**PREPARE - Execute when performing a Failover Test**

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| S4HANA |  | |
| S4-001 | Put Cluster in maintenance mode | OS PARTNER |
| S4-002 | Create new user on SAP  application (Primary Site) | BASIS |
| S4-003 | Suspend Jobs in ControlM | DCS |
| S4-004 | Stop SAP S/4 Application (Primary  Site) | OS PARTNER |
| S4-005 | Takeover of the DB (DR Site) | BASIS |
| S4-006 | Stop DB (Primary Site) | BASIS |
| S4-007 | Make sure S/4 Application is  stopped | BASIS |
| Web dispatcher |  | |
| WD-001 | Stop WD Application (Primary Site) | BASIS |
| WD-002 | Make Sure WD Application is  Stopped | Basis |
| Cloud Connecto |  | |
| CP-001 | Create a dummy entry on Cloud Connector (Primary Site) | BASIS |
| CP-002 | Stop Cloud Connector Application (Primary Site) | BASIS |
| CP-003 | Make Sure Cloud Connector Application is stopped | Basis |

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| **CUTOVER - Execute during an actual DR or a Failover Test:**  **(Primary Region to Secondary Region)** | | |  |
| S4 |  |  |
| S4-001 | Shutdown of S/4 Servers from Primary Site (US-Central1) | OS PARTNER |
| S4-002 | Power-ON the S/4 Servers from DR location (US-East4) | OS PARTNER |
| S4-003 | Connect to the GCP Cloud Volume and Break the replication with help of GCP Console | OS PARTNER (manual) |
| S4-004 | Verify the Connections and NFS Mounts on available on Servers | OS PARTNER |

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| WD |  |  |
| WD-001 | Shutdown WD Servers from Primary Site (US-Central1) | OS PARTNER |
| WD-002 | Power-ON the WD servers from DR location (US-East4) | OS PARTNER |
| WD-003 | Connect to the GCP Cloud Volume and Break the replication with help of GCP Console | OS PARTNER |
| WD-004 | Verify the Connections and NFS Mounts on available on Servers | OS PARTNER |

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| CCP |  | |
| CCP-001 | Shutdown of Cloud Connector Servers from Primary Site (US- Central1) | OS PARTNER |
| CCP-002 | Power-ON the Cloud Connector Servers from DR location (US- East4) | OS PARTNER |
| CCP-003 | Connect to the GCP Cloud Volume and Break the replication with help of GCP Console | OS PARTNER |
| CCP-004 | Restore Vm's from machine image backup - gcicppaip01 | OS PARTNER |
| CCP-005 | Mount the NFS volumes after restore | OS PARTNER (manual) |
| CCP-006 | Verify the Connections and NFS Mounts on available on Servers | OS PARTNER |

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| **RECOVERY in Secondary Region - Execute during an actual DR or a**  **Failover Test** | | |
| S4 |  | |
| S4-001 | Verify # the IP’s in /etc/hosts file | BASIS |
| S4-002 | Start SAP application (DR Site): | BASIS |
| S4-003 | Technical Validations for SAP | BASIS |
| S4-004 | Validate FIORI URL:  https://fioriprd.kcsouthern.com/sap/bc/ui2/flp | BASIS |
| S4-005 | Validate System integrations i.e. CC, CM, Legacy systems etc. | BASIS |
| S4-006 | SAP Application Verification for Transactions | BASIS |
| S4-007 | Start the DB data and log backup on DR site | BASIS |
| S4-008 | Validate the DB backup onto the GCP cloud bucket | OS PARTNER |
| WD |  | |
| WD-001 | Start SAP application (DR Site) | BASIS |
| WD-002 | Confirm Google Load Balancer | OS PARTNER |
| WD-003 | SAP Application Verification for Fiori URLs:  https://wdprd01.kcscp.corp:44300/sap/wdisp/admin/public/defau lt.html | BASIS |
| WD-004 | Technical Validations for WD | BASIS |

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| CCP |  | |
| CCP-001 | Verify # the IP’s in /etc/hosts file | BASIS |
| CCP-002 | Start Cloud Connector application (DR Site) | BASIS |
| CCP-003 | Technical Validations for Cloud Connector | BASIS |
| CCP-004 | Cloud Connector validation for transactions | BASIS |

Recovery Validation

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| **Seq. ID** | **Validation Activity/Transaction** | **Req. for Business** |
| S4-001 | Validate hdbuserstore and should be pointing to DB alias  (Mandatory for SAP application) | **YES** |
| S4-002 | Validate HANA Replication Status (HSR could be setup later on,  once the primary site is back up and running) | NO |
| S4-003 | Validate Database level logins such as SAPHANADB, System user | **YES** |
| S4-004 | Validate Application to HANA DB connectivity (R3trans -d) | **YES** |
| S4-005 | Validate License in primary site itself for DR hardware key  (Apply the license in advance of DR) | **YES** |
| S4-006 | SAP initial Check (SICK) | **YES** |
| S4-007 | Validate SAP License (SLICENSE) - Validate the Key on the step #  5 | NO |
| S4-008 | Validate DDIC and standard users (For Eg: SAPBATCH1) -  Confirm that the service/system user accounts are NOT locked | **YES** |
| S4-009 | Validate All available instance List with CNAME (SM51) - s4pas  and s4aas should be active | **YES** |
| S4-010 | Validate all SAP jobs (SM37) - Confirmation required for  RDDIMPDP | NO |
| S4-011 | Validate SAP users (SUIM) and using SU01 - Only valid as part of  DR Technical Test | NO |
| S4-012 | Validate and Validate STRUST certificates (STRUST) - Validate all  the STRUST entries | **YES** |
| S4-013 | Validate SAP Logon Group (SMLG) | **YES** |
| S4-014 | Validate RFC Server Group (RZ12) | NO |
| S4-015 | Validate Profile parameters (RZ10) and should be same as  Primary | **YES** |
| S4-016 | Validate SNC SSO Login using SAP GUI | **YES** |
| S4-017 | Check integration RFCs (SM59) with other Systems | **YES** |
| S4-018 | Validate Fiori launchpad(/ui2/flp) and Check SAML SSO | **YES** |
| S4-019 | Validate ADS connectivity and pdf using (FP\_TEST\_00) | NO |
| S4-020 | SAP webservices check of CC (SOAMANAGER) | **YES** |
| S4-021 | Validate DB connections (DBCO) - Check to see if there are any  business processes dependent on the DBCO | NO |

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| **Seq. ID** | **Validation Activity/Transaction** | **Req. for Business** |
| WD-001 | Validate Profile parameters between Primary and DR site | **YES** |
| WD-002 | Validate Fiori DNS pointing to DR Web Dispatcher | **YES** |
| WD-003 | Validate Fiori URL is accessible externally | **YES** |
| WD-004 | Validate Web dispatcher pointing to correct S4/GRC ports | **YES** |

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| **Seq. ID** | **Validation Activity/Transaction** | **Req. for Business** |
| CCP-001 | Validate dummy entry on Cloud Connector (DR Site) | NO |
| CCP-002 | Validate Cloud Connector URL | **YES** |

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| Failback (Secondary Region to Primary Region) | | | |
| S4 |  |  |  |
| S4-001 | Stop S/4 application from DR site | DELOITTE |
| S4-002 | Shutdown of S/4 Servers from DR Site (US- East4) | OS PARTNER |
| S4-003 | Connect to the GCP Cloud Volume , Initiate the "Reverse sync" operation - Once its  completed, a new volume replication relationship is listed. | OS Partner (manual) |
| S4-004 | Now "Break" the reverse sync replication relationship and "Resync" the original  replication relationship | OS Partner (manual) |
| S4-005 | Power ON server from Primary site (DB's first) | OS PARTNER |
| S4-006 | Break replication (H4P) from Node A to B | DELOITTE |
| S4-007 | Take full backups on A and B | DELOITTE |
| S4-008 | Setup replication from node C to node A(async).[Check mark "initiate full data  shipping"] | DELOITTE |
| S4-009 | Perform a takeover of node A from node C after the full sync is complete | DELOITTE |
| S4-010 | Setup replication from Node A to Node B(sync mem) | DELOITTE |
| S4-011 | Setup replication from Node B to C(async) | DELOITTE |
| S4-012 | Power-ON the S/4 Servers from Primary  location (US-Central1) (with maintenance mode ON) | OS PARTNER |
| S4-013 | Validate the DNS Entries | OS PARTNER |
| S4-014 | Validate the NFS mounts and Connectivity test from Beyond Trust | OS PARTNER |
| S4-015 | Verify Cluster remain on maintenance mode | OS PARTNER |
| S4-016 | Verify all NFS drives from Prod location | OS PARTNER |
| S4-017 | Start S/4 application and test it | DELOITTE |
| S4-018 | Put cluster in HA mode (switch OFF maintenance mode) | OS PARTNER |

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| WD |  |  |
| WD-001 | Shutdown WD Servers from Primary Site (US-Central1) | OS PARTNER |
| WD-002 | Power-ON the WD servers from DR location (US-East4) | OS PARTNER |
| WD-003 | Connect to the GCP Cloud Volume , Initiate the "Reverse sync" operation - Once its  completed, a new volume replication  relationship is listed. | OS Partner (manual) |
| WD-004 | Now "Break" the reverse sync replication relationship and "Resync" the original  replication relationship | OS Partner (manual) |
| WD-005 | Verify the Connections and NFS Mounts on available on Servers | OS PARTNER |

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| CCP |  | |
| CCP-001 | Stop all applications on Servers from DR Site (US-East4) | Deloitte |
| CCP-002 | Shutdown the Servers from DR location (US- East4) | OS PARTNER |
| CCP-003 | Connect to the GCP Cloud Volume , Initiate the "Reverse sync" operation - Once its  completed, a new volume replication  relationship is listed. | OS PARTNER |
| CCP-004 | Now "Break" the reverse sync replication relationship and "Resync" the original replication relationship | OS PARTNER |
| CCP-005 | After the Shutdown of DR server, we can start Power ON app servers from Prod site | OS Partner (manual) |

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| CCP-006 | Validate the DNS Entries | OS PARTNER |
| CCP-007 | Validate NFS mounts and Connectivity test from Beyond Trust | OS PARTNER |
| CCP-008 | Verify all NFS drives from Prod location | OS PARTNER |
| CCP-009 | Start Applications on Primary site | Deloitte |
| CCP-010 | Delete the VM's at the DR that were built from an Image Copy | OS PARTNER |