Using Commvault CommCell to Back Up Data in Telefonica Open Cloud

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1.1 CommCell Environment Overview

A CommCell environment is the logical grouping of all software components that protect, move, store, and manage data and information. A CommCell environment contains one CommServe host, one or more MediaAgents, and one or more clients.

**Figure 1-1 CommCell Environment**

**CommServe**

The CommServe host is the central management component of the CommCell environment. It coordinates and executes all CommCell operations, maintaining Microsoft SQL Server databases that contain all configuration, security, and operational history for the CommCell environment. There can be only one CommServe host in a CommCell environment. The CommServe software can be installed in physical, virtual, and clustered environments. For more information about the CommServe host, see Overview - CommServe.
MediaAgent

The MediaAgent is the data transmission manager in the CommCell environment. It provides high performance data movement and manages the data storage libraries. The CommServe server coordinates MediaAgent tasks. For scalability, there can be more than one MediaAgent in a CommCell environment. The MediaAgent software can be installed in physical, virtual, and clustered environments. For more information about MediaAgents, see MediaAgent - Overview.

The MediaAgent also includes an Analytics Engine, which is a lightweight indexing engine that supports several Commvault features, such as Data Analytics, Data Cube, and more.

Client

A client is a logical grouping of the software agents that facilitate the protection, management, and movement of data associated with the client. For detailed information about clients, see Client.

Agent

An agent is a software module that is installed on a client computer to protect a specific type of data. Different agent software is available to manage different data types on a client, for example, Windows file system data and Oracle databases. Agent software can be installed in physical, virtual, and clustered environments, and may be installed either on the computer or on a proxy server. For more information about the available agents, see the following:

- Backup Agents
- Archive Agents
- Virtualization
- Replication

CommCell Console

The CommCell Console is the central management user interface for managing the CommCell environment - monitoring and controlling active jobs, and viewing events related to all activities. The CommCell Console allows centralized and decentralized organizations to manage all data movement activities through a single, common interface. For detailed information about the CommCell Console, see CommCell Console - Basic.

Web Server

The Web Server is the web service that can process requests from one or more web-based applications, such as the Admin Console and the Web Console, and communicates with the CommServe system to allow access to CommCell and end-user operations on the web.

By default, the Web Server and Web Console components are installed with the CommServe component. You can accept the installation of these components on the CommServe host, but they are not required to be on the CommServe host. To provide better security and scalability, you can host the Web Server on multiple platforms. For example, in a multi-tenant
environment, each tenant would have their own security domain. In such cases, you can install a Web Server and Web Console component in each tenant’s domain.

**Web Console**

The Web Console is a web-based application that allows end-users to manage their data, as well as to perform other useful operations such as reporting, downloading software packages, and managing virtual machines. For more information about the Web Console, see [Web Console Overview](#). You can have multiple Web Console components associated with the same Web Server or with different Web Servers.

**Note:** The web console component includes the Admin Console as well as the Web Console interface.

**Reporting Server**

The Metrics Reporting Server allows you to access reports that help you to monitor one or more CommCell computers from a single location on your Web Console. For more information, see [Reports Overview](#).

**Workflow Engine**

Workflow is a tool that automates business processes by putting together a set of tasks in a specific order. Workflows help you automate both CommCell tasks and external tasks. For more information, see [Workflow: Overview](#).

For detailed information about CommCell, please refer to Commvault official website : [https://www.commvault.com/](https://www.commvault.com/)

### 1.2 Basic Components of CommCell Console

A CommCell environment consists of one CommServe host, and any number of MediaAgents and clients. There is also a logical architecture to a CommCell, which can be defined in two main areas, production data being used by servers and computers in the enterprise, and protected data which has been backed up, archive, or replicated to storage media.

**Figure 1-2** CommCell Console
A CommCell environment employs a logical management of production data, which is designed in a hierarchical tree structure. Production data is managed using agents, which interface natively with the file system or application and can be configured based on specific functionality of data being protected. Data within these agents is grouped into backup sets. Within the backup set, one or more subclients can be used to map to specific data.

**client**

A computer for which software agents are protecting data.

**agent**

A software component that is installed to protect a specific type of data on a client, e.g., Windows File System, Oracle databases, etc.

**backup set**

One or more logical groupings of subclients, which are the containers of all of data managed by the agent. For some agents, this might be called an archive set or replication set. For a database agent, the equivalent of a backup set is generally a database instance.

**subclient**

A logical container that identifies and manages specific production data (drives, folders, databases, mailboxes) to be protected.

**storage policy**

A logical data management entity with rules that define the lifecycle management of the protected data in a subclient's content.
2 Getting Started

2.1 Install the Commvault software

Please refer to Commvault official website to get detailed info: http://documentation.commvault.com/commvault/v11/article

2.2 Image selection

1. The tenant should choose the image below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>OS</th>
<th>Type</th>
<th>System Disk (GB)</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Server 2012 R2 Datacenter 64Bit</td>
<td>Normal</td>
<td>Windows Server ...</td>
<td>ECS Image</td>
<td>270</td>
<td>Apply for Server</td>
</tr>
</tbody>
</table>

Name: Windows Server 2012 R2 Datacenter 64Bit English + Commv... Image ID: 539e45de-8bba-4206-991f-9552c2f87f83
System Disk (GB): 270
Min Memory (MB): 8102
Description: --

2. During server creation, the following flavor is proposed:

- ECS Type: General-purpose
- VCPU: 1 vCPU, 2 vCPUs, 4 vCPUs, 8 vCPUs, 16 vCPUs, 32 vCPUs
- Memory: 8 GB

Selected Specifications: c2.xlarge | 4 vCPUs | 8 GB

with system disk of 270G at least.
After the VM provisioned successfully, you need to trigger the software installation by double click on “InstallCVOC - Shortcut” that is on the desktop. After the cmd window disappears, you can find and open the software by Commvault Commcell Console.

Before moving to the next step, please make sure the DNS server is configured. And add the host name mapping with IP address in the file C:\Windows\System32\drivers\etc\hosts, such as:

```plaintext
# localhost name resolution is handled within DNS itself.
# 127.0.0.1 localhost
# ::1 localhost

127.0.0.1 commvault-new-i
```

2.3 Apply for the pilot license

By default an evaluation license is activated with 2 months. Before expiration, you are suggested to apply pilot license:

1. From the CommCell Console ribbon, on the Home tab, click Licensing and Registration.
2. In the Licensing and Registration dialog box, click the Apply License tab.
4. Click Apply.

### 2.4 Installation of agents

Simpana software offers seamless and efficient backup and restore of data and information in your enterprise from any operating system, database, and application. And the Commcell Console provides a visible interface to install the agents you need.

1. Open the Commvault Commcell Console
2. Go to the tab Tools and select Install software
3. This opens a wizard. Press Next. Select The Operating System of the server where you will install the agent, and choose Manually Select computers
4. Enter the name of the server (you will need DNS resolution) in the text box
5. Insert account for installation

6. Select from the drop-down list the agent you want to install

7. Select the desired options for installation

8. You can run an immediate installation, or schedule it for a later time
9. Review options and click on finish

10. You can check the status on the job controller
Once the installation is finished, go to documentation.commvault.com (http://documentation.commvault.com/commvault/v11/article?p=landing_pages/c_backup_agents.htm) to get information on how to configure the agent and subclient.

- **Documentation**
- **Data Protection and Recovery Agents**
  - **Backup Agents**
    - 3DFS
    - Active Directory
    - DB2
    - DB2 MultiNode
    - Documentum
    - Image Level
    - Informix
    - IBM I File System Agent
    - IBM Notes or IBM Domino
    - Macintosh File System
    - Microsoft Exchange Server
    - Microsoft SharePoint Server
    - Microsoft SQL Server
    - Microsoft Windows File System
    - MySQL
    - NAS
    - OES File System IDataAgent
    - Oracle
    - Oracle RAC
    - OpenVMS
    - PostgreSQL
    - SAP
    - Sybase
    - UNIX/Linux File Systems
3 Create Cloud Library & Storage Policy

3.1 Create a Cloud Library

1. Open the Commvault Commcell Console
2. Go to the Commcell Browser and navigate to Storage Resources -> Libraries.
3. Right click and select Add -> Cloud Storage Library

4. You’ll get a window like the following one:
The configuration is:

- **Name**: `<your_library_name>`; i.e. TEST_Cloud_OBS
- **Type**: **Telefonica Open Cloud Object Storage**
- **Media Agent**: `<your_vm_name>`; i.e. Sample-win20120
- **Service Host**: <check your public end point in https://support.telefonicaopencloud.com/en-us/endpoint/index.html>; i.e. obs.sa-brazil-1.telefonicaopencloud.com:443
  - **Access Key**: `<your_access_key>`
  - **Secret Access Key**: `<your_access_key>`
  - **Verify Secret Access Key**: `<repeated_access_key>`
- **Bucket**: `<your_bucket>`

Once you have your OBS Cloud library, it can be a Primary or secondary copy of a Storage Policy.

### 3.2 Create a Storage Policy

1. Navigate in the Commcell Broser to Policies -> Storage Policies.
2. Right click on the Policies icon and select new Storage Policy.
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3 Create Cloud Library & Storage Policy

Create Storage Policy Wizard

What will this storage policy be used for?

Storage Policy Type:
- Data Protection and Archiving
- CommServe Disaster Recovery Backup

Enter the storage policy name

Storage Policy Name: Test to OBS

Incremental Storage Policy

Provide the OnCommand Unified Manager Server Information

Cancel  < Back  Next >  Finish
3. Select your OBS Cloud Disk library

4. Select your VM name (Sample-win20120)

5. Enter the desired streams and retention criteria. This can be changed afterwards
6. Chose software encryption if you wish
7. In the DDB location Window, go to Location, select Browse, go to drive F:, and create a new folder.
8. Select that folder and click OK

9. Click Finish. You’re done. Now you can use this storage policy
4 Browse and Restore Data

The Browse feature lets you search and restore data at the backup set or subclient level. It is supported by the iDataAgents shown on Browse and Restore Data: Support.

4.1 Browse the latest backed-up data

To browse the latest backed-up data, follow these steps:

1. From the CommCell Browser, expand Client Computers > client > File System.

2. Right-click a backup set, point to All Tasks, then click Browse and Restore.

3. Select and set any desired options, then click View Content. The latest data backed up by all the subclients appears in the Client: client_name tab.

4. Select items to restore by clicking the selection box to the left of each item name. The selection icons indicate these conditions:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>The item is not selected.</td>
</tr>
<tr>
<td>☑</td>
<td>The item is selected. If it is a folder, all child objects are selected also.</td>
</tr>
</tbody>
</table>

5. Right-click a file or folder, then choose an action:

   - To restore the single item you right-clicked, click Restore Current Selected.
   - To restore all items currently selected, click Restore All Selected.
   - To find items by entering search criteria, click Find.

   **Note:** For large restores (those with more than approximately 10,000 items), restoring by filtered browsing (see Browse and Restore Using Filters) may provide better performance than restoring via the Find feature.
4.2 Views that Browse Provides

By default, Browse presents your data in a familiar "tree view," similar to Windows Explorer. It also provides a "flat view", which shows all files and folders from the selected point in the tree, recursively down to the bottom of the backup, formatted as a table. To change to flat view, in the upper-right corner of the results area, click the Flat View button. To change back to tree view, click the Tree View button.

For detailed information about Browse and Restore Data, please refer to Commvault official website: