Replicating Perceptive Content to a Test Environment

Best Practices

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Table of Contents

Replicating Perceptive Content from production to a test environment 4
Overview for setting up the test environment 4
Installation and licensing 4
Storage and connectivity 4
Users and permissions 5
Agents 5
Customized scripts 5
Replication process 6
Preparation worksheet 6
Copy the production data to the test environment 7
Configure the Perceptive Content INI files 9
Change the DEP setting 11
Run Perceptive Content Server in the test environment 11
Troubleshooting the replication 11

Replicating Perceptive Content from production to a test environment

This document provides high-level steps for replicating Perceptive Content from a production environment to a test environment. You can set up realistic data for testing if you replicate data from a production environment into a test environment. While you can also use this replication procedure to move Perceptive Content Server to a different computer, this document is not intended for moving your Perceptive Content Server to the same directory on a new 64-bit server machine. To move your Perceptive Content Server to a 64-bit machine, refer to *Moving Perceptive Content Server to 64-bit Best Practices Guide*.

Overview for setting up the test environment

Before you replicate data between environments, ensure that both environments meet the following prerequisites. Read this section carefully before performing the replication steps. This section provides an overview of some of the items that you need to consider before the starting the replication.

Installation and licensing

You must create the same Perceptive Content configuration in the test environment that you have in the production environment. For more information about installation prerequisites, refer to the *Perceptive Content Installation and Setup Guide* for your environment and DBMS. For more information about Perceptive Content licensing, contact your Account Executive or Product Support Customer Service Advisor.

- Ensure that you install the same version and build of Perceptive Content Server in the test environment that is in the production environment.
- In the test environment, ensure that you license the Perceptive Content Server and agents.
- For 32-bit Perceptive Content Server running on Windows 2003 Server with Service Pack 1 (SP1) or later, verify that you added all Perceptive Content Server agents to the exclusion list for Data Execution Prevention (DEP) and restart the server.
- Ensure that you remove on-access virus scanning from the Perceptive Content directories, including the locations of the database and OSM.

Storage and connectivity

To ensure that the test environment can handle the amount of data you plan to replicate and that connections to the servers are successful, verify that both environments meet the following prerequisites.

- Ensure that the ODBC connection is set up for both environments. Use the same DSN name on the test server as you supplied on the production server.
- For data replications to the test server, ensure that the test server has enough storage to accommodate the production data.

Users and permissions

Perceptive Content Perceptive Manager and Department Manager accounts must have the proper permissions to access the production and test environments. Ensure that both environments meet the following prerequisites.

- Ensure that the Perceptive Manager account for Perceptive Content Server is the same for both servers.
- For all Windows Server operating systems, ensure that Perceptive Content users have the **Log on locally** and **Access this computer from a network** logon permissions.
- In the test environment, ensure that any Perceptive Content service running with an account other than LOCAL SYSTEM mirrors the same account on the production server. This ensures that the Perceptive Content service has the correct NTFS permissions to read, write, and modify files on a remote server.

Agents

For proper installation and configuration of Perceptive Content agents, verify that the testing environment meets the following prerequisites.

- Verify that you install the same agents on the test system as the production system. For example, if you have Content Server in your production environment, install it in the test environment so that the environments match.
- In the test environment, check all INI files for any agents configured to run remotely and ensure that they are pointing to the test environment. For example, if you run the Email Agent remotely ensure that the settings in the inservermail.ini file point to the test environment.

Customized scripts

Use the following guidelines to ensure that all customized scripts execute successfully.

- Examine any iScript that relies on machine-specific settings. For example, if you have a script that performs an ODBC lookup, you must also install and configure the ODBC drivers on the test server. Check any paths that are located in scripts that reference the file system and ensure they are valid paths on the test server. Note that UNIX does not support the COM interface, so if you are moving from Windows to UNIX and have scripts with COM objects, you must find alternatives.

  Note If any script alters data outside of Perceptive Content, create a test environment for that application.
- If you use Perceptive Content Printer, determine the server-side printing scripts that you need to copy and ensure that all scripts reference a print INI file from the correct directory.

Replication process

This section contains the instructions for replicating Perceptive Content from a production environment to a test environment. Perform the steps in the following sections in this order.

1. Complete the preparation worksheet.
2. Copy the production data to the test environment.
3. Configure the Perceptive Content INI files.
4. If applicable, change the DEP setting.
5. Run the Perceptive Content Server in the test environment.

If you run into any issues while running and testing in the new environment, refer to the Troubleshoot the replication section of this document.

Preparation worksheet

Use the following preparation worksheet to collect information about your production and test environments. This worksheet provides valuable information that you need to quickly access during the replication.

Tip Print the following worksheet to have it readily available during your preparation and replication.

Component	Production	Test
Perceptive Content Server host name or IP address		
Current location of \inserver directory		
Current size of \inserver directory		
Current location of OSM tree (if outside of the \inserver directory)		
Free space available on server		
Version and build number of Perceptive Content Server and all agents		
For external DBMSs, supply the database server name or IP address		
OSM storage locations		
Perceptive Manager account name		
Perceptive Content database creation script or database upgrade script version		

Component	Production	Test
Perceptive Content Client version		
Additional agents installed (including version numbers)		
Are any additional agents or extensions remote? If so, where are they located?		
For Windows environments, do any of the server executables run with a Windows account other than LOCAL SYSTEM?		
For Windows environments, are the user accounts for Perceptive Content users granted the following Windows user rights, either by Local Security Policy or Group Policy: Allow Logon Locally Access This Computer From the Network		
Location of iScripts		
For Windows environments, is there a BAT file that runs the scripts? If so, where is the BAT file located?		
Did you submit iScripts to Perceptive Software for updates? If so, list the submission date.		
When were the test licenses requested from Customer Service Adviser (CSA) at Perceptive Software?		
Frequency of scheduled tasks (Windows) or cron jobs (Unix/Linux/AIX).		

Copy the production data to the test environment

This procedure assumes that your Database Administrator (DBA) performs the steps necessary to copy the database data from the production server to the test server using tools that are appropriate for your DBMS. The Perceptive Content Administrator performs the remaining steps.

1. On the test server machine, install the Perceptive Content Server that matches your production environment. Follow the instructions in the Perceptive Content Installation Guide to install the

Perceptive Content Server. During this step, skip all instructions to create the database or license the product.

2. On the test server machine, install any agents that are installed in your production environment.
3. Stop Perceptive Content Server and all agents on the production and test servers to ensure data consistency while copying data.
4. For your DBMS, complete the following substeps.
    1. Copy the production database to the test database.
    2. On the test database only, delete the following records to remove the production server license information. For SQL, execute as user INUSER.
    Important Executing DELETE statements against the Perceptive Content database can negatively impact functionality. You should create and verify a backup of the INOW database prior to deleting the records.

```
IN_SC_CONNECTION
IN_SC_AGENT_SESSION
IN_SERVICE_SESSION
IN_SC_CLIENT_SESSION
IN_SC_SESSION
IN_LIC_MON
IN_LIC_NAME
IN_LIC_OVERDRAFT
IN_LIC_REGISTERED_HW_NODE
IN_LIC_SERVER_INFO
IN_LIC_TOKEN
IN_LIC_TOKEN_COUNT
IN_LIC_TP
IN_LIC
IN_APP_KEY
IN_SERVICE_REGISTRATION
IN_TIMING_PARAM
IN_TIMING_DATA
IN_TIMING_SUMMARY
IN_TIMING_HISTORY
IN_NODE
```

    3. Ensure that the inuser account is created in the test database copied in the previous steps. For your reference, information about creating the inuser account for your DBMS is provided in the Perceptive Content Installation Guide.
5. On the production server, navigate to the **inserver** directory and then copy the following folders to the **inserver** directory on the test server, overwriting the existing directories. If your system does not contain a listed folder, it is not part of your system, and you can ignore that directory.

Directory to Copy	Description
audit	Required if you use auditing.
etc	Required but do not copy the in_hwfp file. In the [*drive:*]\inserver\etc directory, use a text editor (such as Notepad) to open the **inow.ini** file and change the value for the odbc.dsn setting to the test server database.
import	Required if you use Import Agent
job	Required
learnmode	Required if you use HyperLearn
osm_0#.0000#	Required
script	Required
user	Required
workflow	Required
worksheet	Required

6. Start the server and license Perceptive Content and any agents you are using in the test environment. For more information about licensing, refer to the *Perceptive Content Installation Guide*.
7. Ensure that you remove on-access virus scans from the inserver directory and all subdirectories. Also, remove on-access virus scan from any directory that you moved outside of the default directory, including the database and OSM directories.

Configure the Perceptive Content INI files

Perceptive Content uses several INI files to store configuration settings. Many of these settings are unique to your environment. Using the previous procedure, you moved these files from the production environment to your testing environment. After the move, you need to modify the INI files to make them specific for your test environment.

The following table shows the settings that you must adapt to the new environment, depending on the agents and DBMS used in your system. You need to change anything that refers to your production resources or folders using a UNC path and not a relative path. If your system does not contain a listed component, the product is not part of your system, and you can ignore that INI file.

Note By default, these INI files are located at \inserver\etc.

Product	Component	Production
Alarm Agent	inserverAlarm.ini	[Email] SMTP.Server=<outgoing smtp server for emails>
Fax Agent	inserverFax.ini	[General] Supplied.channels=x Enabled.channels=xxxxxxxx [Remote] Server.ip.address= Server.ip.port=
Import Agent	inserverImp.ini	[General] Import.Directory=<input directory> [Mode1] Import.Failed.Directory =<directory for failed import> Import.Complete.Directory =<directory for successful import>
Email Agent	inserverMail.ini	[Remote] Remote=<switch for remote> server.ip.address=<IP of the Test Perceptive Content Server> server.ip.port=<port of the Test Perceptive Content Server> ;For each additional heading in [] server.incomming=<incoming email server name/IP> server.incomming.username=<username/account on mail server> server.outgoing=<outgoing server name/IP> server.outgoing.username=<outgoing mail name/account>
Output Agent	inserverOutput.ini	[General] keyfile.monitor.path=<input path for keyfiles> [Report] report.file.path=<path for reports> [Printer] report.printer.device=<report printer> tif.printer.device=<tif printer> [Export] output.file.path=<destination path for exports> [Remote] server.ip.address=<Test Perceptive Content Server name/ip> server.ip.port=<Test Perceptive Content Server port>
Recognition Agent	inserverRec.ini	[General] remote=<switch for remote> ocr.dir=<path to ocr directory> [Remote] server.ip.address=<Test Perceptive Content Server name/ip> server.ip.port=<Test Perceptive Content Server port> restart.threshhold = <numeric value, if present>

Change the DEP setting

If you are running Perceptive Content Server in a Windows 2003 SP1 environment or higher, you must exclude the Perceptive Content executable files from DEP in [*drive:*]\inserver\bin. The following procedure is only required for 32-bit Perceptive Content Server running on Windows Server 2003 or later environment. If you are using 64-bit Perceptive Content Server or another environment, skip this procedure.

1. On the desktop, right-click **My Computer** and select **Properties**.
2. In the **System Properties** dialog box, on the **Advanced** tab, under **Performance**, click **Settings**.
3. In the Performance Options dialog box, on the Data Execution Prevention tab, select Turn on DEP for all programs and services except those I select.
4. Click **Add**.
5. In the **Open** dialog box, navigate to the **\inserver\bin** directory, select an EXE file in that directory, and then click **Open**. Repeat this step for each EXE file in the directory.
6. Click **OK** twice.
7. Restart your computer to save the DEP setting.

Run Perceptive Content Server in the test environment

At this point, Perceptive Content Server is installed in the test environment, the data is copied from the production environment, and the INI files are updated.

1. Start all ImageNow Services except the Alarm Agent (inserverAlarm) on the production and the test computers.

   Note It is important to exclude Alarm Agent if you have email alarms set in your environment. Receiving regular alarms as well as alarms from the test server may confuse users.
2. In the Perceptive Content Client, create a new connection profile for the Perceptive Content Server in the test environment.
3. Using the new connection profile, connect to the Perceptive Content Server in the test environment.
4. Verify the configuration.

Troubleshooting the replication

If you encounter issues during or directly after the replication of Perceptive Content from your production environment to the test environment, review this table for the steps to resolve the issue.

Issue	Cause	Resolution
Services do not start or you receive a license error.	License issues occur after the production database is copied to test.	In the Perceptive Content database, delete all IN_LIC files. Then, apply the test environment licenses.
Services start but stop after 60 minutes.	The ODBC DSN and inow.ini are not configured to point to the test database.	In the [ODBC] section of inserver/etc/inow.ini, change the odbc.dsn setting to point to the test server database.

Issue	Cause	Resolution
	The PERCEPTIVE CONTENT database was copied from the production environment to the test environment without creating the inuser account in the external DBMS.	Follow the instructions in this document to make a copy of your PERCEPTIVE CONTENT database and verify the inuser account.
Users cannot connect to the test environment.	A firewall is blocking port 6000.	Open port 6000 on the firewall for the test server.
iScripts are not working.	iScript files point to an incorrect location after being copied to test	Edit all iScripts referencing a drive letter.
	A Scheduled Task was not created correctly after being copied to test.	Create Windows Scheduled Tasks to initiate BAT files.
	BAT files point to incorrect location after being copied to test	Edit all BAT files to point to correct script location.
Images do not open.	OSM pointers are not synchronous with file structure during the copy from production to test.	Verify that the location of your OSM is correct.
You cannot create new documents in the test environment.	OSM next slot pointer is off.	Verify that the location of your OSM is correct.
You cannot apply test licenses.	Possible issues include: Perceptive Manager account did not exist in test database. Port 6000 is not enabled for test server. User is applying licenses with an account other than Perceptive Manager. inserver service is not running on the test server.	To resolve this issue use the following steps. 5. Create the Perceptive Manager account in the test database. 6. Open port 6000 on the firewall for the test server. 7. Use an account that has the Perceptive Manager role within Perceptive Content. 8. Start the inserver process.
Services not functioning properly.	DEP is not set on Windows 2003 test server.	Refer to the “Change the DEP setting” section of this document.
Perceptive Content Client works against production server, but not the test server.	A different version of the Perceptive Content Server is installed in the test environment compared to the version in production.	Re-run the server installation on the test server and then verify that the test environment has the same version of Perceptive Content agents and extensions as well.

Issue	Cause	Resolution
The Perceptive Content Server service is unable to log in to the database on the test server.	Inuser does not have sufficient privileges on the test PERCEPTIVE CONTENT database.	Grant inuser the dbo role for PERCEPTIVE CONTENT database.
Search or workflow performance is slow.	The database timestamp parameters are not set correctly for Oracle.	Apply the correct timestamp parameters on the Oracle test database instance as listed in the *Perceptive Content Installation Guide*.
Users cannot log in to Perceptive Content Client against test server.	Perceptive Content users must have the following Windows user rights on test server: Allow log on locally Access this computer from the network	Grant those Windows user rights within Local Security Policy or at the Windows Group Policy level.