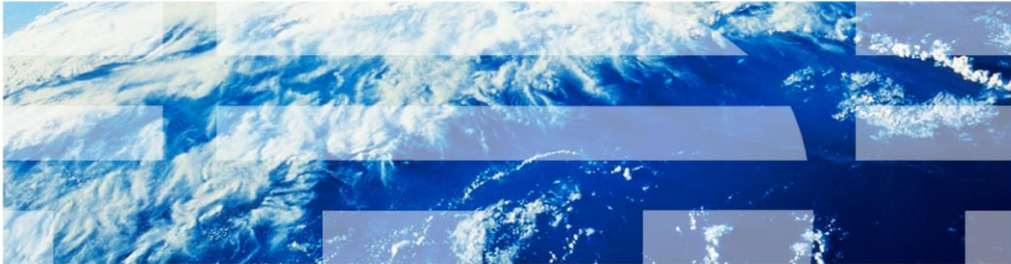


IBM Workload Deployer V3.0

Migration



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This presentation will cover the migration from IBM WebSphere CloudBurst to IBM Workload Deployer V3.0.

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This presentation will present an overview of the migration process and the preparation steps for migration. It discusses how you create the backup archive. You then see how to initiate the migration function on the IBM Workload Deployer appliance. You then learn about the details of the migration function and its completion. Finally, you will see a summary of this presentation.

Migration overview and preparation

This section will present an overview of the IBM Workload Deployer migration process and how to prepare for migration.

Migration prerequisites and testing

- Migration – move IBM WebSphere CloudBurst artifacts to the IBM Workload Deployer
 - All existing Workload Deployer data is erased during migration
- Prerequisite firmware levels:
 - IBM WebSphere CloudBurst – Maintenance level 2.0.0.3
 - IBM Workload Deployer – V3.0
- Before you migrate, perform basic testing on the IBM Workload Deployer appliance
 - Become familiar with features
 - Validate proper functioning of:
 - Appliance
 - Network
 - Hypervisors
- Check for a newer version of IBM Workload Deployer before migration
 - Install the latest version available before migration

If you have an IBM WebSphere CloudBurst appliance, you can migrate the data to an IBM Workload Deployer V3.0 appliance. The migration process moves the IBM WebSphere CloudBurst appliance artifacts to the IBM Workload Deployer appliance, converting the data format into the V3.0 format as it stores the data.

The IBM WebSphere CloudBurst appliance must be a V2.0.0.3. Therefore if you are at an earlier maintenance level of IBM WebSphere CloudBurst, then you must apply the necessary maintenance to move to V2.0.0.3. The IBM Workload Deployer should be at the highest maintenance level available at the time you want to migrate.

Before you migrate, you should have performed basic testing on your IBM Workload Deployer, becoming familiar with the appliance and ensuring the appliance, the network and the hypervisors are working properly. Also check with IBM support to determine if there is a firmware update to IBM Workload Deployer. If one is available, upgrade to the latest firmware level before you migrate.

Overview of the migration process

- Perform a backup function on the CloudBurst V2.0.0.3
- Perform a migration function on the IBM Workload Deployer V3.0 using the backup archive



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Migration

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The migration process involves two phases. First you must perform a backup of the CloudBurst appliance to an SSH server with sufficient file space for your backup archive. Then you must perform a migration function on the IBM Workload Deployer appliance, using the backup archive you produced from the CloudBurst appliance.

Review what will be removed during migration



- Migration erases **all** the catalog images supplied with IBM Workload Deployer V3.0
- Specifically, these images will be erased:
 - Workload Deployer – Base Image
 - The “foundation” image for Virtual Applications, DBaaS, and Caching/Proxy Service
 - Also called the “Maestro” image
 - All WebSphere Application Server V7.0.0.17 images
 - WebSphere MQ 7.0.1.4
 - WebSphere Portal Server 7.0.0.0 Standalone Trial
 - WebSphere Message Broker Hypervisor Edition V7.0.0.1
 - DB2 Enterprise and Express images for 9.7.3.1

You should review what will be removed during the migration to your IBM Workload Deployer appliance. The migration process replaces all data on the IBM Workload Deployer appliance with the artifacts from the IBM WebSphere CloudBurst appliance. The catalog images originally shipped on the IBM Workload Deployer V3.0 appliance are erased. One of the images in the catalog that will be erased is the Workload Deployer – Base Image. This is the foundation (or “Maestro”) image for the new Virtual Application feature and several other new features in the IBM Workload Deployer. Also erased are the images for all the WebSphere Application Server V7.0.0.17, the WebSphere MQ 7.0.1.4 image, the WebSphere Portal Server 7.0.0.0 Standalone Trial image, the WebSphere Message Broker Hypervisor Edition V7.0.0.1 image, and the DB2 Enterprise and Express images for V9.7.3.1.

Ways to preserve or replace the original images



- The image catalog will be populated with the images from the WebSphere CloudBurst V2.0.0.3 appliance
- If you want some or all of the IBM Workload Deployer V3.0 images that were originally shipped with your appliance:
 - Export them to an SSH server before you migrate
 - Import them back into the catalog after you complete migration
 - Or, download them from Passport Advantage when you register your licenses

After the migration, the catalog will only contain images from the WebSphere CloudBurst V2.0.0.3 catalog.

If you want to retain the IBM Workload Deployer V3.0 images that were originally shipped with your appliance, you must export them to an SSH server before you migrate. Then, after migration, import the images you want back into the IBM Workload Deployer catalog. Since you must register the licenses for the products you want to use, you can also download the images from Passport Advantage after you have registered.

Preparing for the migration



- Provide sufficient space on an SSH server for the backup files from the IBM WebSphere CloudBurst appliance
 - For space planning, review space usage using the Hardware Capacity screen on CloudBurst appliance

- **Appliance > Troubleshooting > Hardware Capacity**

- ▢ **Hardware Capacity**

Memory usage		7%	HDD0 (primary - active)		47% (out of 120 GB)
Encrypted disk space		17%	HDD1 (secondary - active)		47% (out of 120 GB)

- Provide 10 percent more space than the total amount of disk spaced used for HDD0
- Ensure IBM WebSphere CloudBurst is running V2.0.0.3
 - **Appliance > Settings > Firmware**

In preparing for the migration procedures, first ensure that you have sufficient space on your SSH server for the CloudBurst appliance backup. Navigate to the hardware capacity screen on the IBM WebSphere CloudBurst appliance by selecting the Troubleshooting link within the Appliance pull-down menu, then expanding the Hardware Capacity link. To calculate the minimum space you need, add the amount of space used by the HDD0 disk and then add an additional 10 percent.

Secondly, ensure that the CloudBurst appliance is running V2.0.0.3 firmware level. You can check the firmware level by navigating to the Settings menu under the Appliance pull-down menu, and then expanding the Firmware link. Install any firmware maintenance before you begin the migration process.

Creating the backup archive

This section will discuss how to create the backup archive needed for the migration.

Creating the backup archive on the CloudBurst appliance



- Performed on the IBM WebSphere CloudBurst V2.0.0.3 appliance
- **Appliance > Settings > Backup and Restore**

Backup and Restore

Step 1: Find a place to store your backups

Step 2: Secure your backups

Step 3: Schedule a new backup

Step 4: Restore from a backup

Just as a reminder, there are three steps in creating a backup archive of the IBM WebSphere CloudBurst appliance. You define the SSH server where you will store your backup. Then you provide the information to secure your backup files. Then you perform the actual backup. The next slide will provide more information about the first two steps. The information in the first two steps is also needed when you perform the migration function on the IBM Workload Deployer appliance.

Creating the backup archive – Step one



- Identify the SSH server for backup, providing:
 - Path
 - User name
 - Password

Backup and Restore

Step 1: Find a place to store your backups

This step is required. You must specify where backups will be stored.

Host: mycompany.ssh.backup.host.com

Path: /backup

User name: root

Password: [edit]

[Test connection](#)

Here you see the details of the first step of the procedure to produce your backup archive. You identify the Host, Path, User name, and Password for your SSH server where the backup is stored.

Creating the backup archive – Step two



- Secure backup
 - Generate keypair
 - Download the generated private key
 - Remember the password you specify
 - Private key and password needed for the IBM Workload Deployer migration step
 - Or, upload your own certificate

Step 2: Secure your backups

This step is required. You must generate a keypair or provide your own certificate.

Generate your own keypair

Upload your own certificate

Here you see the details of the second step of the procedure to produce your backup archive. You have the choice of generating your own keypair, and upload the generated certificate, or upload your own certificate for which you know the password. Remember that if you generate your own keypair, you will need the private key and password for the IBM Workload Deployer migration step.

Creating the backup archive – Step three



- Schedule a new backup
 - Immediately, or
 - At a future time
- Wait for backup to complete

Step 3: Schedule a new backup

Select a date and time to create the backup (the default is right now).

Here you see the details of the third step of the procedure to produce your backup archive. You can schedule the backup to begin right away, or you can specify a future time for the backup to begin. You must wait for your backup to complete before proceeding to the migration step for the IBM Workload Deployer.

Initiating the migration function

This section will show you how to initiate the migration function on the IBM Workload Deployer appliance.

Migration process



- Must be logged in as “cbadmin” user
 - **Appliance > Settings > Migration**
- Migration on IBM Workload Deployer is a two-step process

Migration

Step 1: Configure backup storage

Step 2: Select a backup for migration

Once the backup archive is created on the CloudBurst appliance, you can then begin the migration function on the IBM Workload Deployer appliance. The migration facility only displays for the cbadmin user account. You navigate to the Settings link under the Appliance pull-down, then expand the Migration section. The migration function is a two-step process. You must first configure the backup storage facility. Then you must select a backup for migration. The next few slides provides more information about these steps.

Step one – configure backup storage



- Hostname, Path, User name, Password is for the SSH server where the IBM WebSphere CloudBurst backup file resides
- Click **Refresh** on browser after typing in data before proceeding to Step two

Migration

Step 1: Configure backup storage

Specify where backup artifacts should be stored. The location and credentials should be separate from those used to store the private key pair.

Host: `mycompany.ssh.backup.host.com`

Path: `/backup`

User name: `root`

Password: `*****` [edit]

Here is the information you need for step one. You must provide the Host, Path, User name, and Password for the SSH server. This is the same server information you used when you performed the backup on the CloudBurst appliance.

Step two – Populate the list of backups

- The initial view of Step two will list no backups
- Click the Refresh link to populate the list



Step 2: Select a backup for migration

There are no available backups right now.

[Refresh](#)

- A list of archive files displays

Step 2: Select a backup for migration

Warning: Migrating data from a previous version of Workload Deployer will destroy all data currently stored on this appliance. Be sure you have read and understood the migration set migration cannot be canceled or reverted after it has begun.

Archive file date	Firmware version	Certificate issuer	Certificate subject	Serial Number	
10:25 Thu, May 5, 2011	2.0.0.3-31276	O=IBM WebSphere CloudBurst CN=Backup and Restore	O=IBM WebSphere CloudBurst CN=Backup and Restore	18009972752276311909	Migrate
14:30 Tue, May 3, 2011	2.0.0.3-31276	O=IBM WebSphere CloudBurst CN=Backup and Restore	O=IBM WebSphere CloudBurst CN=Backup and Restore	18009972752276311909	Migrate
14:21 Wed, Apr 27, 2011	2.0.0.3-31276	O=IBM WebSphere CloudBurst CN=Backup and Restore	O=IBM WebSphere CloudBurst CN=Backup and Restore	18009972752276311909	Migrate
16:28 Tue, Apr 12, 2011	2.0.0.3-31182	O=IBM WebSphere CloudBurst CN=Backup and Restore	O=IBM WebSphere CloudBurst CN=Backup and Restore	18009972752276311909	Migrate

[Refresh](#)

When you proceed to step two of the migration process, you initially see no backup archives listed. Click the **Refresh** link listed below step two, and the IBM Workload Deployer lists all the archive files available. The next slide discusses how you select the backup archive and how to initiate the migration.

Step two – Selecting and starting the migration

- Select the archive by clicking the **Migrate** link at the right
 - Supply **private key** and **Passphrase**
 - Click **Upload**
- The migration process starts
 - You cannot cancel migration



16:28 Tue, Apr 12, 2011 2.0.0.3-31182 O=IBM WebSphere CloudBurst CN=Backup and Restore O=IBM WebSphere CloudBurst CN=Backup and Restore 18009972752276311909

Migrate

Passphrase

This is the same private key and passphrase used during your backup activity

Migrate

Passphrase

You select the backup archive by clicking the Migrate link at the right of the list entry. Below the Migrate button, a prompt opens for you to type the Private key and Passphrase. This must be the same private key and password supplied when the backup archive was created. Then click the Upload button to start the migration function. Once you click "Upload" you cannot cancel the migration.

Migration details and completion

This section will provide detailed information about the migration process and its completion.

Migration process warnings



- Once the upload is initiated, you cannot cancel the migration task
 - The migration task is automatically cancelled when:
 - A file verification error occurs
 - A network error occurs during archive upload
- A successful migration means all the previous customer information on the IBM Workload Deployer appliance is erased, **except**:
 - Network settings
 - Domain Name Server settings
 - Network Time Protocol server and time settings
 - The cbadmin password setting
- The total migration process can take several hours, depending on:
 - The size of the data being migrated
 - Network speeds and traffic

It is important to note that once the Upload button is clicked, the migration process starts and you cannot cancel it. If a network error or file verification error occurs, the migration task is automatically cancelled. Also remember all customer data is erased on the IBM Workload Deployer except the network settings, Domain Name Server settings, the Network Time Protocol server information and time settings, and the cbadmin password settings. The total time for migration can take several hours, depending on the size of the data you are migrating, the network speeds, and the network traffic.

Migration - archive file verification and upload



- Navigate to **Appliance > Task Queue** to view the progress of the archive file verification and upload
- Appliance checks the file integrity of the backup archive
- Verified files are uploaded to the appliance
- Migration stops before appliance is modified:
 - If there is a backup file integrity problem
 - If there is a network problem while uploading the files

You can view some of the initial appliance migration activity by navigating to the Task Queue link under the Appliance pull-down menu. You can see the archive file verification task and the archive file upload in the task list. The migration function will automatically stop without modifying the existing configuration if an error occurs due to an archive file integrity issue or a network error when uploading the archive file.

Migration reboot and processing



- Once the backup archive is verified and uploaded:
 - Administrative console becomes unavailable
 - Migration process reboots the appliance
 - Any customer data on the IBM Workload Deployer is deleted
 - A known configuration is loaded using an internally available “default data” file set
 - Migration of the artifacts from the CloudBurst appliance archive begins
 - From reboot to completion requires at least 15 minutes
 - Converting artifacts to V3.0 format requires extra time
- Migration is complete when IBM Workload Deployer administrative console is available again
 - Stop using IBM WebSphere CloudBurst appliance to manage the virtual systems, hypervisors, and network resources that were migrated

Once the backup archive is verified and uploaded to the appliance, the administrative console becomes unavailable and the appliance is rebooted. During the reboot, the data on the IBM Workload Deployer is deleted. A known configuration is then loaded from an internally available file set called “default data”. The migration of the artifacts from the CloudBurst archive begins. The migration takes slightly longer than a similar restore because the artifacts must be converted to the V3.0 format during the migration process. Testing shows that this final phase of migration typically takes 15 minutes from the point of reboot to the point when the administrative console becomes available.

Summary

This section summarizes the migration presentation.

Summary

- The migration function requires a backup archive from the IBM WebSphere CloudBurst V2.0.0.3 level appliance
- The IBM Workload Deployer appliance must be activated in the network
- All customer data on the IBM Workload Deployer appliance deleted during the migration except:
 - Network settings
 - DNS settings
 - NTP server and time settings
 - The cbadmin password setting
- The backup archive is verified before it is used
- The migration process:
 - Available only to cbadmin user
 - Cannot be cancelled once it is initiated
 - Archive file verification errors and networks errors during upload automatically cancel the migration before changes are performed
- The final part of migration cannot be monitored from the administrative console
- The migration is completed when the administrative console becomes available

In summary, the migration function uses a backup archive taken from the IBM WebSphere CloudBurst appliance. The WebSphere CloudBurst appliance must be running firmware level V2.0.0.3. Before beginning the migration, the IBM Workload Deployer appliance must be activated in the network. All your data on the IBM Workload Deployer appliance is deleted during the migration process except: network settings, Network Time Protocol server and time settings, and the cbadmin password setting. The backup archive is verified before it is used. The migration function is available only to the cbadmin user. Remember that you cannot cancel the migration process once it is initiated, although errors in the backup archive or network errors during upload will automatically cancel the migration function. The final part of the migration process cannot be monitored from the administrative console. The migration is complete when the administrative console once again becomes available.

Reference

- After the product is generally available, learn more about the migration topic in the product Information Center:

http://publib.boulder.ibm.com/infocenter/worlodep/v3r0m0/index.jsp?topic=/com.ibm.worlodep.doc/aa/mi/mit_wca2iwd.html

This slide provides a link to the Migration topic in the IBM Workload Deployer Information Center.

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