CA Server Automation

Rapid Server Imaging Server Release Notes

12.7

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CA Technologies Product References

The following terms are used interchangeably and refer to the same things in the documentation:

- *Rapid Server Imaging (RSI) server* and *DynaCenter server*
- *RSI agent* and *DynaCenter Provisioning Agent* (*DPAD*)
- *RSI* and *Management Workstation* (*MWS*)

DynaCenter versions correspond to the following CA Server Automation releases:

- CA Server Automation 12.7 supports DynaCenter 4.2
- CA Server Automation 12.6 supports DynaCenter 4.1
- CA Server Automation 12.5 supports DynaCenter 4.0

Introduction

These notes describe new features, changed features, and known issues specific to the DynaCenter release.

Important: The DynaCenter Cloud API is an extension to the DynaCenter API.

Supplemental Documentation

- *Rapid Server Imaging Server Installation Guide*
- *Rapid Server Imaging Server Administration Guide*
- *Rapid Server Imaging for AppLogic Installation and User Guide*

New Features

DynaCenter 4.2

Windows in the Cloud Support

DynaCenter now supports the capture and deploy of Windows 2008 R2 images in cloud environments.

CA AppLogic 3.0 and 3.1 Support

DynaCenter now supports CA AppLogic version 3.0 and 3.1.

Note: DynaCenter for AppLogic currently only supports CA AppLogic Xen-based grids.

Reference: See the *Rapid Server Imaging for AppLogic Installation and User Guide* for information on working with DynaCenter in CA AppLogic environments.

DynaCenter 4.1

Red Hat 5.6 64-bit required for DynaCenter

DynaCenter now requires RedHat Enterprise Linux 5.6 64-bit edition.

Japanese Locale Support

DynaCenter now supports capture and deploy operations of the following operating systems installed with the specified Japanese locale:

- Red Hat Enterprise Linux 5.x with the ja_JP.UTF-8 locale. Both 32- and 64-bit versions are supported.
- Microsoft Windows Server 2008 R2 with the Shift JIS locale.
- Microsoft Windows Server 2003 with the Shift JIS locale. Both 32- and 64-bit versions are supported.

Additional Cloud Vendor Support

DynaCenter now supports AppLogic.

Reference: See the *Rapid Server Imaging for AppLogic Installation and User Guide* for information on working with DynaCenter in AppLogic environments.

Image Compression Control

In earlier versions of DynaCenter, images were automatically compressed during the capture operation. You can now specify whether images should be compressed or not using the `compress_image` option in the

`[capture]` section of the oem.ini file. The default behavior is to compress images.

New Web Service API Calls

This release added several new API calls that allow DynaCenter to quickly retrieve information about several named objects such as servers, images, hypervisors, and Depots. The following API calls can be used to present the end user with a list of objects from which to they must choose an appropriate input:

- getServerSelectors
- getImageSelectors
- getHypervisorSelectors
- getDepotSelectors

Example: If an end user must select the most appropriate image to deploy from a list of five images, the calling application can retrieve information about the five images and then present that information to the end user who can then make an appropriate choice.

DynaCenter 4.0

Single-Port MWS

The Management Workstation now uses a single TCP/IP port for capture and deploy operations.

Support for Unicode UTF-8

DynaCenter now supports the use of Unicode characters in input fields. Testing was completed for Japanese, Chinese, German, and French character sets.

Support for International Date and Time Formats

DynaCenter now supports international date and time formats.

Support for Network DAV and S3 Storage

DynaCenter now supports the use of any DAV server as a storage location for captured images (depot).

Registering External Networks

You can now manage servers that are not part of a client network but that are routable to the MWS. For example, networks that traverse web proxies or port forwarding firewalls are routable and DynaCenter can now manage servers on these networks using the `dpmrsi register_ext_network` command.

Note: The external network feature only works with ramdisk-based agent images. As agent images for Solaris systems boot over the network using the Network File System (NFS) protocol, they do not support this feature.

Changed Features

DynaCenter 4.2

Deprecated Support for CA AppLogic 2.9.9

With this release of DynaCenter, which supports CA AppLogic version 3.0 and 3.1, support for CA AppLogic version 2.9.9 has been deprecated.

New DynaCenter Appliance Template

In CA AppLogic version 3.0 and 3.1 environments you must use the VDS64_CentOS55_r3 or VDS64_CentOS55_r4 template based on your CA AppLogic version to create your DynaCenter Appliance.

Reference: See the *Rapid Server Imaging for AppLogic Installation and User Guide* for information on working with DynaCenter in CA AppLogic environments.

Documentation Updates

You can find a list of changes to the AppLogic documentation for this release in the What's New in This Guide section in the Preface of the *Rapid Server Imaging for AppLogic Installation and User Guide*.

DynaCenter 4.1

Deprecated Command Line Interface (CLI) --depot Argument

This release deprecated the `--depot` argument used in the following commands:

- dccmd show image
- dccmd deploy image
- dccmd modify image
- dccmd remove image

Use the `image_uri` argument in the command to specify the depot where the referenced image is located. The `image_uri` argument allows DynaCenter to support multiple depots.

SOAP Web Service API Changed

This release made several changes to the SOAP web service API. If you use the SOAP web service API, you must rebuild against the new Web Services Description Language (WSDL).

See the specific Web Service changes listed below to determine the impact to your environment.

Changed Web Service APIs for Removing Items

This release made a change to the removeServer, removeDriverset, removeDriverImport, and removeDepot web service APIs. If you use these APIs, you must make adjustments for the following change:

- Changed the configuration setting lookup to use the `ignore_missing` setting in the `error_handling` section of the oem.ini file.

  When the `ignore_missing` setting in the oem.ini file is set to True (the default), DynaCenter does not generate an error if the item specified in the API call has already been deleted or does not exist.

Changed Web Service API Argument Name

This release made changes to a web service API argument name used in the getImage, deployImage, modifyImage, and removeImage web services. If you use these services, you must make adjustments for the following change:

- Changed the imageId argument name to imageURI. The imageURI specifies the depot where the referenced image is located, which allows DynaCenter to support multiple depots. If no depot name is specified, the depot specified in the oem.ini file is used.

Changed getImage Web Service API

This release made changes to the getImage web service API. If you use the getImage web service API, you must make adjustments for the following change:

- Added a spaceConsumed property to each filesystem in the image. The new value reports the amount of data in the filesystem and makes it easier to accurately determine the disk space needed to deploy the image.
- Added a depotSpaceUsed property, which indicates how much space in the Depot is being consumed by a captured image.

  This new property makes it easier to manage Depot storage space and could be used to bill an image owner for the resources they are consuming.

  Note: As this information is gathered when an image is captured, this property will only be available on images captured with DynaCenter 4.1 or later. Images captured with DynaCenter 4.0 or earlier will display a 0.0 value for the Depot space used property.

Changed registerHypervisor Web Service API

This release made changes to the registerHypervisor web service API. If you use the registerHypervisor web service API, you must make adjustments for the following change:

- Added a powerChangeTimeout option to give the power manager time to communicate with hypervisor power modules; the default setting is 60 seconds.

Changed registerServer Web Service API

This release made changes to the registerServer web service API. If you use the registerServer web service API, you must make adjustments for the following changes:

- Added a shutdown timeout option.
- Added a ServerOptions class to combine the server name, server architecture, and shutdown timeout options into a single options class.

Deprecated Operating System Support

This release deprecated support for the following operating systems:

- SLES 9 (32- and 64-bit)
- Solaris 9
- AIX 5.3

Image Deploy with More Than Four Slices

When you deploy an image to a Linux or Windows system, if the source image has more than four slices in one volume or if you specify that you want more than four slices in one volume in the deploy profile, DynaCenter will place slice four and above on an extended partition that is divided into logical partitions.

Changed Behavior when Using a Deploy Profile

Previously, DynaCenter would only deploy a filesystem from a source image if the profile used to deploy the image created a matching filesystem on the target server. This meant that, if the profile did not create a matching filesystem, DynaCenter would not deploy the data on that filesystem.

In this release, DynaCenter will deploy all of the data in the filesystems in the source image. If there is a matching filesystem created by the profile, DynaCenter will deploy the filesystem as directed; however, if the profile did not create a matching filesystem DynaCenter will deploy the data from the source filesystem to the root filesystem.

Changed Behavior when Registering a Hypervisor

Previously when you registered a hypervisor, DynaCenter would set the running state of the server to match the power state of the virtual machine. When you assigned an agent to a running server, DynaCenter would first try to shut the server down; however, because there was no agent installed yet, DynaCenter was not able to shut it down.

In this release when you register a hypervisor, DynaCenter will leave the power state of the server as not running. This will allow you to assign an agent to the VM and begin managing the VM. After the agent is installed on the server, the running status of the server will be updated automatically in DynaCenter.

Changed Behavior when Deploy or Capture Profile is Empty

Previously, DynaCenter would raise an error during a capture or deploy operation if the operation used an empty profile.

In this release, DynaCenter will no longer raise an error when a capture or deploy operation uses an empty profile.

Documentation Updates

You can find a list of changes to the documentation for this release in the What's New in This Guide section in Chapter 1 of the following guides:

- *Rapid Server Imaging Server Installation Guide*
- *Rapid Server Imaging Server Administration Guide*

DynaCenter 4.0

xsd:dateTime Object Replaces string Timestamps in SOAP API

The SOAP web service now sends xsd:dateTime objects instead of strings for the following timestamps:

- Image.creationDate
- DriverSet.creationDate
- Depot.creationDate
- Network.creationDate
- Taskinfo.starttime
- Taskinfo.endtime

If you use the DynaCenter API, you must update your code to use the xsd:dateTime object instead of the old strings.

SOAP Web Service API Changed

This release made several changes to the SOAP web service API. If you use the SOAP web service API, you must rebuild against the new Web Services Description Language (WSDL).

registerDepot Web Service API Changed

This release made several changes to the registerDepot web service API. If you use the registerDepot web service API, you must make adjustments for the following changes:

- The DepotAddress data structure was changed to DepotLocation.
- The address property of DepotAddress changed to depotURL.
- The addresses property of the Depot class changed to locations.
- The type of the networks argument to registerDepot changed from a list of DepotAddress objects to a list of DepotLocation objects.

New Default Timeout Settings

This release changed the following default timeout settings:

- The boot timeout increased to 600 seconds.
- The shutdown timeout increased to 600 seconds.
- The power on and off timeouts increased to 60 seconds.

Known Issues

This section lists and describes known issues with this release.

- When deploying an image to a target server, the target server must have a minimum of 768MB of RAM.
- You should not install anti-virus software on the Management Workstation (MWS).

  During capture operations, anti-virus software might quarantine packets associated with the capture. This leaves the captured image incomplete and causes deploys of that image to fail.
- If a server name contains any of the following special characters, DynaCenter converts each instance to an underscore (_):

(or)	#	'	;
[or]	$	"	:
{ or }	%	`	?
< or >	^	~	,
!	&	|	
@	*	\	

  Note: After this conversion it is possible that two or more servers might have the same name and, as server names must be unique in DynaCenter, this would leave some servers as unmanageable.
- For Windows images, DynaCenter only supports hostnames that use ASCII characters.

  Workaround: If the server where the image was captured from had a hostname that contained non-ASCII characters, use a deploy profile to specify a hostname that only has ASCII characters.
- When you deploy an image to a system that has both local attached storage and SAN storage, you must use a deploy profile to specify the specific multipath device of the LUN group for the root/boot volume(s) if the root/boot volume(s) are located on the SAN.
- When DynaCenter captures an image of a server with bonded (teamed) NICs, it captures the static IP address information of the bond but not the individual IP addresses of the bonded NICs or the bond type configured for the NICs. Because DynaCenter does not have the information needed to configure the bond on the system that the image is being deployed to, no bond exists between the NICs after the image is deployed.

  Workaround: After you deploy an image that contains teamed NICs, you must use the configuration mechanism appropriate for the operating system to configure the bond between the interfaces on the system.

- When a hypervisor controller is overloaded, DynaCenter agent assignment operations and deploy operations might fail because the hypervisor takes too long to respond to the DynaCenter instruction to power on the VM. For agent assignment operations, the agent image is left associated with the VM. If you power on the VM manually, the agent image will boot and can be used for the desired deploy or capture operation. In the case of deploy operations, the VM is restored to its original state.

  For the most reliable operation, reduce the load on the hypervisor controller.

- When deploying an image of a Windows UCS server to a UCS environment the UCS driver installation creates the following unresolved registry entry:

  ```
  RunDLL Error in qlco1006.dll
  Missing entry: qlsavesysteminfo
  ```

  Workaround: Reboot and then log back in to the system; the unresolved registry entry is now resolved and the error message no longer appears.

Operating System Issues

Linux

- When moving a Linux image from one server to another, the X Window System configuration might be invalidated and require reconfiguration. For the SLES Linux distribution, this may delay the boot process until the reconfiguration is completed.
- When deploying an image that has SELinux enabled, DynaCenter will disable the SELinux feature. DynaCenter will save the `/etc/selinux/config` file, which contains the SELinux settings, as `/etc/selinux/config.save`, so that you can re-enable the feature if necessary (by naming the file back to `config` and rebooting the system); however, note that re-enabling SELinux on a system where a DPAD is installed can result in the DPAD not operating correctly.
- When deploying a Red Hat 5.x or CentOS 5.x image, the IDE driver might load before the SATA driver; this can cause the SATA drives to be found as /dev/hdx instead of /dev/sdx.

  Workaround: Change the SATA controller BIOS setting from 'native' mode to 'SATA' mode.

Windows

- When performing a live capture of a Windows server, DynaCenter will not capture any EFS encrypted files on the server. To ensure that encrypted files from the source server are available on the target server you can do either of the following:
  - Unencrypt the files before you begin the capture operation then re-encrypt the files after the image is deployed to the target server.

- Manually move the encrypted files to the target server after the DynaCenter deploy completes.

- When a deploy profile is used to set the gateway IP for a server, the gateway address is set in the IP routing table and not on the NIC. If you look at the GUI Properties for the NIC, the Default Gateway setting will be empty. You can confirm that the gateway was set correctly by reviewing the **Persistent Routes** section of the IP routing table, which you can see by running the `route print` command from the command prompt.
- When DynaCenter deploys an image to a system, it removes the hardware configuration of the source system from the image. When the system restarts after the deploy operation completes, Server management tools might fail to start because the original hardware configuration was removed. If you uninstall the server management applications associated with the source system and install the desired server management applications associated with the target system, you will no longer see any "Service Control Manager" message boxes that complain about server management services that did not start. This uninstall/install process may be required even when the source and target systems are the same make and model.
- DynaCenter does not support capture of servers or deploy of images with dynamic disk configurations.
- DynaCenter has limited support for capture and deploy operations of storage that is mounted as a path:
  - When performing a live capture, DynaCenter will capture multiple volumes into one source.
  - When deploying an image of a system that had multiple volumes, DynaCenter will deploy the volumes as one volume.
  - DynaCenter does not support offline capture of storage that is mounted as a path.

Solaris

- Agent images for Solaris boot over the network using the Network File System (NFS) protocol; as the external network feature only works with ramdisk-based agent images, Solaris systems do not support this feature.

Vendor Support Issues

Microsoft

- The Microsoft Hyper-V guest tools do not contain a legacy NIC driver for Windows Server 2003 64-bit. This means that after a Windows Server 2003 64-bit image is deployed to Hyper-V, the deployed image won't be able to communicate with DynaCenter to signal that the deploy is complete.

  Workaround: Log on to the server to see if the image deployed successfully. If the image deployed successfully, the server will be

operational and you will be able to perform deploy and offline capture operations.

- When provisioning a Microsoft Windows image to a Microsoft Hyper-V system you must activate the image before you can use the system.

ESX-based Grids not Currently Supported

DynaCenter for AppLogic does not currently support ESX-based grids in CA AppLogic version 3.0 and 3.1 environments.