SAP NetWeaver

User Guide

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Sizing an Elastic Cloud Server on HUAWEI CLOUD for SAP NetWeaver do not differ as for on-premises SAP NetWeaver systems. To determine the required SAPS, Storage Capacity and I/O performance, we suggest to use the SAP Quick Sizer Tool at **https://www.sap.com/about/benchmark/sizing.quick-sizer.html#quick-sizer**. SAP S-User credentials are required.

Contents

1 Overview

1.1 About This Document

This guide presents guidelines for implementing and operating SAP solutions on the HUAWEI CLOUD. As a prerequisite, you must be familiar with Huawei products and services related to running SAP systems. If you are new on HUAWEI CLOUD, please see the following links for detailed information.

- HUAWEI CLOUD (**http://www.huaweicloud.com/en-us**) for basic information
- HUAWEI CLOUD Help Center (**http://support.huaweicloud.com/en-us/**) for technical details

For information on SAP installation, refer to the standard SAP documentation.

https://help.sap.com/viewer/nwguidefinder (requires partly **SAP Service Marketplace credentials**).

1.2 Abstract

The HUAWEI CLOUD provides the infrastructure to run your SAP NetWeaver AS ABAP/ Java systems in an infrastructure as a service (IaaS) environment. Running your SAP system on HUAWEI CLOUD is similar to running your SAP system on-premises in your data center.

This white paper is written for experienced SAP administrators who want to run their SAP NetWeaver AS ABAP/Java systems on HUAWEI CLOUD. It provides basic information and best practices for installing and operating SAP NetWeaver AS ABAP/Java applications on HUAWEI CLOUD.

2 Planning

2.1 Using SAP Notes

Before you start planning and implementing SAP NetWeaver AS ABAP/Java products on HUAWEI CLOUD, please read all relevant SAP Notes. The notes compile the latest information for implementation and operation of your SAP environments on HUAWEI CLOUD.

1380654 - SAP support in public cloud environments

2582296 - SAP Applications on Huawei Cloud: Supported Products and ECS VM types

2582305 - SAP on Huawei Cloud: Support Prerequisites

2570214 - Linux on Huawei Cloud: Adaption of your SAP License

2.2 License

The Bring Your Own License (BYOL) model is implemented on HUAWEI CLOUD. You use your own license and must ensure that you comply with SAP's licensing policies.

2.3 SAP System Deployment Options

SAP NetWeaver installation options are available and supported on HUAWEI CLOUD. You follow the SAP NetWeaver standard installation procedure on HUAWEI CLOUD. This follows the same installation rules as widely described in SAP Installation Guides for any other physical or virtual server environment. Detailed guidance on how to start the SAP NetWeaver installation on HUAWEI CLOUD is described later in this guide. The following SAP NetWeaver installation options are available on HUAWEI CLOUD.

- Standard System
- Distributed System
- Additional Application Server Instance
- SAP Host Agent as a Separate Installation

2.4 HUAWEI CLOUD Services

HUAWEI CLOUD is committed to providing customers with world-class services. For large enterprises, it helps them address problems in cloud transformation and enables them to take better advantages of business opportunities in the future. For small and medium enterprises, it provides suitable infrastructure services and accompanies their growth.

For details of the services portfolio, see **HUAWEI CLOUD product portfolio**.

- Elastic Cloud Server (ECS)

  Elastic Cloud Server (ECS) is provided for you to obtain scalable cloud servers by self-service at any time to build a reliable, secure, flexible, and efficient application environment to ensure the stable and continuous running of your services.

  SAP NetWeaver instances are deployed on ECSs.

  For details, see **Elastic Cloud Server User Guide**.

- Elastic Volume Service (EVS)

  Elastic Volume Service (EVS) is a scalable virtual block storage service that is based on a distributed architecture. EVS features robust data reliability and high I/O throughput. In a similar way for traditional hard disks on servers, you can format EVS disks that are attached to Elastic Cloud Servers (ECSs), create file systems on EVS disks, and store data into them persistently.

  All SAP NetWeaver ECSs have EVS disks attached.

  For details, see **Elastic Volume Service User Guide**.

- Virtual Private Cloud (VPC)

  Virtual Private Cloud (VPC) enables you to provision logically isolated, configurable, and manageable virtual networks on HUAWEI CLOUD. You have full control over your virtual networks, for example, assigning EIPs, allocating bandwidth, creating subnets, and configuring DHCP and security groups.

  All SAP NetWeaver ECSs locate in the same VPC. They are isolated using VPC subnets and network groups for network security.

  For details, see **Virtual Private Cloud User Guide**.

- Image Management Service (IMS)

  IMS manages images. Image Management Service (IMS) allows you to create ECSs using images. An image is an ECS template that contains an OS and may also contain proprietary software and application software, such as database software.

  When creating an SAP NetWeaver ECS, select a proper public image, see **Operating Systems** for supported OS types.

  For details, see **Image Management Service User Guide**.

2.5 Regions and Availability Zones

In the first iteration of availability, for now, HUAWEI CLOUD for SAP NetWeaver ECS is currently available and supported in **CN East-Shanghai2** region, **CN North-Beijing1** region, **CN South-Guangzhou** region, and **AP-Hong Kong** region.

2.6 Network

You can configure what is known as a Virtual Private Cloud service with HUAWEI CLOUD, which enables you to control your virtual network environment. By using functions for network security and security groups, you thus increase your own network security. You can set up a public IP address for your VPC in order to connect it with a public network via the Elastic IP Service.

For details, see **Virtual Private Cloud User Guide**.

Options for VPC connectivity on HUAWEI CLOUD

HUAWEI CLOUD provides certain options to connect the users and on-premises systems with SAP systems running on HUAWEI CLOUD.

Direct Internet connection

This is a quick and easy way to connect to your SAP systems running on HUAWEI CLOUD.

For details, see **Direct Internet on HUAWEI CLOUD**.

Use cases: Recommended for Demo, Training and PoC systems

HUAWEI CLOUD Direct Connect

Direct Connect allows you to set up a dedicated network connection between the public cloud system and your local data center, office, or collocation environment. This helps reduce network latency and provides a more consistent and reliable network experience than Internet-based connections.

For details, see **Direct Connect on HUAWEI CLOUD**.

Use cases: Recommended for customers who require dedicated network connection with greater bandwidth and lower latency

VPN via Internet

For a secure connection between your on-premises systems and the systems running on HUAWEI CLOUD, use a VPN via Internet.

For details, see **VPN on HUAWEI CLOUD**.

Use cases: Recommended for any SAP scenario including production, which requires VPN integration with on-premise environment

2.7 Security

HUAWEI CLOUD provides features to ensure end-to-end security and end-to-end privacy.

The HUAWEI CLOUD security services are built on the basis of many years of experience with managing data centers for different customers, and ensure the separation of data access. We support you with documenting and using these features, allowing you to build up a secure application environment on HUAWEI CLOUD that ensures the availability, confidentiality and integrity you need for your successful business.

As with an on-premises infrastructure, you are responsible for using these features and creating a secure application environment.

Shared Responsibility Environment

Huawei and the customer share responsibility for the security of systems running on HUAWEI CLOUD.

Huawei manages, controls and operates the physical security of the facilities in which the services operates up to the components of the host operating system. There is a valid security approval for the HUAWEI CLOUD, and all security measures from the strong Huawei group directives are fulfilled.

The customer is responsible for the security (including updates and security patches) of guest operating systems, the configuration of HUAWEI CLOUD VPC and HUAWEI CLOUD security groups as well as the firewall setup.

The network resources within a HUAWEI CLOUD Virtual Private Cloud Service are totally separate, and the resources are used exclusively within this Virtual Private Cloud.

Access control:

You can set up multi-dimensional access protection using security groups and firewalls, and thus suitably restrict access to sensitive data. This functionality is especially in demand within the enterprise environment.

Software Defined Networking:

The network configuration and the configuration of the DHCP Service (Dynamic Host Configuration Protocol) enable you to connect a virtual private network to other networks, as well as to the Internet, of course. These configurations become effective automatically and are immediately active.

2.8 ECS Flavors

A special configuration of CPU, memory, storage, I/O and network capabilities is appropriate for each use case. Consult the corresponding SAP Note 2582296 for information about the certified ECS types. A list of the certified ECS types is included in this documentation. In case of discrepancy, only SAP Note 2582296 applies.

Table 2-1 SAP NetWeaver ECS specifications

ECS Type	Flavor	vCPUs	Memory (GB)
High-performance computing	h1.xlarge.4	4	16
	h1.2xlarge.4	8	32
	h1.4xlarge.4	16	64
	h1.8xlarge.4	32	128
Memory-optimized	m3.large.8	2	16
	m3.xlarge.8	4	32
	m3.2xlarge.8	8	64
	m3.4xlarge.8	16	128

ECS Type	Flavor	vCPUs	Memory (GB)
	m3.8xlarge.8	32	256

2.9 Operating Systems

Currently, SUSE Linux Enterprise Server 12 SP2 64bit for SAP or higher is supported as the operating system for SAP NetWeaver Application Server ABAP and Java.

□**NOTE**

If you need SUSE Linux Enterprise Server 12 SP1 64bit for SAP, contact SAP for support.

For specific details about running SAP NetWeaver on HUAWEI CLOUD, refer to SAP notes mentioned in **Using SAP Notes**.

2.10 Databases

The installation, configuration, and management of the underlying database to run SAP NetWeaver application server ABAP and Java on HUAWEI CLOUD is similar to a physical or virtual server. For SAP NetWeaver application server ABAP and Java, you must use one of the databases certified by SAP for HUAWEI CLOUD listed in SAP Note mentioned in **Using SAP Notes**.

Database Licenses

The Bring Your Own License (BYOL) model for database licenses is implemented for SAP NetWeaver application server ABAP and Java Solutions on HUAWEI CLOUD. You are responsible for holding the required database license and complying with the database vendor's licensing terms and conditions.

2.11 Storage

With Elastic Volume Service (EVS) disks, the HUAWEI CLOUD provides scalable virtual block storage devices. You can create EVS disks online and attach them to the ECS. You can use EVS disks in the same manner as conventional hard disks. Compared with conventional hard disks, the EVS disks are easier to handle and have a better I/O throughput and reliability.

With the Object Storage Service (OBS), the HUAWEI CLOUD offers a Representational State Transfer (REST) API-compatible object-oriented storage.

Types of EVS Disks

● **EVS disks with ultra-high I/O**

EVS disks that use solid state disk (SSD). These EVS disks provide ultra-high I/O and low latency.

IOPS: up to 20,000; data throughput rate: up to 320 MB/s; response period: 1 – 3 ms.

● **EVS disks with high I/O**

EVS disks that use serial attached SCSI (SAS). These EVS disks provide high I/O and low latency.

IOPS: up to 3,000; data throughput rate: up to 120 MB/s; response period: 6 – 10 ms

- **EVS with common I/O**

  EVS disks that use Serial Advanced Technology Attachment (SATA). These EVS disks provide reliable block storage.

  IOPS: up to 1,000; data throughput rate: up to 40 MB/s; response period: 10 – 15 ms

2.12 SAP Support and Monitoring

For full support of SAP NetWeaver solutions running on HUAWEI CLOUD, the guidelines in SAP Note mentioned in **Using SAP Notes** must be met.

By default, the Data Provider for SAP has been installed on an ECS which created using the public image for SAP. For details about how to manually install or uninstall the Data Provider for SAP, see **Data Provider for SAP User Guide**.

To enable SAP monitoring (SAPOSCOL) retrieving configuration and resource-utilization information from the underlying HUAWEI CLOUD infrastructure, the following sources are necessary to monitor an SAP system:

- **Cloud Eye**: Monitoring starts automatically after ECS creation. No manual intervention or plug-in installation is necessary.

  a. **Data Provider for SAP** collects monitoring data from various sources to fulfill the SAP requirements. The Data Provider is already included in the OS image. The only thing you need to do is to define the access permissions in an agency. Every SAP NetWeaver ECS needs to run it during the whole life cycle. Processes status could be checked by:

     ps -ef|grep dataprovider

     If information similar to the following is displayed, the **dataprovider** and **dataprovider_update** processes are running properly:

     - hwdatap+ 1423 1 0 Jan25 ? 00:00:00 python /opt/huawei/dataprovider/ dataprovider.py
     - hwdatap+ 1424 1 0 Jan25 ? 00:00:00 python /opt/huawei/dataprovider/ dataprovider_update.py
     - hwdatap+ 1443 1424 0 Jan25 ? 00:00:00 python /opt/huawei/dataprovider/ dataprovider_update.py
     - hwdatap+ 1452 1423 0 Jan25 ? 00:00:46 python /opt/huawei/dataprovider/ dataprovider.py
     - hwdatap+ 1453 1423 0 Jan25 ? 00:00:10 python /opt/huawei/dataprovider/ dataprovider.py
     - hwdatap+ 1454 1423 0 Jan25 ? 00:00:00 python /opt/huawei/dataprovider/ dataprovider.py

       root 4956 3686 0 08:54 pts/0 00:00:00 grep --color=auto dataprovider

  b. When the processes statuses are not displayed as expected, the processes could be restarted manually by:

     /etc/init.d/hwdataprovider stop

     /etc/init.d/hwdataprovider start

     /etc/init.d/hwdataproviderupdate stop

     /etc/init.d/hwdataproviderupdate start

    c.   Obtain the log file of Data Provider:

    /var/log/huawei/dataprovider/

    d.   Run the following command to obtain the XML file that stores all indicator information:

    wget http://localhost:8888/information.xml

2.13 SAP Installation Media

In general, there are two options for copying SAP installation media to HUAWEI CLOUD:

● **Download from SAP Service Marketplace to HUAWEI CLOUD Elastic Cloud Server.**

Connect to the SAP Service Marketplace via SAP Download Manager from your Elastic Cloud Server to download the required installation media.

● **Copy from your network to HUAWEI CLOUD Elastic Cloud Server.**

Connect to an Elastic Cloud Server within your VPC and copy the required installation media directly.

You can create a specific disk to store all your installation media. Then you can mount this disk to various Elastic Cloud Servers. For parallel use of the disk we offer snapshot technology, this enables you to attach the disk to different Elastic Cloud Servers at the same time, with this you can improve the overall deployment time.

3 Sizing

Sizing an Elastic Cloud Server on HUAWEI CLOUD for SAP NetWeaver does not differ as for on-premises SAP NetWeaver systems. To determine the required SAPS, Storage Capacity and I/O performance, we suggest to use the SAP Quick Sizer Tool at **https://www.sap.com/about/benchmark/sizing.quick-sizer.html#quick-sizer**. SAP S-User credentials are required.

The SAPS value of an ECS type, which is supported by SAP, is published in SAP Note **2582296**

You can then choose the appropriate Elastic Cloud Server on HUAWEI CLOUD to build your SAP environment.

For additional information about the SAP sizing process, see: **https://www.sap.com/about/benchmark/sizing.html**.

4 Deployment

4.1 Deploying SAP Systems on HUAWEI CLOUD

4.1.1 Creating an HUAWEI CLOUD Account

To implement an SAP system on the HUAWEI CLOUD, you need an account for the HUAWEI CLOUD. With this account, you are able to use all HUAWEI CLOUD services, but you are only charged for the services used. This implementation follows the "Pay as You Use" Concept.

Registering yourself on the Public Cloud

1. Log in to the **HUAWEI CLOUD website**.

    If you have registered on the HUAWEI CLOUD, you can log in and click **Console** to the management console.
2. Click **Register**.
3. The registration page is displayed. Enter required information according to the prompts to register an account. After the registration, the system automatically redirects you to your personal information page.

4.1.2 Configuring Network Environment

The first step to creating an SAP environment on HUAWEI CLOUD is to configure a network where your SAP application servers can run. On the cloud console, you will find the button "Virtual Private Cloud" to configure your Virtual Private Cloud (VPC), manage access to your VPC, and create and configure Security Groups.

Please refer to the detailed documents:

- **User Guide**
- **API Reference**

4.1.3 Creating and Configuring an ECS

The next step is to create ECSs for the SAP Cloud solution. Depending on the environment you want to build, you will need ECSs with different configurations of computing power, memory and storage. Here, we explain the basic steps for creating an ECS.

Create an ECS.

Step 1 Log in to the public cloud management console, click **Service List** and choose **Computing** > **Elastic Cloud Server**.

Step 2 Click **Buy ECS** on the right. A page for creating ECSs is displayed.

Step 3 Configure the parameters listed in following table.

Table 4-1 SAP NetWeaver ECS parameters

Parameter	Description
Billing Mode	Specifies the ECS billing method. An ECS charged in the **Yearly/Monthly** billing mode cannot be directly deleted.
Region	Specifies the region. For details, see **Regions and Availability Zones**.
AZ	Specifies the AZ where the ECS is located.
Type	Set **Type** to **High-performance computing** or **Memory-optimized** and select **Flavor Name** based on section **3 Sizing**.
Image	Select **Public image** and **SUSE Enterprise 12 SP1 64bit for SAP(40GB)** or later.
Disk	At least three disks are required, including one 100 GB system disk (common I/O), and two data disks (high I/O recommended). **/usr/sap/<sid>** **/sapmnt/<sid>**
VPC and Security Group	Use the VPC and security group in section **Configuring Network Environment**.
NIC	The NIC is the server/client plane NIC. NOTE If you need multiple NICs for different planes, create the certain subnets you need first. For details, see **Creating a Subnet for the VPC**.
EIP	Bind an EIP to an SAP NetWeaver ECS for communication between the customer client and the ECS. If the customer client is installed on the NAT server, you do not need to bind an EIP to the SAP NetWeaver ECS. The SAP NetWeaver ECS on the private subnet can be accessed through the NAT server.

Parameter	Description
Login Mode	**Key pair** is recommended. A Secure Shell (SSH) key certificate is used for authenticating users who attempt to log in to SAP NetWeaver ECSs. To create a key, click **Create Key Pair**. On the displayed page, click **Create Key Pair**. **NOTE** If you choose an existing SSH key certificate from the drop-down list, make sure that you have saved the certificate locally. Otherwise, you may fail to log in to the ECS. Perform the following operations to create a key pair: Click **Create Key Pair**. On the displayed **Key Pair** page, click **Create Key Pair**, specify the key pair name, and click **OK**. In the **Information** dialog box that is displayed, click **OK**. Then, you can query and save the private key as prompted.
ECS Group	This parameter is displayed only after you set **Advanced Settings** to **Configure**. When you create ECSs, the system will allocate the ECSs in the same ECS group to different physical servers. You are advised to specify an SAP application ECS group and allocate all SAP ECSs to the same ECS group. In this way, all SAP ECSs run on different physical servers, improving the reliability of SAP ECSs. **NOTE** If no ECS group is available, perform the following operations to create one: Click **Create ECS Group**. On the displayed page, click **Create ECS Group**, specify the ECS group name, and click **OK**.

Parameter	Description
Agency Name	To allow Data Provider to obtain necessary data for SAP, you must create an agency and authorize it.
	Specifies the agency name. When ECSs access the public cloud platform, they obtain a temporary access credential from the agency.
	The agency name can be changed after ECS creation.
	Before using the agency, log in to the public cloud management console as a tenant administrator and create an agency.
	NOTE
	Log in to the public cloud management console as a tenant administrator, click **Service List**, and choose **Management & Deployment** > **Identity and Access Management**. On the left side of the page, choose **Agencies**. Then, click **Create Agency** on the right side of the page.
	Set the parameters as follows:
	Agency Name: **DataProviderAccess** This name is only for reference.
	Agency Type: **Cloud service**
	Cloud Service: **ECS BMS**
	Validity Period: Retain the default setting.
	Permissions: Locate the **Region** and **Project** in which the target ECS locates, click **Modify** in the **Operation** column, and choose **Base** > **Tenant Guest** to configure the permissions for the ECS.
ECS Name	Specifies the ECS name.
	When you create ECSs in batches, the number in the **ECS Name** is generated automatically in ascending order based on the **Quantity** value that you filled in. For example, if you fill **SAP-Dev** in **ECS Name**, the first ECS is **SAP-Dev-0001**, and the second ECS is **SAP-Dev-0002**.
	The ECS name needs to follow the SAP requirements. For details, see SAP Note **611361 - Hostnames of SAP servers**.
Quantity	Set this parameter as required.

Step 4 Click **Next**. On the displayed page, select **I have read and agree to Huawei Image Disclaimer**, and click **Submit**.

Step 5 Click **Pay**.

Step 6 The **Elastic Cloud Server** page is displayed.

Step 7 After the SAP ECS is created, you can view the ECS in the ECS list on the right of the page.

Step 8 Create other SAP ECSs as required.

Step 9 Change the **root** password for logging in to all SAP ECSs.

Step 10 Securely keep the **root** password.

    1.   Log in to the SAP ECS.

    2.   Run the following command to switch to user **root**:

        sudo su -

    3.   Run the following command to change the password of user **root**:

        passwd

Enter the new password as prompted and confirm it.

----End

4.1.4 Installing the SAP Solution

After you have provisioned and configured the Elastic Cloud Server on the HUAWEI CLOUD, you can start the installation of the SAP solution. Follow the standard SAP installation process documented in the SAP installation guide, just as you would on any other physical or virtual server. For further information about installation using the SAP Software Provisioning Manager, please refer to the SAP WIKI **Software Provisioning Manager**.

4.1.5 Performing Post-Installation Operations

When the installation process is finished, start the required post installation steps as described in **https://help.sap.com/viewer/nwguidefinder**.

4.1.6 (Optional) Creating a Backup for a Custom VM

You should create an image of the VM when you have completed the SAP installation and post-installation steps. For details, see **Image Management Service User Guide**.

4.2 (Optional) Migrating an Existing SAP System to HUAWEI CLOUD

You can migrate a system copy to the HUAWEI CLOUD. There are two possible methods for performing a system copy to the HUAWEI CLOUD. The first is the database-independent method using the SAP tool SWPM (Software Provisioning Manager).

Step 1 Use SWPM to export all the SAP objects on your source system to a database-independent format.

Step 2 Set up the target system on HUAWEI CLOUD as described in the installation guide for SAP.

Step 3 Transfer the export files to the ECS on HUAWEI CLOUD.

Step 4 Use SWPM to import the export files to the target system.

Step 5 Perform the post migration steps.

----End

This method is suitable for homogenous and heterogeneous system copies.

Another method is to perform a database-specific system copy. This is usually the faster way to copy the system. The rough steps are:

Step 1 Create a database backup on the source system.

Step 2 Use SWPM to install the database software on the target system.

Step 3 Transfer the source backup to HUAWEI CLOUD.

Step 4 Restore the database on the target system.

Step 5 Perform the post migration steps.

----End

Note: For shorter downtime, it is also possible to set up the database via replication and then execute a takeover to switch the system to HUAWEI CLOUD.

This method is suitable for homogenous system copies.

For additional information, refer to standard SAP documentation in the SAP Guide Finder: https://help.sap.com/viewer/nwguidefinder

5 Operation

5.1 How to Start and Stop SAP Systems on HUAWEI CLOUD

On the HUAWEI CLOUD console, the ECS can only be stopped and started on OS level. To enable an automated start / stop of your SAP system, you can use the SAP start service.

See SAP Notes **936273** and **823941** .

5.2 How Do I Back Up and Restore SAP Systems on HUAWEI CLOUD?

Prerequisites

You have logged in as user <sapsid>adm and stopped the SAP system and database.

Use the backup tool of your choice and refer to the backup software documentation. You can also use the standard UNIX commands.

You need to back up the following directories and files:

● All SAP-specific directories:

/usr/sap/<SAPSID>

/usr/sap/trans

<sapmnt>/<SAPSID>

Home directory of the user <sapsid>adm

● All database-specific directories

● The root file system

Backup File Location

On HUAWEI CLOUD, you could use Scalable File Service (SFS) to store your system backup files. SFS provides high-performance file storage that is scalable on demand. It can be shared with multiple Elastic Cloud Servers (ECSs)

For how to create and mount SFS, refer to **Scalable File Service User Guide** on HUAWEI CLOUD.

SAP NetWeaver Backup

Log in as user **root**.

Manually create a compressed TAR archive that contains all installed files.

Save to file system:

tar -cvf <ARCHIVENAME>.tgz <file_system>

SAP NetWeaver Restoration

If required, you can restore the data that you previously backed up.

Log in as user **root**.

Go to the location in your file system where you want to restore the backup image.

Restore the data with the following commands.

tar -xzf <ARCHIVENAME>.tgz

5.3 SAP Change and Transport System

Hybrid Architecture

For a hybrid architecture on HUAWEI CLOUD, we recommend creating local transport directories for each landscape and configuring automatic synchronization of transport files between systems. For additional information about this configuration, see the following SAP documentation:

- **SAP Systems Without a Common Transport Directory**
- **SAP Note 2030463 Automatic adjustment of import queue with RSTMSTIQ**

All on Cloud Architecture

For an all on Cloud architecture for your SAP systems, follow standard SAP best practices for change and transport management. For additional information, see the SAP **Transport and Change Management** documentation.

6 Support

6.1 Contact Information

6.1.1 Huawei Support

Professional HUAWEI CLOUD engineer teams provide you with 7 x 24 services.

Technical support center of HUAWEI CLOUD:

https://www.huaweicloud.com/en-us/about/protection.html

HUAWEI CLOUD hotline: 4000-955-988

6.1.2 SAP Support

Visit **SAP Support Portal Home** and use SAP component BC-OP-LNX-HUAWEI.

7 Conclusion

The difference between the deployment of an SAP system on a traditional infrastructure and on HUAWEI CLOUD is negligible. Some considerations relating to computing configuration, storage, security, management and monitoring should be taken into account to gain the best results when implementing your SAP system on HUAWEI CLOUD. This paper contains best practices to achieve reliability, availability, performance and cost efficiency of your SAP implementation on HUAWEI CLOUD.