

SAP Common Operations

The complete service is defined by the combination of the following items:

- **Client Service Description** –service delivery operations that are common to all Managed Cloud and Infrastructure Services.
- **Common Operations**– service delivery operations that are common to all services within the category of *Managed SAP - Common Operations* (the following section).
- **Service-Specific Operations** – service delivery operations that are specific to *Managed SAP – Core Solutions* and other contracted services. These operations are additive to the *Client Service Description* and *Common Operations*.

1 Service Overview

This section provides an introduction of NTT's SAP Basis management services and provides a high-level explanation of the following:

- (a) Supported Platforms
- (b) Supported Systems
- (c) Limitations of the Service
- (d) Initial Design Activities

NTT offers a full suite of SAP Basis Management services which focus on capacity and performance management. Our complete SAP portfolio can be used to build a solution to cover all of the elements required for an SAP platform, including network, datacenter services and management. These services can be deployed in private, public and hybrid cloud solutions.

1.2 Supported Platforms

Only the following platforms are supported:

- (a) Public IaaS: NTT Enterprise Cloud, Amazon Web Services (AWS), Microsoft Azure and Google Cloud Platform (GCP); other public clouds such as IaaS deployed in multiple regions are also supported
- (b) Private IaaS: dedicated cloud solutions located at the Client premises or at another provider's premises; based on private cloud platforms
- (c) Managed Hosting in NTT data centers: managed physical and virtual infrastructure hosted in NTT data centers
- (d) Managed equipment: managed physical and virtual infrastructure hosted in third-party data centers or Client premises

1.3 Service Specific Operations

- (a) Service specific operations are contained in the service descriptions for the individual services. Supported versions are the same as those currently supported by SAP.
- (b) Only supported services and versions specifically identified in the SOW will be in Scope.

1.4 SAP Core services

- (a) SAP® S/4 HANA and SAP® ERP Central Component (ECC)
- (b) SAP® Router
- (c) SAP® Solution Manager (SOLMAN)

1.5 Examples of Supported Systems

- (a) SAP® BW/4HANA and SAP® Business Planning and Consolidation (BPC)
- (b) SAP® Process Integration or Process Orchestration (PI/PO)
- (c) SAP® Business Intelligence or Business Objects (BOBI)
- (d) SAP® Data Services (Data Services)
- (e) SAP® Customer Relationship Management (CRM)
- (f) SAP® Content Server
- (g) SAP® Fiori
- (h) SAP® GRC
- (i) SAP® GTS
- (j) SAP® MDG
- (k) SAP® MDM

1.6 Additional Packages

- (a) Basis Support for Functional Teams in Greenfields
- (b) Extended SAP Services

1.7 Supported Configurations

Only the following configurations are supported:

- (a) Standalone server: All SAP Basis roles (including database and application servers) on a single server (note: such configurations may be subject to performance issues)
- (b) Distributed solution: SAP Basis roles distributed among two or more servers, with the database server role separated from the SAP application server; multiple application servers may exist for various SAP elements; allowed for production and non-production environments
- (c) Disaster Recovery solution: Two separate SAP environments replicated using an SAP supported mechanism; Active-Active or Active-Passive mechanisms are implemented depending on the platform and reasonable Client requirements approved by NTT, Client must have required disaster recovery services for this to be supported.

1.8 Supported Operating Systems and Databases

Only the following configurations are acceptable for SAP Basis platforms:

- (a) Windows Server and SQL Database Server: See Managed Operating System for supported Windows versions and Managed Standard Database for supported SQL server versions and topologies
- (b) Linux Server and Oracle Database Server: See Managed Operating System for supported Linux versions and Managed Enterprise Database for supported Oracle versions and topologies
- (c) Linux or Windows Server and SAP ASE Database Server: See Managed Operating System for Linux and Windows supported versions and topologies.
- (d) Linux and SAP HANA database: See Managed Operating System for supported Linux versions and Managed SAP Core Solutions service descriptions for supported versions and topologies.

1.9 Not Supported

The following operating systems and database combination is not supported as a standard and requires a detailed review and acceptance by NTT. Unless specified in the Statement of Work the following is not supported:

- (a) Windows Server and Oracle Database Server

1.10 Limitations

- (a) In order to provide the Service, NTT requires at least one instance of each of the following elements in the platform to be managed:
- (b) SAP Solution Manager
- (c) The above elements can be installed in existing server roles; dedicated VM's are not required unless needed for platform sizing
- (d) Operating systems and database servers must also be under management
- (e) Monitoring and backup must also be under management
- (f) Firewall must limit access to the SAP platform
- (g) IPsec tunnels must exist for NTT monitoring and management activities
- (h) SAP Privileged Access Method system must be implemented.

1.11 Services Not Included

Professional Services for SAP Basis are not included as part of the Service and must be contracted to a 3rd party; these services include:

- (a) Functional Projects
- (b) Code Review and Evolution
- (c) SAP Licensing

2 Initial Activities for Design

As part of the Service, only one of the following setup activities is included, as specified in the SOW:

- (a) Greenfield
- (b) Brownfield
- (c) Takeover of an existing system

The following sections describe the setup activities for each of the above options.

2.2 Greenfield

For new SAP implementations, or "Greenfield" projects, NTT will design a platform to support SAP landscapes based on initial sizing and additional information provided by the Client.

- (a) At a minimum, the following information is required from the Client:

(i) SAP Roadmap for HANA

SAP Systems to be deployed (S/4HANA, C/4HANA, BW4/HANA and Solman) per the project scope

Required interfaces to external systems (other applications, SAP Cloud Applications), if any

Timing of deployment for the different environments and layers

Target SAP System version for each system

(ii) SAP architecture design

SAP users for each system and SAPS for each system

SLA required for each system

Disaster Recovery RTO and RPO for each system

(iii) Project Plan

Expected systems within project scope, SAP or other (DNS, AD, File server, vFW, Printer server, Hybris)

Rough schedule (deadline of proposal, new system release deadline)

Based on the information above, NTT will create a high-level design (HLD) to meet the Clients requirements. The HLD will be delivered to and validated by the Client during the initial phase of Project Implementation.

2.3 Brownfield

Implementations that require migrating existing solutions to a new platform, and that may require additional adaptations or upgrades, are considered "Brownfield" projects. Brownfield projects usually fall into the one of the following categories:

(a) Migration to S/4 HANA using SAP tools

(b) Migration of a solution already on S/4 HANA that requires additional updates and/or upgrades

To understand the many factors involved in an SAP migration, NTT performs an audit to analyze the settings and usage of the current environment. Based on the results of the audit, NTT will create the HLD of the new platform, validating the versions required, and will develop a migration plan which outlines migration requirements, actions, and responsibilities, including those of the Client and any third parties.

2.4 Take Over of an Existing SAP System

When taking over an existing SAP system, NTT will audit the current platform with the objective of understanding the systems, infrastructure and operational procedures involved.

Additionally, NTT will conduct an initial workshop with the Client to understand business requirements, critical operations, technical requirements, and any pain points. The duration of the workshop is dependent on the size and complexity of the platform and shall be decided in NTT's reasonable option. As part of the workshop, the following topics are typically covered:

(a) Audit document: The audit document is delivered to the Client in advance of audit activities in case information or authorizations must be obtained from internal organizations or any third parties

(b) SAP Basis RACI matrix: The RACI matrix documents the demarcation of responsibilities between NTT SAP Basis management teams, other technical teams (Infrastructure managers, developers, third party hosting providers) and the Client's internal teams

(c) NTT SAP standard checklist: Checklist used to confirm that NTT's standard service meets all the Client's requirements; if the Client requires any modifications to the service, NTT will analyze the request to determine if it can be fulfilled

(d) Monitoring: NTT will present standard monitoring and identify any non-standard monitors to be added at Client's expense.

2.5 Documentation required for the audit and must be provided by the Client includes:

(a) Last EWA report of all systems

(b) Infrastructure documentation

(c) DR/HA documentation

(d) Runbooks

(e) Standard procedures

(f) Standard changes

(g) Interface map and description

(h) Full infrastructure start/stop order and dependencies

- (i) Any other reasonable requests from NTT

2.6 Initial requirements to provide the audit:

- (a) IPsec tunnel from NTT management network to access Client's SAP infrastructure
- (b) Access to all systems with administrative rights (in the event administrative rights are not granted, the audit may be delayed as data will have to be collected by the Client); and
- (c) Access to current Client SAP OSS to check latest messages.

3 Tasks Included in the Standard Transition

After completing the audit and HLD, NTT will conduct installation and migration activities.

Only the following tasks will be included.

- (a) Creation of users required for the management
- (b) Installation of the tools required for management and monitoring
- (c) Configuration of required OS and databases
- (d) Installation of SAP application server roles
- (e) Patching of SAP application servers up to the required level
- (f) Configuration of SAP application servers
- (g) Definition and documentation of SAP maintenance tasks and frequency
- (h) Configuration of storage subsystems for SAP
- (i) Creation and configuration of RFC interfaces
- (j) Installation and configuration of Java stack
- (k) Creation of monitoring and definition of thresholds
- (l) Runbooks creation for alert management
- (m) Creation and configuration of jobs execution as required by the Client
- (n) SAP Basis user creation
- (o) Configuration of Solution Manager (SOLMAN) agents and diagnostics instances as required by SAP support (SOLMAN)
- (p) Review of operational tasks for SAP Basis as required by the Client and creation of operational tasks runbook
- (q) Creation and configuration of SAP Router to connect to SAP for maintenance tasks
- (r) Creation and configuration of printers and Spool System as required by the Client
- (s) Creation and configuration of the Backup Policy (if Client contracts the additional required elements to facilitate backup)

4 Tasks Not Included in a Standard Transition

As part of the Service, the following tasks are not included and must be contracted separately:

- (a) Deployment of physical or cloud infrastructure
- (b) Additional SOLMAN capabilities such as helpdesk and development change management
- (c) Archiving software configuration
- (d) Creation of new archiving programs or customization
- (e) Any task requiring physical access
- (f) Software, licensing, use rights
- (g) Anything not specifically identified as in Scope in the SOW.

5 Management and Operation Service Phase

Once the platform is under NTT management the Service Operations phase will maintain the environment. Management activities are further detailed in Managed SAP Core Solutions.