channel to primary site.	See <a href="#">Shut down and switchover to DR site voice channel</a> on page 161.	
2	Configure Application Enablement Services (AES) for switchback.	See <a href="#">Configuring Application Enablement Services (AES) for switchback</a> on page 162.	
3	Switch back from ESS to Avaya Aura <sup>®</sup> Communication Manager after full DR switchovers.	See <a href="#">Switchback from ESS to Avaya Aura Communication Manager after full DR switchovers</a> on page 162.	
4	Configure the DR site email shutdown.	See <a href="#">Configuring DR site email shutdown</a> on page 163.	
5	Configure the DR site MessagingService shutdown.	See <a href="#">Configuring DR site MessagingService shutdown</a> on page 163.	
6	Configure the DR site chat shutdown.	See <a href="#">Configuring DR site chat shutdown</a> on page 164.	
7	Configure the DR site GenericChannelAPI service shutdown.	See <a href="#">Configuring DR site GenericChannelAPI Service shutdown</a> on page 164.	
8	Set the maintenance mode for front end web voice and web video.	See <a href="#">Setting the maintenance mode for web voice and web video</a> on page 165.	
9	Shut down DR outbound channel.	See <a href="#">Oceana POM switchback</a> on page 165.	
10	Re-instate System Manager as Primary on DC1.	See the following topics: <ul style="list-style-type: none"> <li>• <a href="#">Re-Instate System Manager replication to DC2 System Manager</a> on page 165.</li> <li>• <a href="#">Checklist for Avaya Aura System Manager switchback</a> on page 165.</li> </ul>	
11	Verify Avaya Aura <sup>®</sup> System Manager replication status between DC1 to DC2.	See <a href="#">Verifying replication status between DC1 to DC2</a> on page 169.	
12	Validate Avaya Aura <sup>®</sup> System Manager and Avaya Breeze <sup>®</sup> platform replication status to all Avaya Breeze <sup>®</sup> platform nodes in DC1 and DC2.	See <a href="#">Validating Avaya Aura<sup>®</sup> System Manager and Avaya Breeze<sup>®</sup> replication status</a> on page 169.	

Table continues...

No.	Task	Description	✓
13	Verify Avaya Breeze® platform node controller.	See <a href="#">Verifying Avaya Breeze platform node controller</a> on page 170.	
14	Change the cluster activity status for clusters in DC2.	See <a href="#">Changing cluster activity status for clusters in Data Center 2</a> on page 170.	
15	Reconfigure Avaya Oceana® addresses to DC1.	See <a href="#">Reconfiguring Avaya Oceana addresses to DC1</a> on page 171.	
16	Re-establish UCA replication from primary UCA to DR UCA.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Re-establishing UCA replication from primary UCA to DR UCA</a> on page 172.</li> <li>• <a href="#">Taking a backup of UCASoreService in Data Center 2</a> on page 172.</li> <li>• <a href="#">Scheduling Database Backups UCMServer and UCASoreService</a> on page 173.</li> <li>• <a href="#">Restoring UCASoreService data in DC1</a> on page 174.</li> <li>• <a href="#">Installing UCASoreService in DC1</a> on page 175.</li> </ul>	
17	Restore UCMService after switchback.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Backing up UCMService in DC2</a> on page 175.</li> <li>• <a href="#">Restoring UCMService data in DC1</a> on page 177.</li> </ul>	
18	Point ACM to the Omnichannel database server in DC1.	See <a href="#">Pointing ACM to the new Omnichannel database server in DC2</a> on page 178.	
19	Clean up and reconfigure Mirror setup on DC1 and DC2.	See <a href="#">Clean up and reconfigure Mirror setup on DC1 and DC2</a> on page 178.	

Table continues...

No.	Task	Description	✓
20	Restore Avaya Control Manager.	See the following: <ul style="list-style-type: none"> <li>• <a href="#">Restoring Avaya Control Manager</a> on page 179.</li> <li>• <a href="#">Reconfiguring Avaya Control Manager in switchback scenarios</a> on page 179.</li> <li>• <a href="#">Using the Toggle button to switch back Avaya Control Manager in Data Center 1</a> on page 179.</li> </ul>	
21	Restore the External Data Mart server.	See <a href="#">Restoring the External Data Mart server</a> on page 180.	
22	Avaya Workspaces agent switchover.	See <a href="#">Avaya Workspaces agent switchover</a> on page 182.	
23	Validate and test deployed channels.	See <a href="#">Validate and test deployed channels</a> on page 183.	

## Shut down and switchover to DR site voice channel

### About this task

You can omit these instructions if the PSTN channel is not deployed in the solution.

Before switching back to the primary, you must shut down the existing PSTN Voice channel in a graceful manner. The following are some recommendations to shut down incoming voice contacts for the two front end options supported in Avaya Oceana® 3.x.

- For Avaya Oceana® deployments with a front-end application running on Avaya Experience Portal, it is recommended to have a flag is used at the start of the workflow for startup or shutdown operations. Using this flag, the administrator can redirect incoming voice calls to an automated response. The automated response rejects the incoming call or transfers the calls to an alternate call handling mechanism. The Avaya Oceana® 3.x solution uses Avaya Experience Portal voice application, which contains sample code to implement this using Call Application Variables (CAVs). Also, specifies the data center that is operational at a given time. Setting this flag to any of the data center ensures incoming PSTN voice contacts are only routed to that data center. This is a simple and effective method to turn on or turn off incoming voice to an Avaya Oceana® DR system.
- For Avaya Oceana® deployments with Call Center Elite as front end, a CM variable indicating Avaya Oceana® in service or out of service is configured and checked on new incoming voice contacts. If the flag is set to indicate out of service, then new incoming voice contacts are routed to alternate fallback options until the switchover to the DR infrastructure is complete.

### Procedure

1. Log in to the Avaya Experience Portal web portal with the Administrator user role.
2. In the navigation pane, click **System Configuration > Applications**.
3. Select the application you want to modify, and click **Configurable Application Variables**.

4. In the **Active Data Center** field, click **DataCenter2**.
5. Click **Save**.

When new incoming voice contacts come in through the Avaya Experience Portal application, they are routed to the Avaya Oceana® system in the primary location DC1.

## Configuring Application Enablement Services (AES) for switchback

### About this task

In the setup instructions for Avaya Oceana® disaster recovery solution, there are two switch connections configured from Application Enablement Services in the DR location. Switch Connection 1 is the primary Communication Manager and Switch Connection 2 is the ESS. During the switchback procedures, you must reset the active Communication Manager link to the original configured ESS link on the DR Application Enablement Services server or servers.

### Procedure

1. On the Application Enablement Services web portal of the DR location, go to **Communication Manager Interface > Switch Connections**.  
The Switch Connection tab displays the entries configured from Application Enablement Services. If there are no connections, then contact the system administrator to add the required number of switch connections.
2. On the Application Enablement Services administration portal, go to **Status > Status and Control > Switch Connection Summary**
3. Set the Switch Connection entry for Communication Manager in the primary location to **offline**.
4. Set the Switch Connection entry for ESS server in the DR location to **online**.
5. On the Application Enablement Services administration portal, go to **Status > Status and Control > TSAPI Service Summary**.
6. Set the Switch Connection entry for ESS server to **online**.
7. Set the Switch Connection entry for the Communication Manager in the primary location to **offline**.

## Switchback from ESS to Avaya Aura® Communication Manager after full DR switchovers

The ESS to Avaya Aura® Communication Manager recovery is dependent on customer deployment of media servers or gateways. For more information, see [White Paper - Communication Manager Survivability in an Environment with Media Servers](#).

## Configuring DR site email shutdown

### About this task

For switchbacks, if email is deployed, you must change the deployment mode status of the EmailService snap-in from true to false. An Avaya Oceana® administrator with access to System Manager can change the status.

If the email channel is not deployed on Avaya Oceana®, you can skip this procedure.

When the administrator shuts down the EmailService using the shutdown mode flag:

- New emails are not retrieved from the email server.
- Outgoing emails are queued within the Cache database.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **EmailService**.
3. In the **Deployment Mode** status, do the following:
  - a. Select the **Override Default** check box
  - b. In the **Effective Value** field, change the value from `true` to `false`.
4. Click **Commit**.

## Configuring DR site MessagingService shutdown

### About this task

For a planned switchback, an administrator can manually stop new incoming SMS, Social and Async contacts from entering the Avaya Oceana® and allow existing contacts to be processed gracefully out of the system.

If you do not have SMS, Social, or Async channels deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **MessagingService**.
3. In **Shutdown Mode** status, do the following:
  - a. Select the **Override Default** check box.

- b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

## Configuring DR site chat shutdown

### About this task

For a planned switchback, an administrator can manually stop new incoming chat contacts from entering Avaya Oceana® and allow existing contacts to be processed gracefully out of the system.

If you do not have the chat channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **CustomerControllerService**.
3. In **Shutdown Mode** status, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.
4. Click **Commit**.

## Configuring DR site GenericChannelAPI Service shutdown

### About this task

For a planned switchback, an administrator can manually stop new incoming Generic contacts from entering Avaya Oceana® and allow existing contacts to be processed gracefully out of the system.

If you do not have the Generic channel deployed on Avaya Oceana®, you can skip this procedure.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Configuration > Attributes**.
2. On the Service Clusters tab, do the following:
  - a. **Cluster:** Select DR site Avaya Oceana® Cluster 3.
  - b. **Service:** Select **GenericChannelAPI**.
3. In **Shutdown Mode** status, do the following:
  - a. Select the **Override Default** check box.
  - b. In the **Effective Value** field, change the value from `false` to `true`.

4. Click **Commit**.

## Setting the maintenance mode for web voice and web video

For a planned switchover, you must modify the front-end web portals that host the Avaya WebRTC Connect voice or video capabilities to indicate to the end users that the service is temporarily unavailable. Use a flag to toggle between in service and out of service.

## Oceana POM switchback

The Outbound channel does not support disaster recovery. Therefore, you must stop running campaigns on the Proactive Outreach Manager server before shutting Avaya Oceana®.

## Re-Instate Avaya Aura® System Manager

### Re-instate Avaya Aura® System Manager as Primary on DC1

Before any switchback, re-establish original System Manager primary and System Manager disaster recovery with replication from Data Center 1 (DC1) to Data Center 2 (DC2) regardless of the current state of the system post switchover. You must also verify the health of System Manager DC1 and DC2 replication state. You must have a healthy replication state between System Manager in DC1 and the System Manager in DC2.

At this point in the process, a partial or full switchover can occur. It can occur due to a failure or a planned maintenance window for testing the disaster recovery capabilities. Regardless of the current state of the two System Manager, reinstate their original deployed state before proceeding any further with the switchback. This means that you must have a primary System Manager in DC1 replicating to a standby System Manager in DC2.

If the switchover was caused by the failure or loss of the primary System Manager, you must first reinstate the failed System Manager and replication before attempting a switchback.

If the switchover was a planned full DR switchover, then the role of the primary is taken over by System Manager in DC2. Reverse with a System Manager switchback.

If a planned partial DR switchover occurred, then the roles of the System Manager is not changed from their original deployed state and further action is not required.

## Checklist for Avaya Aura® System Manager switchback

The following is a checklist of Avaya Aura® System Manager procedures for full DR switchbacks.

No.	Task	Description	Notes	✓
1	Deactivate the secondary System Manager server.	Deactivate the secondary System Manager server. See <a href="#">Deactivating the secondary System Manager server</a> on page 166.	For more information, see <i>Administering Avaya Aura® System Manager</i> .	
2	Restore the primary System Manager server.	After you deactivate the secondary System Manager server, restore the Primary System Manager server. See <a href="#">Restoring the primary System Manager server</a> on page 166.	For more information, see <i>Administering Avaya Aura® System Manager</i> .	

## Deactivating the secondary System Manager server

### Before you begin

Log on to the System Manager web console of the secondary server.

### Procedure

1. On the System Manager web console, click **Services > Geographic Redundancy > GR Health**.
2. Click **Deactivate Secondary Server**.

The system displays the Deactivate Secondary Server dialog box and the progress while performing the deactivation process.

3. Click **OK**.

If the deactivation process is complete, the secondary System Manager server goes to the standby mode. If the deactivation process fails, the system displays an error message on the secondary System Manager web console and the server remains in the active mode.

### Next steps

Restore primary System Manager. For information, see “Restoring the primary System Manager server”.

## Restoring the primary System Manager server

### Before you begin

Log on to the System Manager web console of the primary server.

## About this task

You can restore the data when the secondary System Manager server is active or in the standby mode. However, for minimum system nonfunctional time during data restoration or an emergency or both, you can restore the data when the secondary System Manager server is active.

### Important:

After you restore the system with the secondary System Manager data, if you want to revert to the primary System Manager data, you can restore to the primary System Manager data using the procedure in Step 4. However, you must restore to the primary System Manager data, before you enable the Geographic Redundancy replication. After you enable the Geographic Redundancy replication, you cannot restore to the primary System Manager server data.

## Procedure

1. On the System Manager web console, click **Services > Geographic Redundancy**.
2. Click **Restore Data**.
3. On the Restore GR dialog box, select a server whose data you want to retain:

- **Primary Server**

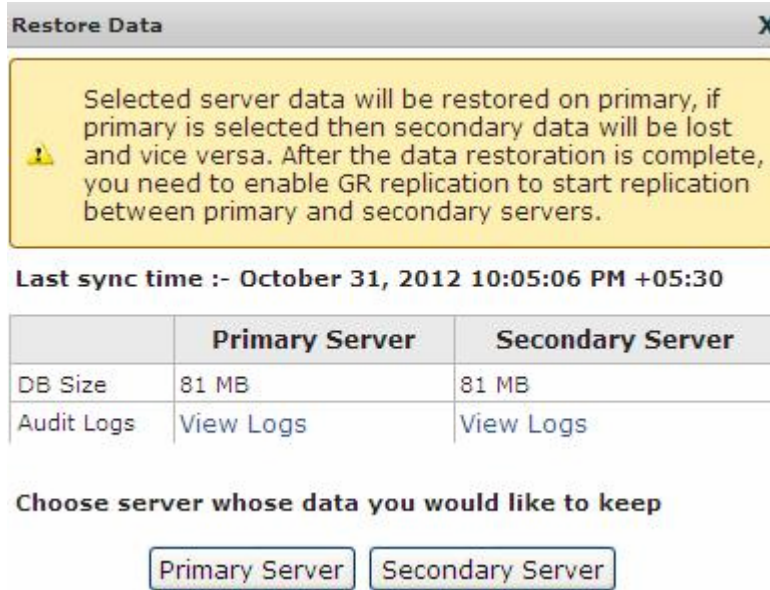
The system keeps the primary System Manager server data. The data on the secondary System Manager server is lost.

Select the secondary System Manager server if the secondary System Manager server data changes significantly during the interval between activation and deactivation and the administrator wants to retain those changes even after restoring the data using **Restore Data**.

- **Secondary Server**

The system restores the data from the secondary server on the primary System Manager server. the System Manager web console is unavailable for some time. The time that the system takes to restore depends on the network speed and the size of the data that the system must restore.

After the system recovery, select the secondary System Manager server if the secondary System Manager server data changes significantly during the interval between the system recovery and the deactivation and if you want to retain the changes from the secondary System Manager server after restoring the data by using **Restore Data**.



The system displays the Restore Status dialog box.

The system displays the restore operation status and the status of the primary and the secondary System Manager server.

**! Important:**

After you restore the data, all changes that you make on the secondary System Manager server that is active will not be available on the primary System Manager server.

4. If you later decide to revert to the database of the primary System Manager server, perform the following steps after the restore is complete:
  - a. Using the command line interface, log in to System Manager of the primary server with administrator privilege CLI user credentials.
  - b. Change to the `$MGMT_HOME/geo/bin` directory.
  - c. Type `sh backupandrestore.sh recovery secondaryIP secondaryFQDN`.

When the script completes, System Manager restarts and contains the data from the primary System Manager server that was available before you restored with the secondary System Manager data.

**\* Note:**

- To restore with the secondary System Manager server data again, activate and deactivate the secondary System Manager server.
- Because the server becomes unavailable, you cannot gain access to the web console. Wait until the process is complete before you continue with the next step.

## Next steps

Verify the data and deactivate the secondary System Manager server if the server is active during the restoration process.

Enable the Geographic Redundancy replication to synchronize the primary and secondary System Manager servers.

## Verifying replication status between DC1 to DC2

### About this task

When Data Center 1 (DC1) contains the primary Avaya Aura® System Manager and DC2 contains the Geo or standby Avaya Aura® System Manager, you must check Avaya Aura® System Manager replication status from DC1 to DC2.

### Procedure

1. On the primary System Manager web console, in the **Application State** widget, verify the following states:
  - GR Server Role is PRIMARY
  - GR Server Mode is ACTIVE
  - GR Replication is ENABLED
2. Click **Services > Geographic Redundancy > GR Health**. Verify that Database Replication, File Replication, and Directory Replication are in green color and is Successful.

If any of the element is in red color and is in Failure or Stopped state, then do not proceed with the switchover and contact the system administrator to correct any problems.

3. On DC2 System Manager web console, in the **Application State** widget, verify the following states:
  - GR Server Role is SECONDARY
  - GR Server Mode is STANDBY
  - GR Replication is ENABLED
4. Verify the status of elements in **GR Health**.

If any of the element is in red color and is in Failure or Stopped state, then do not proceed with the switchover and contact the system administrator to correct any problems.

## Validating Avaya Aura® System Manager and Avaya Breeze® replication status

### About this task

Before starting switchover or switchback procedures, you must synchronize Avaya Oceana® and Avaya Breeze® platform nodes and replicate with either primary or DR System Manager.

## Procedure

1. After a partial DR switchover, log in to the primary System Manager web console.
2. Click **Services > Replication**.
3. After a full DR switchover, log in to the DR System Manager web console.
4. Click **Services > Replication**.
5. Validate the replica groups synchronization status is `synchronized` and displays the word `Synchronized` in green color.
  - a. Click **Avaya Breeze replica group**.
  - b. Verify that **Breeze Node Synchronization** status is `Synchronized`.
  - c. Verify that the synchronization dates are not greater than 1 month from the current date.
  - d. If any Breeze element is displaying a status `Synchronizing`, or `Repairing`, wait until the process completes and verify the status is `Synchronized`.
  - e. If any Breeze Node is not `Synchronized`, do not proceed any further with the switchover process until the issue is addressed and corrected.

## Verifying Avaya Breeze® platform node controller

### About this task

Use this procedure to verify the Avaya Breeze® platform nodes managed by the primary System Manager.

This procedure is not required in a partial DR switchover because all the Avaya Breeze® platform nodes is managed by the primary System Manager.

You can perform this procedure if a full DR switchback is in progress.

### Procedure

1. On the System Manager web console, click **Services > Inventory > Manage Elements**.
2. In the **Managed by** field, verify that system displays **Primary** for the Avaya Breeze® platform nodes. If not, consult the system administrator to correct this issue before proceeding with the switchback.

## Changing cluster activity status for clusters in Data Center 2

### Before you begin

Ensure that the OceanaMonitorService is installed on the clusters in Data Center 2.

### Procedure

1. Open the Oceana Manager page in the DR location by entering the following URL in your web browser:

```
https://<DataCenter2_AvayaOceanaCluster1_FQDN>/services/OceanaMonitorService/manager.html?affinity=)
```

**!** **Important:**

Create a bookmark of this URL in your web browser, so that you can open the Oceana Manager page even when System Manager is unavailable.

2. **(Optional)** To open the Oceana Manager page through System Manager, do the following:
  - a. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
  - b. On the Cluster Administration page, in the **Service URL** column for Avaya Oceana® Cluster 1, select **Oceana Manager**.
3. Log in to Oceana Manager using an Admin account.
4. On the Oceana Manager page, do the following:
  - a. Verify that the status of the clusters is `STANDBY`.
  - b. Click **Set Cluster Group to Active**.  
The cluster status changes to `ACTIVE` and all nodes are placed in the Accept New Service mode.
  - c. Click **OK** on the confirmation message box.
  - d. Wait for 5-10 minutes for the Oceana Manager page to display the updated status.
  - e. **(Optional)** If the Oceana Manager page does not display the updated status after some time, click **Refresh**.
5. In System Manager, select DR Cluster 1 drop-down menu and start Oceana Monitor.

On Cluster 1, verify the PUs deployed and status is **Intact** including CSC. CSC PU is not deployed if the **Oceana > CSC > AES > CM** configuration is not done and validated. On Cluster 3, verify the PUs deployed and status is **Intact** including the Email PU. Verify that all nodes and clusters in the DR location are set to status **Accepting**. If any clusters or nodes are in **Deny** state, then re-do the above steps or manually set them to **Accepting** state using the Avaya Breeze® platform EM cluster overview page.

## Reconfiguring Avaya Oceana® addresses to DC1

### About this task

Use this procedure to restore and reconfigure multiple fields in Avaya Control Manager to point to local hostnames or IP addresses at Data center 1.

### Procedure

1. Log on to Avaya Control Manager with an administrator user role.
2. On the Avaya Control Manager webpage, click **Configuration > Avaya Oceana™ > Server Details**.
3. Double-click the **UCAServer** instance.
4. Select the **System Properties** tab.

5. Expand **Omni Channel**.
6. In the **Omni Channel Database Server** field, update the hostname or IP address pointing to the Omnichannel server in Data center 1.

**\* Note:**

Enter the hostname of the VIP if using Omnichannel database mirroring. Otherwise, enter the name of the Omnichannel Database server as administered in the HTTPS certificate installed on the Omnichannel Database server. However, for lab deployments customers you can use IP address.

7. In the **Workspaces** field, enter the Welcome Page URL for Data Center 1 operations.
8. In the **Workspaces** field, enter the Widget Web Server URL link for Data Center 1 operations.
9. Click **Save**.

## Re-establishing UCA replication from primary UCA to DR UCA

Use the procedures in this section to synchronize the UCASStoreService database on both the primary and DR sites. After the databases are synchronized, you can re-establish UCA replication from the primary to the DR site. The UCASStoreService database stores static information of Avaya Oceana®. Static information such as users, accounts, attributes, providers, and resources.

Any new updates applied using Avaya Control Manager are stored in the UCA database in the DR site. If you want to save these updates even after switchback to the primary site, then you must implement the following procedures as part of the switchback. For planned partial or full DR switchovers, the customer can decide if they want to retain any new administration data from the UCASStoreService database in the DR site.

If you do not want to retain the data, skip the section on UCA DB restore.

**\* Note:**

Avaya Control Manager, UCA, and Multimedia Server back up their data independently. Therefore, you must take backups in synchronization and restore them in synchronization.

## Taking a backup of UCASStoreService in Data Center 2

### About this task

Use this procedure to take a backup of UCASStoreService.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From the **Backup and Restore** field, select **Configure**.

System Manager displays the Backup Storage Configuration page.

3. In the **FQDN or IP Address** field, enter the FQDN or IP Address of the backup storage server.
4. In the **Login** field, enter the user name that you use to log in to the backup storage server.
5. In the **Password** field, enter the password that you use to log in to the backup storage server.
6. In the **SSH Port** field, enter the port number of the backup storage server.
7. In the **Directory** field, enter the path to a directory in the backup storage server.
8. In the **Retained backup copies per cluster per snap-in DB** field, specify the maximum number of backup file copies that you want to retain on the backup storage server.  
If you do not specify any value, the backup storage server retains all backup files.
9. Click **Commit**.
10. Select the check box for the DR Avaya Oceana® Cluster 1.
11. From the **Backup and Restore** field, select **Backup**.
12. On the Cluster Database Backup Confirmation dialog box, select the **UCAStoreService** check box and click **Continue**.
13. On Backup and Restore Status page, ensure that the **Status** column for the backup operation displays the value as `Completed`.


## Scheduling Database Backups UCMServer and UCAStoreService

### About this task

Use this procedure to schedule automatic backups of the UCAStoreService/UCMServer database to maintain a reasonably up to date data set in the event of an unplanned switchover and recovery from Data Center 1 to Data Center 2.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From the **Backup and Restore** field, select **Configure**.  
System Manager displays the Backup Storage Configuration page.
3. In the **FQDN or IP Address** field, enter the FQDN or IP Address of the backup storage server.
4. In the **Login** field, enter the user name that you use to log in to the backup storage server.
5. In the **Password** field, enter the password that you use to log in to the backup storage server.
6. In the **SSH Port** field, enter the port number of the backup storage server.
7. In the **Directory** field, enter the path to a directory in the backup storage server.

8. In the **Retained backup copies per cluster per snap-in DB** field, specify the maximum number of backup file copies that you want to retain on the backup storage server.  
If you do not specify any value, the backup storage server retains all backup files.
9. Click **Commit**.
10. Select the check box for the DR Avaya Oceana® Cluster 1.
11. From the **Backup and Restore** field, select **Backup**.
12. On the Cluster Database Backup Confirmation dialog box, select the required service check box and click **Continue**.  
Select the **UCMSERVICE** and **UCAStoreService database** check boxes to be included in the backup.
13. In the **Backup Password** field, enter a password for the backup.  
 **Important:**  
Make a note of the password because you require this password to restore UCMSERVICE.
14. In the **Schedule Job** field, click **Schedule later**.
15. In the **Task Time** field, specify the date, time, and time zone for the first backup.
16. In the **Recurrence** field, select the **Tasks are repeated** option and specify the recurring backup schedule.
17. In the **Range** field, specify a range for the recurring backup schedule.
18. Click **Backup**.
19. After the backup process is complete, verify that the **Status** column on the Backup and Restore Status page displays the status `Completed`.

## Restoring UCAStoreService data in DC1

### Before you begin

Uninstall UCAStoreService from Avaya Oceana® Cluster 1 in Data Center 1.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
2. On the Services page, verify that UCAStoreService is not in the `Installed` state.  
UCAStoreService is shown as installed on DR Cluster 1 but not on Primary Cluster 1.
3. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
4. From the **Backup and Restore** field, select **Restore**.

5. On the Backup and Restore Status page, in the Backup and Restore Jobs section, select the check box for the latest backup file and click **Restore**.
6. On the Cluster Database Restore Confirmation dialog box, select Data Center 1 Avaya Oceana® Cluster 1 and click **Continue**.
7. On the Backup and Restore Status page, ensure that the **Status** column for the restore operation displays the value `Completed`.

## Installing UCASStoreService in DC1

### About this task

Use this procedure to install UCASStoreService on Avaya Oceana® Cluster 1 in Data Center 1.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Service Management > Services**.
2. On the Services page, select the check box of UCASStoreService and click **Install**.
3. In the Confirm Install service: UCASStoreService dialog box, select the check box of Avaya Oceana® Cluster 1 and click **Commit**.
4. On the Services page, verify that the state of the service is `Installing`.  
The state changes to `Installed` when the installation is complete.
5. Reboot Avaya Oceana® Cluster 1.

If you are planning to perform a UCM DB restore, then do not restart the primary Cluster 1 in the switchback process. However, perform instructions on how to restore UCM database from the DR site. If you are not planning to perform a UCM DB restore, then restart primary cluster 1 to become fully operational.

## Restore UCMService after Switchback

### Backing up UCMService in DC2

#### About this task

UCMService persists metadata related to deferred emails. UCMService requires this data to retrieve expired deferred emails and route them back to the appropriate agent.

This information is updated in real-time. Therefore, you must take backups during the following events:

- Planned switchover and switchback
- Unplanned switchover and switchback

 **Note:**

You can skip the procedures for the following:

- The email channel is not deployed at this installation and therefore there are no deferred email capabilities
- The partial or full DR switchover is for test purposes and you do not want to keep new UCM data post switchback to the primary site.
- You are not restoring the UCM DB from the DR site.

Use this procedure to take a manual backup of the UCMService database during planned switchover and switchback.

### Before you begin

Ensure that all agents are logged out of their accounts.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze® > Cluster Administration**.
2. From the **Backup and Restore** field, select **Configure**.  
System Manager displays the Backup Storage Configuration page.
3. In the **FQDN or IP Address** field, enter the FQDN or IP Address of the backup storage server.
4. In the **Login** field, enter the user name that you use to log in to the backup storage server.
5. In the **Password** field, enter the password that you use to log in to the backup storage server.
6. In the **SSH Port** field, enter the port number of the backup storage server.
7. In the **Directory** field, enter the path to a directory in the backup storage server.
8. In the **Retained backup copies per cluster per snap-in DB** field, specify the maximum number of backup file copies that you want to retain on the backup storage server.  
If you do not specify any value, the backup storage server retains all backup files.
9. Click **Commit**.
10. Select the check box for DR Avaya Oceana® Cluster 1.
11. From the **Backup and Restore** field, select **Backup**.
12. On the Cluster Database Backup Confirmation dialog box, select the **UCMService** check box and click **Continue**.
13. In the **Backup Password** field, enter a password for the backup.

 **Important:**

Make a note of the password because you require this password to restore UCMService.

14. In the **Schedule Job** field, click **Run immediately**.
15. Click **Backup**.
16. After the backup process is complete, verify that the **Status** column on the Backup and Restore Status page displays the status `Completed`.

## Restoring UCMSERVICE data in DC1

### About this task

Use this procedure to restore a UCMSERVICE database backup to the primary Avaya Oceana<sup>®</sup>. If the email channel is not deployed on Avaya Oceana<sup>®</sup>, you can skip this procedure.

### Before you begin

- Ensure that all agents are logged out of their accounts.
- Uninstall UCMSERVICE data from Avaya Oceana<sup>®</sup> Cluster 1 in Data Center 1.
- Ensure that the state of Avaya Oceana<sup>®</sup> Cluster 1 and Avaya Oceana<sup>®</sup> Cluster 3 is `Deny New Service`.

### Procedure

1. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Service Management > Services**.
2. On the Services page, verify that UCMSERVICE is not in the `Installed` state.
3. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Cluster Administration**.
4. From the **Backup and Restore** field, select **Restore**.
5. On the Backup and Restore Status page, in the Backup and Restore Jobs section, select the check box for the latest backup file and click **Restore**.
6. On the Cluster Database Restore Confirmation dialog box, select Avaya Oceana<sup>®</sup> Cluster 1 and click **Continue**.
7. On the Backup and Restore Status page, ensure that the **Status** column for the restore operation displays the value `Completed`.
8. Install UCMSERVICE on Avaya Oceana<sup>®</sup> Cluster 1.
9. On the System Manager web console, click **Elements > Avaya Breeze<sup>®</sup> > Service Management > Services**.
10. On the Services page, select the **UCMSERVICE** check box and click **Install**.
11. In the Confirm Install service: UCMSERVICE dialog box, select the primary Avaya Oceana<sup>®</sup> Cluster 1 check box and click **Commit**.
12. On the Services page, verify that UCMSERVICE is in the `Installed` state.
13. Reboot Avaya Oceana<sup>®</sup> Cluster 1 and then Avaya Oceana<sup>®</sup> Cluster 3.

## Pointing ACM to the new Omnichannel database server in DC2

### About this task

Use this procedure to set up Avaya Control Manager to point to the new Omnichannel database primary server.

### Procedure

1. Log on to Avaya Control Manager.
2. Navigate to **Configuration > Avaya Oceana™ > Server Details**.
3. Double-click the administered Avaya Oceana® server or select the administered Avaya Oceana® server and click **Edit**.
4. Click the **System Properties** tab.
5. Expand **Omni Channel**.
6. In **Omni Channel Database Server**, enter the name, host name, or IP address of the Omnichannel Database DR server (Server C) as administered in the HTTPS certificate installed on the Omnichannel Database server. The name must match the name on the certificate, and the certificate must also be trusted to avoid any certificate errors.

For more information on configuring the Omnichannel certificate, refer to the *Retrieve certificate files* section in the *Deploying Avaya Oceana®* document.

## Clean up and reconfigure Mirror setup on DC1 and DC2

For switchback to Cache server DC1 site, you must manually remove mirroring configuration and re-setup. Perform the procedure only when all Cache servers in DC1 and DC2 are available.

### ! Important:

For both planned maintenance and un-planned switchovers, mirroring must be re-configured as part of the switchback procedure.

Before performing the procedures, ensure that you have deployed the following Omnichannel Database servers:

- Omnichannel Server A as the original primary member on DC1
- Omnichannel Server B as the original standby member on DC1 if you have dual server pair setup on DC1
- Omnichannel Server C as the original async member on DC1 which is now the primary member after switchover

### \* Note:

If you do not have dual server setup on DC1, you can ignore [Removing mirroring configuration on Omnichannel Server B](#) on page 155.

## Restoring Avaya Control Manager

You must restore Avaya Control Manager in DC1 after an unplanned switchover. Avaya Control Manager is restored from a backup before the failure. In a planned switchover or for a maintenance window, there is no requirement to restore Avaya Control Manager.

### Avaya Control Manager switchback from DR to primary site

This section provides information on the options available on switchback from the Avaya Control Manager servers in the DR site to the set of servers in the primary site. For a planned maintenance window and a partial DR switchover, it is not required to switchback Avaya Control Manager servers.

When there are failures of Avaya Oceana® applications, and Avaya Control Manager is operational in primary site, Avaya Control Manager switchback is not required. Avaya Control Manager supports several HA and DR models that are beyond the scope of this document. These models are independent of the Avaya Oceana® DR deployment. The information about the models and how to setup Avaya Control Manager HA and DR is covered in the Avaya Control Manager documentation suite.

For more information, see *Installing Avaya Control Manager for Enterprise - Multiplex High Availability* and *Installing Avaya Control Manager for Enterprise - Legacy High Availability* documents.

## Reconfiguring Avaya Control Manager in switchback scenarios

### Overview

With the Toggle feature of Avaya Control Manager, an administrator can toggle a flag to configure Avaya Control Manager with the settings required for Avaya Oceana® in the primary or DR locations.

This toggle feature allows the Avaya Control Manager application server to identify which Avaya Oceana® UCA instance to administer Avaya Oceana® configuration data. The toggle button can also be used when performing a switchover or a switchback.

The procedures in this section are applicable following a successful switchback to the primary Avaya Control Manager applications. In Avaya Control Manager 9.x, you must manually update the following parameters when doing a switchback to the primary Avaya Control Manager application using the toggle button.

- Omnichannel DB IP/FQDN
- Workspaces Widget Server IP/FQDN
- Workspaces Home Page URL

## Using the Toggle button to switch back Avaya Control Manager in Data Center 1

### About this task

With this procedure, you can use the Toggle button to switch back Avaya Control Manager in Data Center 1 so that you can use Avaya Oceana® applications in Data Center 1.

## Before you begin

You must have access to the Data Center 1 and Data Center 2 Avaya Control Manager servers.

## Procedure

1. Log in to Avaya Control Manager.
2. On the Avaya Control Manager webpage, click **Configuration > Locations**.
3. On the Location List page, Select the Data Center 1 location and click **Edit**.
4. Select the applications that you want to switch back to the applications in the restored primary site.
5. For a partial DR switchover, select Avaya Oceana® and Avaya Analytics™.
6. Click **Toggle** to use the applications from Avaya Oceana® in DC2.
7. Verify the switched back status in the **Switched Over** column for Avaya Oceana® and Avaya Analytics™ servers.

## Restoring the External Data Mart server

### About this task

Context Store External Data Mart (EDM) is an external component of Avaya Oceana®.

Use this procedure to restore the Context Store External Data Mart (EDM) server before switching back from Data Center 2 to Data Center 1.

When you restore to Data Center 1, copy the EDM contents from Data Center 2 to the EDM in Data Center 1. Ensure that you backup and restore the database to complete the restoring of Context Store EDM.

### Before you begin

- On Data Center 1 and Data Center 2, set the **Cluster State** of Avaya Oceana® Cluster 1 to **Deny New Service**. For instructions about how to change the cluster state, see *Deploying Avaya Oceana®*.
- Configure the **Disaster Recovery Mode** attribute in the OceanaConfiguration service in System Manager.

### Procedure

1. Log in to the primary SQL Server hosting the EDM database in Data Center 2.  
You must log in with the SQL Server domain user credentials with administrative right to all SQL Server(s) hosting the EDM on DC2.
2. Open SQL Server Management Studio.
3. In the Object Explorer pane, click **Connect > Database Engine**.  
SQL Server Management Studio displays the Connect to Server dialog box.
4. In the **Server name** field, select the local instance of SQL Server.
5. In the **Authentication** field, select **SQL Server Authentication**.

6. In the **Login** and **Password** fields, enter the system administrator credentials.

The system administrator is usually the default sa user created during SQL Server installation.

7. Click **Connect**.
8. In the Object Explorer pane, click **Databases** > **<EDM Database>**.
9. Right-click the EDM database and click **Tasks** > **Back Up**.

SQL Server Management Studio displays the Back Up Database dialog box.

10. In the navigation pane, click **General**.
11. In the **Backup type** field, select **Full**.
12. In the **Destination** area, click **Add**.
13. In the Select Backup Destination dialog box, select the backup folder location, specify the backup file name with the .bak extension, and click **OK**.

Ensure that the SQLService User login (services.msc) has full permissions on the backup folder.

14. To provide full permissions to the SQLService User login, do the following:
  - a. Go to the backup folder location.
  - b. Right-click the backup folder and click **Properties**.
  - c. On the Security tab, select the SQLService User login and click **Edit**.
  - d. In the **Permissions** area, select the **Full control** check box.
  - e. Click **OK**.

15. In the navigation pane, click **Media Options**.
16. In the **Overwrite media** area, select **Overwrite all existing backup sets**.
17. In the **Reliability** area, select the **Verify backup when finished** check box.
18. In the navigation pane, click **Backup Options**.
19. In the **Description** field, type a description for the backup.
20. In the **Set backup compression** field, select **Compress backup**.
21. Click **OK**.

22. Log in to the primary SQL Server hosting the EDM database in Data Center 1.

You must log in with the SQL Server domain user credentials with administrative right to all SQL Server(s) hosting the EDM on DC1.

23. Open SQL Server Management Studio.
24. In the Object Explorer pane, click **Connect** > **Database Engine**.

SQL Server Management Studio displays the Connect to Server dialog box.

25. In the **Server name** field, select the local instance of SQL Server.
26. In the **Authentication** field, select **SQL Server Authentication**.
27. In the **Login** and **Password** fields, enter the credentials of the system administrator.  
The system administrator is usually the default sa user created during SQL Server installation.
28. Click **Connect**.
29. In the Object Explorer pane, click **Databases > <EDM Database>**.
30. Right-click the EDM database and click **Tasks > Restore > Database**.  
SQL Server Management Studio displays the Restore Database dialog box.
31. In the navigation pane, click **General**.
32. In the **Device** field, browse and select the backup file location that you create in Data Center 2.
33. In the navigation pane, click **Options**.
34. In the **Restore options** area, select the **Overwrite the existing databases (WITH REPLACE)** check box.
35. In the **Server Connections** area, select the **Close existing connections to destination database** check box.
36. Click **OK**.
37. In the Object Explorer pane, right-click the master database and click **New Query**.
38. In the content pane, run the following command to re-enable the optional non-system administrator user on the primary SQL Server in Data Center 1:

```
USE <database_name>;
GO
sp_change_users_login @Action='update_one', @UserNamePattern='<database_user>',
@LoginName='<login_name>';
GO
```

For example:

```
USE CSEDM;
GO
sp_change_users_login @Action='update_one', @UserNamePattern='csEDMLogin',
@LoginName='csEDMLogin';
GO
```

## Avaya Workspaces agent switchover

When all the elements in the restored primary location are active, the Avaya Workspaces agents must re-login to the primary Avaya Oceana<sup>®</sup> after a switchback. The agents require access to the Avaya Workspaces URL for the primary location.

The default Avaya Workspaces URL for both locations are:

**Primary Site:** `https://<UAC Cluster IP/FQDN DC1>/services/UnifiedAgentController/workspaces/#/login`

**DR Site:** `https://<UAC Cluster IP/FQDN DC2>/services/UnifiedAgentController/workspaces/#/login`

## **Validate and test deployed channels**

After a partial or full switchover, verify if the elements in the primary location are active. You must also validate the routing of the deployed channels.

# Chapter 7: Resources

## Documentation

Title	Use this document to:	Audience
Overview		
<i>Avaya Oceana<sup>®</sup> Solution Description</i>	Use this guide to know about the tested product characteristics and capabilities, including product overview and feature descriptions, interoperability, performance specifications, security, and licensing requirements.	<ul style="list-style-type: none"> <li>• Sales engineers</li> <li>• Business partners</li> <li>• Solution architects</li> <li>• Implementation engineers</li> </ul>
Implementing		
<i>Deploying Avaya Oceana<sup>®</sup></i>	Use this guide to know how to deploy Avaya Oceana <sup>®</sup> Solution on the customer environment.	<ul style="list-style-type: none"> <li>• Sales engineers</li> <li>• Business partners</li> <li>• Solution architects</li> <li>• Implementation engineers</li> </ul>
<i>Avaya Oceana<sup>®</sup> and Avaya Analytics<sup>™</sup> Disaster Recovery</i>	Use this guide to know how to restore Avaya Oceana <sup>®</sup> , solution when there is a complete outage at the primary data center.	<ul style="list-style-type: none"> <li>• Sales engineers</li> <li>• Business partners</li> <li>• Solution architects</li> <li>• Implementation engineers</li> </ul>
<i>Upgrading Avaya Oceana<sup>®</sup></i>	Use this guide to know how to Upgrade or migration Avaya Oceana <sup>®</sup> solution from the existing version.	<ul style="list-style-type: none"> <li>• Sales engineers</li> <li>• Business partners</li> <li>• Solution architects</li> <li>• Implementation engineers</li> </ul>
<i>Deploying Avaya Analytics<sup>™</sup></i>	Deploy Avaya Analytics <sup>™</sup> .	<ul style="list-style-type: none"> <li>• Sales engineers</li> <li>• Business partners</li> <li>• Solution architects</li> <li>• Implementation engineers</li> </ul>
Administering		

*Table continues...*

Title	Use this document to:	Audience
<i>Administering Avaya Oceana®</i>	Administer Avaya Oceana®.	<ul style="list-style-type: none"> <li>• System administrators</li> <li>• Supervisors</li> </ul>
Using		
<i>Using Avaya Workspaces for Avaya Oceana®</i>	Use Avaya Workspaces for Avaya Oceana®.	<ul style="list-style-type: none"> <li>• Agents</li> <li>• Supervisors</li> </ul>
<i>Using Avaya Analytics™</i>	Use the features and capabilities of Avaya Analytics™.	<ul style="list-style-type: none"> <li>• Supervisors</li> <li>• Administrators</li> <li>• Report designers</li> </ul>
<i>Avaya Analytics™ Data Dictionary</i>	Use historical and real-time measures in custom reports.	<ul style="list-style-type: none"> <li>• Administrators</li> <li>• Report designer</li> </ul>
Maintaining and Troubleshooting		
<i>Maintaining and Troubleshooting Avaya Oceana®</i>	Perform maintenance and troubleshooting procedures for routine maintenance and troubleshooting of Avaya Oceana®.	<ul style="list-style-type: none"> <li>• Support personnel</li> <li>• Implementation engineers</li> <li>• Administrators</li> </ul>
<i>Maintaining and Troubleshooting Avaya Analytics™</i>	Perform common maintenance functions of Avaya Analytics™ and use tools and utilities for troubleshooting of Avaya Analytics™.	<ul style="list-style-type: none"> <li>• Support personnel</li> <li>• Implementation engineers</li> <li>• Administrators</li> </ul>
<i>Avaya Oceana® Alarms</i>	View details about Avaya Oceana® alarms.	<ul style="list-style-type: none"> <li>• Support personnel</li> <li>• Administrators</li> </ul>

## Finding documents on the Avaya Support website

### Procedure

1. Go to <https://support.avaya.com>.
2. At the top of the screen, type your username and password and click **Login**.
3. Click **Support by Product > Documents**.
4. In **Enter your Product Here**, type the product name and then select the product from the list.
5. In **Choose Release**, select the appropriate release number.

The **Choose Release** field is not available if there is only one release for the product.

6. In the **Content Type** filter, click a document type, or click **Select All** to see a list of all available documents.

For example, for user guides, click **User Guides** in the **Content Type** filter. The list only displays the documents for the selected category.

7. Click **Enter**.

## Avaya Documentation Center navigation

For some programs, the latest customer documentation is now available on the Avaya Documentation Center website at <https://documentation.avaya.com>.

### **Important:**

For documents that are not available on Avaya Documentation Center, click **More Sites > Support** on the top menu to open <https://support.avaya.com>.



Using the Avaya Documentation Center, you can:

- Search for keywords.

To filter by product, click **Filters** and select a product.


- Search for documents.

From **Products & Solutions**, select a solution category and product, and then select the appropriate document from the list.

- Sort documents on the search results page.
- Click **Languages** (  ) to change the display language and view localized documents.
- Publish a PDF of the current section in a document, the section and its subsections, or the entire document.
- Add content to your collection using **My Docs** (  ).

Navigate to the **Manage Content > My Docs** menu, and do any of the following:

- Create, rename, and delete a collection.
- Add topics from various documents to a collection.
- Save a PDF of the selected content in a collection and download it to your computer.
- Share content in a collection with others through email.
- Receive collection that others have shared with you.

- Add yourself as a watcher using the **Watch** icon (  ).

Navigate to the **Manage Content > Watchlist** menu, and do the following:

- Enable **Include in email notification** to receive email alerts.
- Unwatch selected content, all content in a document, or all content on the Watch list page.

As a watcher, you are notified when content is updated or deleted from a document, or the document is removed from the website.

- Share a section on social media platforms, such as Facebook, LinkedIn, and Twitter.
- Send feedback on a section and rate the content.

**\* Note:**

Some functionality is only available when you log in to the website. The available functionality depends on your role.

## Training

The following courses are available for the Avaya Oceana® program.

**Table 1: Sales Credentials**

Course code	Course title	Course duration in hours	Delivery type
APSS – 1202 Avaya OneCloud™ CCaaS Sales			
41511W	Selling Avaya OneCloud™ CCaaS Solutions	0.75	Web-based Training
41551T	Avaya OneCloud™ CCaaS Sales Specialized Test	1.0	Web-based Training
ALCC –2005 Avaya Multiexperience Solutions Sales (ALCC-2005)			
41710W	The Avaya OneCloud™ Contact Center Automated Story	0.50	Web-based Training
41411W	Selling Avaya Oceana®	0.75	Web-based Training
41401W	Selling Avaya Analytics™	0.50	Web-based Training
41481W	Avaya Oceana® ROI for Sales	0.50	Web-based Training
41770W	Avaya Experience Portal and Proactive Outreach Manager (POM) for Sales	0.25	Web-based Training

**Table 2: Pre-Sales Design**

Course code	Course title	Course duration in hours	Delivery type
ACDS – 3480 Avaya Oceana® Solution Design			
34211W	Avaya Oceana® Overview for Design	0.75	Web-based Training
34811W	Designing the Avaya Oceana Solution Part 1 of 3	1.0	Web-based Training
34821W	Designing the Avaya Oceana Solution Part 2 of 3	1.0	Web-based Training
34831W	Designing the Avaya Oceana Solution Part 3 of 3	1.0	Web-based Training

*Table continues...*

Course code	Course title	Course duration in hours	Delivery type
34801X	Avaya Oceana® Solution Design Exam	1.50	Exam
ALRI-7001 Avaya Oceana® Product Release Information Collection			
39001W	Avaya Oceana® R3.8 with Breeze Snap-ins Details for Pre-Sales	1.0	Portable Document Format (PDF)
39020W	Avaya Breeze® Snap-ins for Avaya Oceana Details for Pre-Sales	1.0	PDF

**Table 3: Technical Services Partner Credentials**

Course code	Course title	Course duration in hours	Delivery type
ACIS – 7495 Avaya Oceana® Solution Implement			
74150V	Integrating Avaya Oceana® Core and Workspaces	40.0	Virtual Instructor-Led Training
74950X	Avaya Oceana® Solution Integration Exam	1.50	Exam
ACSS-7497 Avaya Oceana®			
74550V	Supporting Avaya Oceana®	24	Virtual Instructor-Led Training
7497X	Avaya Oceana® Support Exam	1.75	Exam
74360W	Installing Avaya Analytics™ for Oceana®	1.5	Web-based Training

**Table 4: Pre-requisite Courseware**

Course code	Course title	Course duration in hours	Delivery type
77900W	Avaya Control Manager Training Bundle (5 courses 21900W, 77910W, 77920W, 77930W, 77940W)	5.50	Web-based Training
70160W	Avaya Breeze® Implementation and Support	30.0	Web-based Training

**Table 5: End User, Programmer, Administration**

Avaya Learning Center				
Course code	Course title	Course duration in hours	Delivery type	Vanity Link for Attachment
ALEU-5002 Avaya Oceana® End-User Training				

*Table continues...*

Avaya Learning Center				
Course code	Course title	Course duration in hours	Delivery type	Vanity Link for Attachment
24020W	Using Avaya Workspaces for Avaya Oceana® - Agent	1.0	Web-based Training	<a href="https://www.avaya.com/oceana-agent">https://www.avaya.com/oceana-agent</a>
24040W	Using Avaya Workspaces for Avaya Oceana® - Supervisor	1.0	Web-based Training	<a href="https://www.avaya.com/oceana-supervisor">https://www.avaya.com/oceana-supervisor</a>
ALUC-4001 Avaya Breeze® Client SDK				
2410W	Customer Communications and Apps with Oceana® for Developers	3.0	Web-based Training	
ASDC-0010 Avaya Workspaces® Framework				
24150W	Customizing the Avaya Workspaces® Framework	3.0	Web-based Training	
24150T	Avaya Workspaces® Framework R3 Test	1.0	Online Test	
ASAC-0005 Avaya Oceana® Administration				
21160W	Avaya Oceana® Fundamentals	0.5	Web-based Training	
24300V	Administering Avaya Oceana® R3 Omnichannel	40.0	Virtual Instructor-Led Training	Attached with the sale
2430T	Administering Avaya Oceana® R3 Online Test	1.0	Online Test	
24320W	Administering Avaya Oceana® - Basic	2.5	Web-based Training	<a href="https://www.avaya.com/Oceana-admin">https://www.avaya.com/Oceana-admin</a>
ASAC-0031 Avaya Analytics™ R4 for Oceana® Administrator				
24380T	Administering Avaya Analytics1M R4 for Oceana8 Specialized Test	1.0	Online Test	

Table 6: Other Miscellaneous Courseware

Course code	Course title	Course duration in hours	Delivery type	Vanity Link for Attachment
ALCC-0001 Avaya Workforce Optimization Select Integration with Avaya Oceana® Workspaces				
7014W	Integrating Avaya Workforce Optimization Select with Avaya Oceana® Workspaces	3.0	Web-based Training	

Table continues...

Course code	Course title	Course duration in hours	Delivery type	Vanity Link for Attachment
7014A	Avaya Workforce Optimization Select with Avaya Oceana® Workspaces Integration Assessment	1.0	Assessment	
71610W	Integrating POM with Avaya Oceana®	1.0	Web-based Training	

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## Support

Go to the Avaya Support website at <https://support.avaya.com> for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

# Index

## A

ACM toggle button .....	46
activating	
secondary server .....	125
adding trusted certificate	
primary to secondary server .....	26
Agent .....	136
AMC snap-in .....	96, 145
Analytics Geo Enhancements .....	75
Analytics server IP address .....	79
Avaya Analytics .....	47
Avaya Analytics DB replication from DC1 to DC2 .....	92
Avaya support website .....	190

## B

backup	
UCASStoreService .....	70, 172
UCMService .....	68, 173, 175
breeze node .....	127, 170

## C

CA certificate .....	58
cache .....	52, 54
CallServerConnector .....	143
chat snap-in .....	144
checklist .....	122
full and partial Controlled Switchback .....	139
full and partial Controlled Switchover .....	86, 132
full controlled switchback .....	159
full controlled switchover .....	110
Partial Controlled Switchback .....	148
Partial Controlled Switchover .....	99
cluster activity status .....	63
Cluster Activity status .....	106
collection	
delete .....	186
edit name .....	186
generating PDF .....	186
sharing content .....	186
component .....	85, 138
configure	
data center .....	153, 171
configuring .....	131, 133
cache mirroring .....	51
geo-redundancy .....	76
Geographical Redundancy .....	26
Oceana Monitor authorization .....	64, 66
UCASStoreService .....	146, 147
configuring Data Center 2 application details in the	
Analytics server in Data Center 1 .....	48

Configuring DR site chat shutdown .....	151, 164
configuring DR site email shutdown .....	150, 163
configuring DR site GenericChannelAPI Service	
shutdown .....	151, 164
Configuring DR site MessagingService shutdown .....	150, 163
configuring shutdown .....	103, 118
content	
publishing PDF output .....	186
searching .....	186
sharing .....	186
sort by last updated .....	186
watching for updates .....	186
control manager .....	129
copying	
CRL .....	24
create .....	60
CTI link .....	38
CustomerController chat snap-in .....	144
CustomerControllerService .....	95

## D

database switchover .....	107, 127
deactivate	
secondary server .....	166
defer data backup .....	175
deferred email data backup .....	104, 119
disabling	
Geo Redundancy replication .....	123
disaster recovery .....	11, 75
disaster recovery attributes .....	65
disaster recovery deployment .....	18
documentation center .....	186
finding content .....	186
navigation .....	186
documentation portal .....	186
finding content .....	186
navigation .....	186
DR .....	148
DR outbound shutdown .....	152, 165
DR Site Chat Startup .....	134
DR Site Generic ChannelAPI Service Startup .....	135
DR Site Messaging Service for Social or SMS Startup .....	134

## E

EDM .....	180
email snap-in .....	143
EmailService .....	94
emailservice startup .....	133
enabling	
Geographic Redundancy replication .....	28
web video workflow .....	158

## Index

enabling ( <i>continued</i> )	
web voice workflow .....	<a href="#">158</a>
enabling authorization in .....	<a href="#">49</a>
end entity profile .....	<a href="#">59</a>
ess .....	<a href="#">35</a>
ess cluster status .....	<a href="#">40</a>
ess network .....	<a href="#">37</a>
<b>F</b>	
failover .....	<a href="#">43</a>
failover configuration	
Avaya Oceana .....	<a href="#">47</a>
failure modes .....	<a href="#">15</a>
field descriptions	
Shutdown System Manager .....	<a href="#">124</a>
finding content on documentation center .....	<a href="#">186</a>
full and partial Controlled Switchback .....	<a href="#">139</a>
full and partial Controlled Switchback - preparation and validation procedures .....	<a href="#">139</a>
full and partial Controlled Switchover .....	<a href="#">86</a> , <a href="#">132</a>
full and partial Controlled Switchover - configuration and validation procedures .....	<a href="#">132</a>
full and partial Controlled Switchover - preparation and validation procedures .....	<a href="#">86</a>
full controlled switchback .....	<a href="#">159</a>
full controlled switchover .....	<a href="#">110</a>
<b>G</b>	
GenericChannelAPI service .....	<a href="#">103</a> , <a href="#">118</a>
GenericChannelAPI snap-in .....	<a href="#">145</a>
GenericChannelAPIService .....	<a href="#">96</a>
geo-redundancy .....	<a href="#">75</a>
Geographic Redundancy .....	<a href="#">20</a> , <a href="#">29</a> , <a href="#">31</a> , <a href="#">125</a> , <a href="#">166</a>
auto-disable .....	<a href="#">29</a>
disable .....	<a href="#">123</a>
enabling .....	<a href="#">28</a>
prerequisite — Step 2 .....	<a href="#">26</a>
prerequisite Step 1 .....	<a href="#">25</a>
prerequisites .....	<a href="#">19</a>
Geographic Redundancy field descriptions .....	<a href="#">29</a>
Geographic Redundancy key tasks .....	<a href="#">21</a>
geographic redundancy prerequisites	
overview .....	<a href="#">23</a>
Geographical Redundancy .....	<a href="#">26</a>
configuring .....	<a href="#">26</a>
GR Health field descriptions .....	<a href="#">31</a>
<b>H</b>	
hardware and software prerequisites on primary and secondary servers .....	<a href="#">19</a>
hardware and software prerequisites on the primary and secondary servers .....	<a href="#">20</a>
high availability .....	<a href="#">75</a>
<b>I</b>	
identical software level .....	<a href="#">89</a>
installing	
UCASStoreService .....	<a href="#">72</a> , <a href="#">175</a>
introduction .....	<a href="#">18</a>
IP services .....	<a href="#">39</a>
<b>K</b>	
key tasks	
Geographic Redundancy .....	<a href="#">21</a>
keystore certificate file .....	<a href="#">59</a>
<b>L</b>	
launch Oceana Monitor for DC1 and DC2 locations and verify PUs .....	<a href="#">97</a>
limitations .....	<a href="#">16</a>
<b>M</b>	
maintenance .....	<a href="#">85</a> , <a href="#">138</a>
MessagingService .....	<a href="#">95</a>
MessagingService snapin snap-in .....	<a href="#">144</a>
modifying .....	<a href="#">59</a>
Monitor Service page .....	<a href="#">98</a>
My Docs .....	<a href="#">186</a>
<b>N</b>	
new keystore certificate .....	<a href="#">60</a>
node name .....	<a href="#">35</a>
<b>O</b>	
Oceana Configuration snapin .....	<a href="#">65</a>
Oceana Services Overview page .....	<a href="#">98</a>
Oceana workspaces agent switchover .....	<a href="#">158</a> , <a href="#">182</a>
omnichannel database mirroring .....	<a href="#">158</a>
Omnichannel database mirroring .....	<a href="#">92</a>
Omnichannel Server A .....	<a href="#">154</a>
Omnichannel Server B .....	<a href="#">155</a>
Omnichannel Server C .....	<a href="#">156</a>
overview .....	<a href="#">11</a>
geographical redundancy .....	<a href="#">23</a>
<b>P</b>	
Partial Controlled Switchback .....	<a href="#">148</a>
Partial Controlled Switchover .....	<a href="#">99</a>
planned maintenance .....	<a href="#">89</a>
POM switchover .....	<a href="#">106</a> , <a href="#">121</a>
prerequisite	
Geographic Redundancy — Step 2 .....	<a href="#">26</a>
Geographic Redundancy Step 1 .....	<a href="#">25</a>

prerequisites .....	<a href="#">19–21</a>	support .....	<a href="#">190</a>
primary .....	<a href="#">106, 121</a>	survivable processor .....	<a href="#">36, 38</a>
primary site chat shutdown .....	<a href="#">102, 117</a>	switchback .....	<a href="#">138</a>
primary site email shutdown .....	<a href="#">101, 116</a>	switching	
primary site email snap-in .....	<a href="#">143</a>	primary to secondary data center .....	<a href="#">80</a>
primary site message shutdown .....	<a href="#">102, 118</a>	switching avaya analytics	
primary to secondary data center		primary to secondary data center .....	<a href="#">109, 128</a>
switch .....	<a href="#">80</a>	switchover .....	<a href="#">85, 122, 129, 136</a>
promoting		System Manager restore .....	<a href="#">166</a>
secondary center database to primary .....	<a href="#">80</a>	system manager switchback .....	<a href="#">165</a>
<b>R</b>			
real-time reporting .....	<a href="#">79</a>	<b>T</b>	
reboot Oceana cluster 1 in the Primary DC1 site .....	<a href="#">147</a>	toggle button utility .....	<a href="#">130</a>
recovering		training .....	<a href="#">187</a>
primary data center .....	<a href="#">82</a>	<b>U</b>	
related documentation .....	<a href="#">184</a>	UCA replication .....	<a href="#">172</a>
restoration .....	<a href="#">179</a>	UCA replication status .....	<a href="#">72</a>
restore		UCA synchronization .....	<a href="#">68</a>
primary System Manager .....	<a href="#">166</a>	UCAStoreService .....	<a href="#">65</a>
UCAStoreService .....	<a href="#">71, 174</a>	UCMSERVICE .....	<a href="#">104, 119, 175</a>
UCMSERVICE .....	<a href="#">177</a>	<b>V</b>	
UCMSERVICE in DC2 .....	<a href="#">105, 120, 133</a>	validate ACM database HA replication status .....	<a href="#">142</a>
retrieving .....	<a href="#">58</a>	validate contacts .....	<a href="#">106, 121, 148</a>
routing voice contacts .....	<a href="#">100, 111, 113, 149, 161</a>	validate database HA replication status .....	<a href="#">91</a>
<b>S</b>			
schedule Database Backups UCMServer and		validate identical software levels .....	<a href="#">141</a>
UCAStoreService .....	<a href="#">68</a>	validate replication status .....	<a href="#">90, 169</a>
searching for content .....	<a href="#">186</a>	validate shutdown or deployment status before switchover	<a href="#">93</a>
secondary center database to primary		validating Avaya Oceana core components .....	<a href="#">143</a>
promote .....	<a href="#">80</a>	vectors .....	<a href="#">39</a>
secondary server .....	<a href="#">125</a>	verify PUs .....	<a href="#">97</a>
CRL addition .....	<a href="#">25</a>	verify the status .....	<a href="#">92</a>
securing		verifying .....	<a href="#">127, 170</a>
mirroring .....	<a href="#">54</a>	Verifying .....	<a href="#">72</a>
set maintenance mode .....	<a href="#">106, 121, 152, 165</a>	verifying Avaya Analytics DB replication from DC1 to DC2	<a href="#">92</a>
setting		Verifying CSC status in DR site, verifying CSC	
mirroring .....	<a href="#">52</a>	deployment status in dc2 .....	<a href="#">97, 132</a>
UCAStoreService attributes .....	<a href="#">66</a>	Verifying CSC status in primary site, verifying CSC	
Setting ACM to point to the new omnichannel database		deployment status in dc1 .....	<a href="#">97</a>
primary server .....	<a href="#">108, 128, 154, 178</a>	verifying shutdown mode status	
sharing content .....	<a href="#">186</a>	CustomerController chat snap-in .....	<a href="#">144</a>
shut down from web console .....	<a href="#">123</a>	GenericChannelAPI snap-in .....	<a href="#">145</a>
shut down System Manager .....	<a href="#">123</a>	MessagingService snap-in .....	<a href="#">144</a>
snap-ins		verifying System Manager .....	<a href="#">169</a>
AMC WebRTC connect .....	<a href="#">145</a>	verifying the status .....	<a href="#">94–96</a>
CustomerController chat .....	<a href="#">144</a>	AMC snap-in .....	<a href="#">145</a>
email .....	<a href="#">143</a>	primary site email snap-in .....	<a href="#">143</a>
GenericChannelAPI .....	<a href="#">145</a>	view	
MessagingService .....	<a href="#">144</a>	Oceana Monitor Service .....	<a href="#">98</a>
sort documents by last updated .....	<a href="#">186</a>	VMware server in Geographic Redundancy setup .....	<a href="#">20</a>
status .....	<a href="#">38</a>		
cluster activity .....	<a href="#">67, 126, 170</a>		
supervisor reporting dashboard .....	<a href="#">79</a>		

**W**

watch list ..... [186](#)  
web video ..... [106](#), [121](#), [152](#), [165](#)  
web video requirements ..... [74](#)  
web video switchover ..... [131](#)  
web voice ..... [106](#), [121](#), [152](#), [165](#)  
web voice requirements ..... [74](#)  
web voice switchover ..... [131](#)