DISASTER RECOVERY SERVICES
FOR SAP HANA ENTERPRISE CLOUD

SERVICES DESCRIPTION DOCUMENTATION

The following disaster recovery services apply to Customers that have purchased these optional services in connection with its subscription to an SAP HANA Enterprise Cloud services under an applicable Order Form.

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.

(a) “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.

(b) “Disaster Recovery Services” (or “DR Services” or “DR”) means the disaster recovery service, process, policies and procedures 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 described in this HEC Supplement).

(c) “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.

(d) “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.

(e) “RPO” (or “Recovery Point Objective”) means the maximum tolerable period in which Customer data might be lost due to a Disaster (i.e. time between last backup or last data replication and point in time a Disaster occurred).

(f) “RTO” (or “Recovery Time Objective”) means the duration of time in which the Subscription Software/ Licensed Software and PRD is unavailable preventing Cloud Services in Disaster case (i.e. time between a Disaster and point in time the systems are available again).

2. SAP provides standard DR Services with predefined parameters regarding RPO/RTO for defined system characteristics to the extent that prerequisites and conditions are fulfilled. SAP shall be excused from its DR Services obligations to the extent (and for the duration during which)
Customer fails to achieve any of the following pre-requisites and such failure prevents SAP from performing the applicable DR Services:

(a) 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).

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

(c) 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 standard DR scope.

(d) 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.

3. The relevant parameters depend on the chosen DR layout (Metro DR/Regional 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:

<table>
<thead>
<tr>
<th>Database: SAP HANA</th>
<th>Short Distance DR (Metro DR)</th>
<th>Long Distance DR (Regional DR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Node (1) RTO=12hrs; RPO=30mins</td>
<td>Multi Node (2): RTO=12hrs; RPO=0hrs</td>
<td>RTO=12hrs; RPO=30mins</td>
</tr>
<tr>
<td>Database: Sybase ASE</td>
<td>RTO=12hrs; RPO=30mins(3)</td>
<td>RTO=12hrs; RPO=30mins</td>
</tr>
</tbody>
</table>

(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 without additional service charge.

4. Performance characteristics may be reduced while operating under DR Services failover; provided, however, that such reductions in performance shall only be excused to the extent the Disaster is also a force majeure event.

5. Other DR Services are not in the scope of SAP’s standard DR 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. 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.

6. **Regular DR Testing.** SAP offers one annual DR failover-test as part of the DR Services to test the reliability of 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 Service 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. 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.

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