

VDCF - Virtual Datacenter Control Framework for the Solaris™ Operating System

Release Notes

Version 4.2
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1 Introduction

This documentation describes the differences of the releases of the Virtual Datacenter Control Framework (VDCF) for the Solaris Operating System. It explains how to upgrade to the newest release.

See these other documents for further information:

<i>VDCF – Installation Guide</i>	for information about installing or upgrading this product
<i>VDCF – Quick Reference</i>	for a short command overview
<i>VDCF Base – Administration Guide</i>	for information about the VDCF Base usage
<i>VDCF vServer – Administration Guide</i>	for information about the VDCF vServer product usage
<i>VDCF LDom – Administration Guide</i>	for information about the VDCF LDom product usage
<i>VDCF – Monitoring</i>	for information about VDCF Monitoring

These and all other VDCF documents can be found at:

<http://www.jomasoft.ch/products/VDCF/docs/>

2 What's new in Release 4.2

2.1 New feature “vPool for Physical Nodes”

Previous releases of VDCF used to support vPool assignments for vServers and GDomains. With this release assignments of Physical Nodes are supported in addition. This feature is disabled by default and needs to be activated by setting the variable `VPOOL_NODE` to “TRUE”

The following commands are subject to the new node authorization checks:
`node, nodecfg, patchadm, cdom, flash, serverconfig`

New operations have been added:

```
vpool -c add_node  
vpool -c remove_node
```

Additional arguments have been provided for existing commands:

```
vpool -c show [ nodes ] [ node= ]  
vpool -c create [ node= ]
```

See Chapter 11.3 in the VDCF Base Administration Guide for details.

2.2 New feature “Serverconfig Execution”

Execute VDCF server configurations on existing systems. With this release the following configuration types are supported: `COMMAND, SCRIPT, FILE, PKG, SERVICES`

This functionality is offered by the new operation '`serverconfig -c exec`'. To use this powerful operation a user requires the VDCF RBAC profile “`VDCF serverconfig exec`”.

It is highly recommended to enable the vPool feature, to restrict the allowed target systems (vServer, Gdomains, Nodes) to individual users.

See Chapter 5.3 in the VDCF Base Administration Guide for details.

2.3 New feature “patch download using PCA”

By default VDCF uses the Solaris 10 tools '`smpatch`' and '`patchsvr`' to download patches. PCA may be used as an alternative to '`smpatch`' and allows to directly download patches from Oracle even if VDCF is running in a vServer/zone. Set `PATCH_DOWNLOAD_TYPE` to “PCA” to activate this feature.

See Chapter 7.2.3 in the VDCF Base Administration Guide for details.

For additional required firewall rules required for PCA, consult Chapter 4.1 of the VDCF Installation Guide.

2.4 New operations

<code>rcmon -c summary</code>	Display 24h average usage data of nodes and vservers.
<code>serverconfig -c exec</code>	Execute configurations on existing systems.
<code>serverconfig -c show_members</code>	Show all members (servers) of a configuration group
<code>vpool -c add_node/remove_node</code>	Assign Physical Nodes to vPools

2.5 Enhanced operations

<code>diskadm -c register</code>	Additional optional flag ' <code>new</code> ' to register new disks only.
<code>diskadm -c deregister</code>	The <code>deregister all</code> deregisters now all unused disks even when there are other disks still in use on that node.
<code>patchadm -c check</code>	Patches required to successfully migrate vServers are more reliably recognized. Special patches 800xxx are ignored
<code>serverconfig -c remove</code>	The ' <code>name</code> ' flag is now mandatory.
<code>rcadm -c commit</code>	Modifications of the number of CPU's (using the <code>CPUs</code> property) are updated online for running vServers. A vServer reboot is not required anymore.
<code>rcmon -c show</code>	The ' <code>server</code> ' flag is now mandatory.

2.6 Performance enhancements

The following commands have been optimized for better performance:

```
diskadm -c update
diskadm -c register [ new ]
```

2.7 New configuration variables

DISKS_REGISTER_DEFAULT_TYPE FULL|NEW Default: FULL

Sets the default type for diskadm register
FULL – register new disks, list invisible disks, update disk sizes
NEW – register new disks only

NODE_INSTALL_ENABLE_RCMON TRUE|FALSE Default: FALSE

If set to 'TRUE' rcmon is automatically enabled for the node after installation.

PATCH_DOWNLOAD_TYPE SMPATCH|PCA Default: SMPATCH

Sets the tool to be used to download patches

VPOOL_NODE TRUE|FALSE Default: FALSE

'TRUE' activates vPool authorization checks for Physical Nodes

2.8 Bug fixes

Several small bug fixes and enhancements

2.9 Deprecated operations

Don't use this operations anymore, they will be removed **in the next major** VDCF release.

`vserver -c zfs*` replaced by `zfsadm` command

`build -c list` replaced by `build -c show`
`flash -c list_versions`

`dataset -c show_lun` replaced by `diskadm -c show`

This release allows you to temporary disable the deprecated features, by adding the following line in `/var/opt/jomasoft/vdcf/conf/customize.cfg`

```
export FR_DEPRECATED_REJECT="TRUE"
```

Using this setting the operations return an error, which should help you to find scripts, where this operations are still used.

2.10 VDCF Version 5

The next major VDCF Version 5 will support Solaris 11.

3 How to upgrade VDCF from a previous release

3.1 VDCF prerequisites

You must have VDCF Release 1.2.8 or later installed.
If you currently use an older Release, you need to migrate to VDCF 1.2.8 first.

Check your currently installed packages and versions:

```
$ vdcfadm -c show_version
```

Package	Version	Arch.	Install-Date	Name
JSvdcf-base	2.3.7	sparc	Feb 27 2010 11:15	VDCF - Base
JSvdcf-patch	2.3.7	sparc	Feb 27 2010 11:16	VDCF - Patch Management
JSvdcf-vserver	2.3.7	sparc	Feb 18 2010 22:00	VDCF - Virtual Server Management

3.2 Overview: Replace VDCF prerequisites and packages

Replace all installed VDCF packages (Base, Patch, vServer, LDom).

It is also required to replace vServer Enterprise Extensions with the newest versions.

3.3 VDCF upgrade using bundles

If you are using VDCF version 3.0 or later you should upgrade using the new bundles.
The file name to use depends on your VDCF license.

```
$ gunzip vdcf_enterprise_4.2.0_sparc.tar.gz
```

```
$ tar xf vdcf_enterprise_4.2.0_sparc.tar
```

Run Upgrade as root:

```
# ./vdcf_bundle/vdcf_upgrade
```

```
VDCF Package Overview (vdcf / 03.11.2011 10:07:33)
```

Package	Installed	Available	Upgrade
JSvdcf-base	4.0.14	4.2.0	YES
JSvdcf-patch	4.0.14	4.2.0	YES
JSvdcf-vserver	4.0.14	4.2.0	YES
JSvdcf-ldom	4.0.3	4.0.6	YES
JSvdcf-monitor	2.0.5	2.1.0	YES
JSvdcf-rm	3.1.0	3.1.1	YES

```
Execute Upgrade (Y/N)? Y
```

```
Removing packages ...
```

```
JSvdcf-rm          ... done  
JSvdcf-monitor    ... done  
JSvdcf-ldom       ... done  
JSvdcf-vserver    ... done  
JSvdcf-patch      ... done  
JSvdcf-base       ... done
```

```
Adding packages ...
```

```
JSvdcf-base       ... done  
JSvdcf-patch      ... done  
JSvdcf-vserver    ... done  
JSvdcf-ldom       ... done  
JSvdcf-monitor    ... done  
JSvdcf-rm         ... done
```

```
VDCF Upgrade successful.
```

```
Check /var/tmp/vdcf_upgrade.log for details.
```

```
TODO: Upgrade your Nodes using: vdcfadm -c update_node all
```

3.4 Replace VDCF prerequisites and packages manually

You should execute this step only if you need to upgrade the VDCF prerequisites. Otherwise use the VDCF bundles and follow the description in chapter 3.3.

3.4.1 Remove packages

```
pkgrm JSvdcf-monitor          (if installed ..)
pkgrm JSvdcf-ldom             (if installed ..)
pkgrm JSvdcf-vserver
pkgrm JSvdcf-patch JSvdcf-base
```

3.4.2 Replace VDCF prerequisites

If your previous VDCF version is older than version 3.0, you need to replace some of the VDCF prerequisites software using the installation script `install_vdcf_prereqs`.

```
SMClbgcc 3.3      is replaced by  SMClgcc346
SMCsqlite 3.3.6  is replaced by  SMCsqlite 3.6.13
```

A typical upgrade looks like this:

```
# cd <download-dir>/vdcf_prereqs

# ./install_vdcf_prereqs
Checking VDCF Prerequisites ...
Found old prerequisite SMClbgcc (Version: 3.3)
WARN: This package is not required by VDCF anymore.
WARN: You may remove this package, if no other software requires it.
Found old prerequisite SMCsqlite (Version: 3.3.6)
Removing this package now ...

Removal of <SMCsqlite> was successful.
Found SMCTk package
SMCTk  tk
      (sparc) 8.4.9
VDCF skips installation of SMCTk (Version: 8.4.9)
Found SMCTcl package
SMCTcl  tcl
      (sparc) 8.4.9
VDCF skips installation of SMCTcl (Version: 8.4.9)
Found SMCexpect package
SMCexpect  expect
          (sparc) 5.40
VDCF skips installation of SMCexpect (Version: 5.40)
Found SMCncurs package
SMCncurs  ncurses
          (sparc) 5.5
VDCF skips installation of SMCncurs (Version: 5.5)
Found SMCreadl package
SMCreadl  readline
          (sparc) 5.2
VDCF skips installation of SMCreadl (Version: 5.2)
Installing SMClgcc346 ...
Installing SMCsqlite ...
Check /var/tmp/vdcf_prereqs.log for pkgadd details.
Finished
```

3.4.3 Install new packages

If you own a valid *VDCF vServer Enterprise* or a *VDCF LDom license* you may download and install the *VDCF LDom package* for managing Solaris Logical Domains. For the *VDCF Monitoring package* a *VDCF vServer Enterprise or Standard license* is required.

```
pkgadd JSvdcf-base JSvdcf-patch
pkgadd JSvdcf-vserver
pkgadd JSvdcf-ldom
pkgadd JSvdcf-monitor
```

3.5 Update Client Package

It is **required** to update the VDCF client package on all nodes.
If a node is down, please boot it to update the client package.

```
vdcfadm -c update_node all
```

Verify that all nodes have the new VDCF client package installed:

```
vdcfadm -c show_node all
```



4 Known Issues

None

5 History: What was new in Release 4.1 (4. November 2011)

5.1 Easier VDCF upgrades using bundles

The VDCF packages can be downloaded as bundles, based on your current VDCF license. (Entry, Standard or Enterprise).

The Upgrade is then fully automated using the `vdcf_upgrade` command. See chapter 3.3 for details.

5.2 Solaris 10 Update 10 (8/11) supported

This VDCF release supports the current release of Solaris 10 : Update 10 (8/11).

5.3 New feature “dataset disk location check”

Additional checks are executed based on the dataset layout and the disk location configuration. One of the checks ensures your mirror datasets are distributed over at least 2 different locations. This feature helps to avoid non-working datasets in disaster scenarios, if one of your data center is unavailable.

See Chapter 8.5. in the VDCF Base Administration Guide for details.

5.4 New workaround for “ZFS data filesystems”

“Due to the Solaris bug **6449301** it is not supported to create a new Solaris Zone with ZFS data filesystems.”

`vserver commit` includes now a workaround for this Solaris bug, to let you define and create the ZFS data filesystem and install the vServer. No manual workarounds are required anymore!

To reinstall an existing vServer including ZFS data filesystems a `vserver commit uninstall` and `vserver commit` works.

5.5 Enhanced operations

`dataset -c show` The dataset location compliance is displayed if disk locations are defined.

6 History: What was new in Release 4.0 (7. April 2011)

6.1 New major feature: High Availability (HA) / Automated Failover

In this release we have implemented a new High Availability feature. It's available as an Enterprise Extension to our customers holding an VDCF Enterprise License.

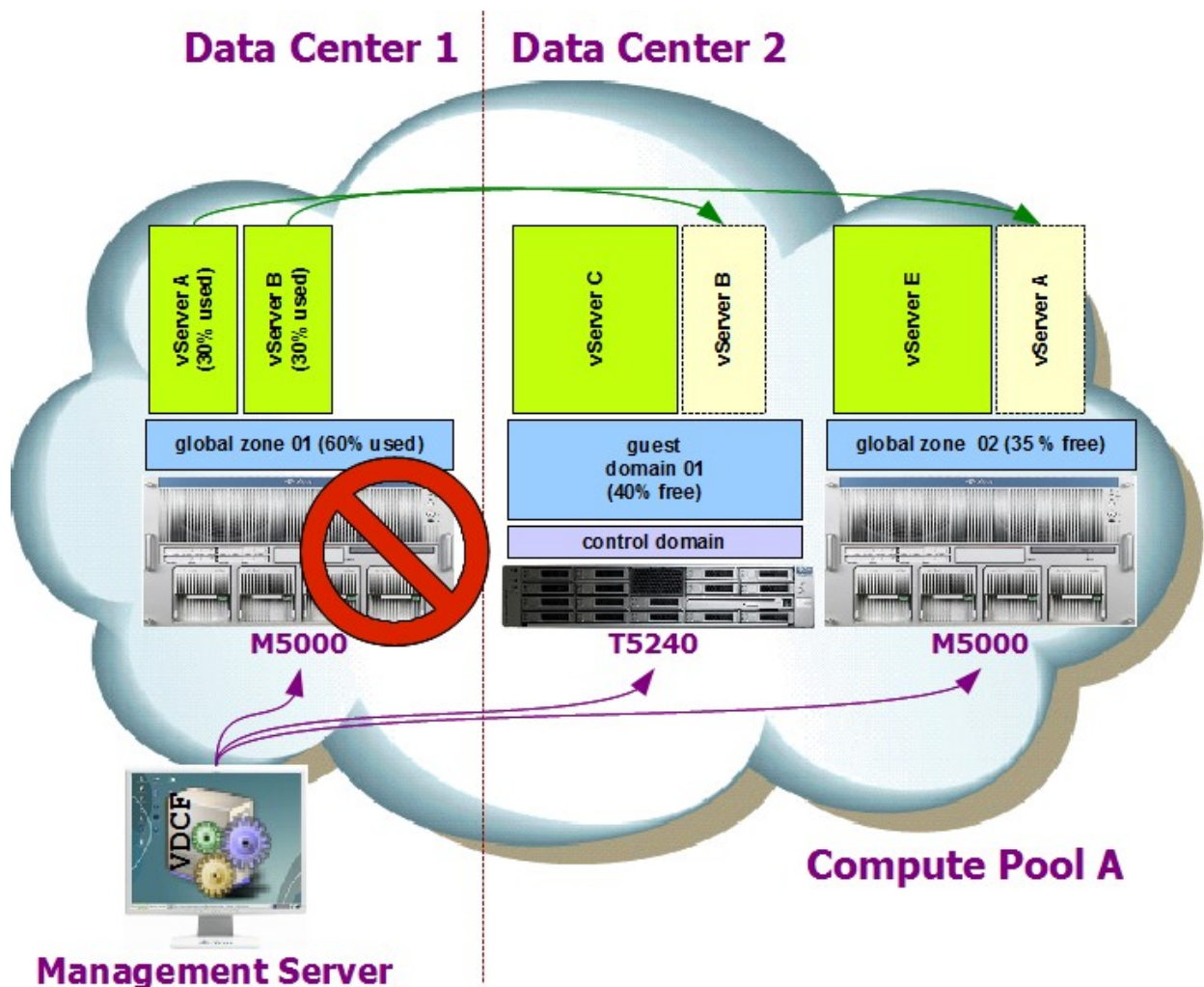
This feature is controlled by this new command:

hamon (High Availability Monitoring)

Used to check the health of VDCF Nodes. If a Node fails it may initiate evacuation of vServers. The vServers are then distributed to the available Nodes based on their resource usage values (RAM and CPU). This solution fills the gap between manual failover and full featured failover using Cluster Software.

See the 'VDCF Monitoring' Guide and the manpages for more information.

The following picture illustrates the migrations if the M5000 in Data Center1 fails.



6.2 New tools

`vserver_local` Utility for easy failover of VDCF, if you installed VDCF itself in a Zone. More about this feature can be found in the VDCF Installation Guide.

6.3 New operations

`dataset -c update` Updates dataset size information in database with effective values.

`node -c evacuate` Detach all vServers and distributes them to Nodes with free resources. (used also by the hamon feature)

`node -c register` Register a system into VDCF, as alternative to install it using VDCF

`nodecfg -c modify_net` Modify network interface configuration of configured Node

`vserver -c reattach` Attaches multiple vServers to previous Node or control domain

6.4 Enhanced operations

diskadm -c show	To display the disk comments the new optional flag 'comment' may be used. Set the config value <code>DISKS_SHOW_COMMENT="TRUE"</code> to always show the disk comments.
node -c remove	New optional flag 'force' to remove node from patch target configurations.
nodecfg -c modify	Additional attributes to update: 'location', 'serial' and 'hostid'
nodecfg -c discover	new optional argument 'nonroot' to discover a node using user vdcfexec instead of root.
vserver -c addnet	Additional stack type 'exclusive' to create exclusive ip-stack vserver.
vserver -c attach	New optional flag 'boot' to boot vServer after successful attach.
vserver -c boot vserver -c reboot vserver -c shutdown	Additional arguments 'node' and 'cdom' to boot, reboot and shutdown multiple vServer with one command.
vserver -c create	Additional optional argument 'hostid' to define hostid for vServer on Solaris 10 Update 9 or later. Additional optional arguments 'category' and 'priority' for High Availability Monitoring
vserver -c modify	Additional arguments 'hostid' and 'clear_hostid' to set and clear hostid for vServer on Solaris 10 Update 9 or later. Additional arguments 'category' and 'priority' for High Availability Monitoring
vserver -c revert	new argument 'all' to revert all filesystems of a vServer.
zfsadm -c destroy zfsadm -c rollback	Arguments 'filesystem' and 'mountpoint' are now optional. Provide the snapshot name as <code>/zfsds/myfs@mysnapshot</code> to the 'snapshot' argument.