DISASTER RECOVERY SERVICES AND CUSTOMER INVOKED FAILOVER SERVICES
SERVICE DESCRIPTION DOCUMENTATION

The following services apply to Customers that have purchased these optional services, to the extent available, in connection with its subscription to SAP HANA Enterprise Cloud services, S/4HANA Cloud extended edition, SAP ERP, private cloud edition, RISE with S/4HANA Cloud, private edition, SAP ERP, private cloud edition, tailored option, or RISE with S/4HANA Cloud, private edition, tailored option under an applicable Order Form.
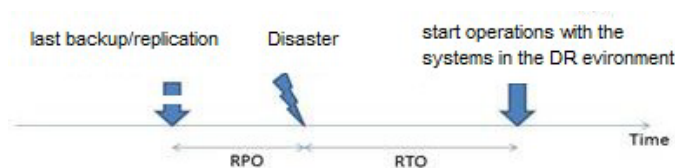
1. DISASTER RECOVERY SERVICES

1.1. Definitions

Definitions used but not defined in this Service Description shall have the meaning ascribed to them in the agreement under which Customer purchased the services.

"Disaster" means an event of substantial extent causing significant disruption of the delivery of the Cloud Services and may include physical damage or destruction, to the SAP data center or Computing Environment. Disasters can be natural disasters (such as floods, hurricanes, tornadoes or earthquakes) and/or human-induced disasters (including hazardous material spills, infrastructure failure, and bio- terrorism). A Disaster is typically not limited to one individual system or landscape but larger parts of an infrastructure.

"Disaster Recovery Services" (or "DR Services" or "DR") means the disaster recovery service, process, policies and procedures initiated by SAP that are related to preparing for recovery or continuation of technology or infrastructure identified in the applicable Order Form as included in the DR Services. DR is not a process to overcome outages of isolated systems due to hardware or software incidents (i.e., DR is not a substitute or replacement for System Availability Service Levels).

last backup/replication   Disaster   start operations with the systems in the DR evironment

RPO   RTO   Time

"Short Distance DR" or **"Metro DR"** means a Disaster Recovery Service in which SAP uses synchronous replication (if possible) between primary and failover systems. This typically means that the secondary data center is less than 50 to 80km away from the primary data center, providing lower cost and smaller RPO but more risk regarding a local disaster impacting both data centers.[1]

"Long Distance DR" or **"Regional DR"** means a Disaster Recovery Service in which SAP uses asynchronous replication only between primary and failover systems. This typically means that the secondary data center is over 50 to 80km away from the primary data center, to minimize risk of a local disaster affecting both data centers.[1]

"RPO" (or "Recovery Point Objective") means the maximum period in which Customer data may be lost due to a Disaster (i.e. time between last backup or last data replication and point in time a Disaster occurred). RPO mainly depends on the replication mechanism between primary and failover systems. Synchronous replication results in RPO=0 but is only applicable for Short Distance DR. Asynchronous replication, typically for Long Distance DR, will result in RPO=30 minutes.

"RTO" (or "Recovery Time Objective") means the duration of time in which the PRD is unavailable in the event of a Disaster (i.e. time between a Disaster and point in time the systems are available again).

1.2. If purchased by Customer, SAP will provide Disaster Recovery Services as outlined herein for PRD systems, and for HEC Services and Tailored Option Services, specifically for those PRD systems indicated in the System Set-Up Table of Customer's Order Form. SAP's provisions of the DR Services are contingent upon Customer fulfilling

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[1] Unless otherwise indicated herein, the distances/regions and conditions can be different if a hyperscale service such as Amazon Web Services, Microsoft Azure or Google Cloud is used to provision the Cloud Service. See https://aws.amazon.com/compliance/data-center/data-centers/, https://azure.microsoft.com/global-infrastructure or https://cloud.google.com/compute/docs/regions-zones/ for additional information.

certain prerequisites and conditions. SAP shall be excused from its DR Services obligations to the extent (and for the duration during which) Customer fails to fulfill any of the following pre-requisites and such failure prevents SAP from performing the applicable DR Services:

1.2.1. The applicable components are technically used as provided by SAP; any custom or third party developments or modifications affecting applicable components are not covered (excluding development/modifications done in ABAP only systems using SAP ABAP standard development tools, and excluding any third party products embedded in the SAP software).

1.2.2. The applicable systems stay within boundaries regarding size and layout as set forth in the Agreement.

1.2.3. Interfaces in DR scope are limited to interfaces/protocols supported by SAP systems out of the box (e. g. RFC, web service calls, Flat Files, XML and IDocs) for components located in the data center. Any interfaces that require additional solutions or components within the Computing Environment, as well as external connectivity, are outside of the DR Services scope.

1.2.4. All repositories containing Customer Data that need to be replicated to the DR site are databases; otherwise, RPO times can be substantially longer, thus does not fall under the definition of standard DR Services.

1.3. For HEC Services and Tailored Option Services, the DR Services RTO/RPO options are set forth in the table below. Generally, the standard RTO is 12 hours, but RTO of 4 hours may be available for defined scenarios if agreed by the parties in the Order Form. For HEC Services and Tailored Option Services, the DR Services option purchased for the respective components is stated in the relevant column of the System Set-Up Table in the Order Form via the applicable designation set forth in the table below.

DR designation in Order Form	RTO	RPO
Blank	none	none
DR_12h_30	12h	30 min
DR_4h_30	4h	30 min
DR_12h_0	12h	0 min
DR_4h_0	4h	0 min

If Customer purchased DR Services based on Long Distance and Short Distance designations, please see Section 1.8 below.

1.4. If Customer has purchased the optional Disaster Recovery services for RISE with S/4HANA Cloud, private edition, SAP ERP, private cloud edition, or S/4HANA Cloud, extended edition, the RTO is 12 hours and RPO is 30 minutes for Long Distance DR and for Short Distance DR, the RTO is 12 hours and the RPO is 0 minutes. For Google Cloud and Microsoft Azure, Short Distance DR is only available in selected regions. If Customer has purchased the optional SAP S/4HANA Cloud, 4 hour recovery time objective, private edition or SAP ERP, 4 hour recovery time objective, private cloud edition, the RTO is 4 hours (instead of 12 hours) and the RPO remains unchanged as indicated in this section.

1.5. Performance characteristics and System Availability may be reduced while operating under DR Services failover (the System Availability Service Level will not be lower than 95%).

1.6. **Other DR services are not in the scope of SAP's standard DR Services**. For HEC Services and Tailored Option Services, if requested by the Customer, such additional DR Services ("Additional DR Services") would need to go through a further DR assessment based on Customer architecture and requirements. Details on the implementation of any such Additional DR Services would be agreed upon with Customer, including revised estimated failover times and maximum data loss, and the parties would mutually agree to the applicable RPO and RTO for such Additional DR Services as result of the implementation in a Change Request or an amendment to the Order Form. As part of this process, SAP would use reasonable efforts to bring RPO/RTO for the System Setup as defined in the Order Form in a similar range as for the defined packages. These Additional DR Services

are not available for S/4HANA Cloud, extended edition, SAP ERP, private cloud edition, and RISE with S/4HANA Cloud, private edition.

1.7. **Regular DR Testing.** SAP offers one annual DR failover-test as part of the DR Services to test the DR Services. SAP shall promptly re-perform any DR recovery tests that fail to achieve the applicable standards and report any failures to Customer. For DR Services readiness, Customer will fulfill its infrastructure and business preparation as set forth in the Order Form, and as may be further mutually agreed between the parties in a Change Request or amendment to the Order Form. Customer business continuity objectives may require additional Customer efforts in addition to and beyond the scope of the Cloud Services and/or DR Services hereunder. Each Disaster Recovery Service implementation requires Customer's testing and causes additional Agreed Downtimes. The System Availability calculation for the affected month(s) shall exclude these additional Agreed Downtimes.

1.8. For DR Services purchased based on Short Distance and Long Distance options:

The relevant parameters depend on the chosen DR layout (Short Distance DR/ Long Distance DR)*, the database platform used, and the adherence to above listed conditions for standard DR Services. The predefined parameters for these standard DR Services are set forth below.

*For S/4HANA Cloud, extended edition, the DR layout is Long Distance DR unless Long Distance DR is not available in the region of the applicable data center. In such event, Short Distance DR will be provided.

	Short Distance DR (Metro DR)	Long Distance DR (Regional DR)
Database: SAP HANA	Single Node [1]: RTO=12hrs; RPO=30mins Multi Node [2]: RTO=12hrs; RPO=0hrs	RTO=12hrs; RPO=30mins
Database: Sybase ASE	RTO=12hrs; RPO=30mins[3]	RTO=12hrs; RPO=30mins

[1] HANA Single Node: describes a configuration, where the HANA database system resides on one single server node.

[2] HANA Multi Node (or HANA Scale Out System): describes a HANA database system that is installed on more than one host but identified by a single system ID (SID). It is perceived as one unit from the perspective of the administrator, who can install, update, start up, shut down, or backup the system as a whole.

[3] Sybase ASE database replication is currently not supported in continuous mode, which would be the prerequisite for an RPO of 0. If such feature becomes available and the respective systems are updated to that new version and successfully tested, both parties will at that time agree on a modified RPO of 0 hours via a Change Request or amendment to Order Form without additional service charge.

1.9. **Disaster Recovery Services for SAP Content Server.**

DR Services for SAP Content Server ("CSDR") is an optional service available only for HEC Services and Tailored Option Services only. If purchased by Customer, SAP will provide DR Services for SAP Content Server with an RTO of 12 hours and an RPO of 90 minutes. CSDR is stated in the relevant column of the System Set-Up Table in the Order Form using the CSDR designation DR_12h_90.

For DR Services purchased based on Short Distance and Long Distance options:

	Short Distance DR (Metro DR)	Long Distance DR (Regional DR)
Database: SAP MaxDB [1]	RTO=12hours; RPO=90mins	RTO=12hours; RPO=90mins

[1] SAP Content Server is only available with the SAP MaxDB database.

2. **OPTIONAL CUSTOMER INVOKED FAILOVER ("CIF") SERVICES FOR HEC SERVICES AND TAILORED OPTION SERVICES**

CIF services is an optional service available only for HEC Services and Tailored Option Services which can be agreed between SAP and Customer for certain components as set forth in the System Set-Up Table of the Order

Form in addition to DR Services (DR Services is a pre-requisite for CIF services). For components for which Customer purchases CIF services, Customer may initiate the failover/failback between the primary data center and secondary data center (normally used for DR Services) without the occurrence of a Disaster.

The respective components for which CIF services is purchased will be marked with the "CIF" designation appended to the DR designation in the System Set-up Table. By way of example, a CIF services designation of "DR_12h_0_CIF" means that Customer may invoke CIF services without the occurrence of a Disaster for that component and for which the agreed upon DR Services has an RTO of 12 hours and an RPO of 0 minutes.

CIF services is only available for select configurations and data centers. Pre-requisites, technical requirements and scenarios for which CIF services can apply depend on the concrete technical solution for the DR Services and are described in additional documentation.

For clarity, performance characteristics and System Availability may be reduced while operating under CIF services (the System Availability Service Level will not be lower than 95%).