

# VDCF - Virtual Datacenter Cloud Framework for the Solaris™ Operating System

## Getting Started

Version 8.3  
23 August 2022

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## 1 Introduction

This documentation covers the first steps when using the Virtual Datacenter Cloud Framework (VDCF) for the Solaris Operating System.

See these other documents for further information:

<i>VDCF – Installation Solaris 11</i>	for information about installing VDCF
<i>VDCF – Quick Reference</i>	for a short command overview
<i>VDCF – Administration Guide</i>	for information about the VDCF Usage
<i>VDCF – Resource Management</i>	for information about VDCF Resource Management
<i>VDCF – Monitoring</i>	for information about VDCF Monitoring (Hardware, Resources, OS, Security)

These and all other VDCF documents can be found at:

<https://www.jomasoft.ch/vdcf/#js-docu>

## 2 Overview

You need a running Solaris 11 system to install VDCF. This can be Solaris on X86, in a VirtualBox, a SPARC LDom or a local Zone. On this system you need around 50GB free disk space.

This system where VDCF is installed is called the Central Management Server. Here you install the VDCF Software.

It is recommended to setup a Solaris 11 IPS Repository on the same system, to have all the Solaris packages available to install or update your target systems.

The next chapters cover the required and recommended steps. You find all details in additional documents "VDCF Installation Guide" and "VDCF Administration Guide".

### 2.1 Support

If you are using the VDCF Free Edition you can ask questions in the VDCF User Forum.  
<https://vdcf.proboards.com>

Customers with a commercial Support contract can contact JomaSoft Support directly by eMail  
[support@jomasoft.ch](mailto:support@jomasoft.ch)

### 3 Download & Installation

If you setup a Solaris 11 system the first time, it is recommended to boot using the Solaris 11 Text Installer. Download from <https://www.oracle.com/solaris/solaris11/downloads/solaris11-install-downloads.html>

After you have your Solaris 11 system running, you can download and install VDCF. You need to download only one bundle file for the platform (sparc or i386) which matches your Management Server. You can manage target systems of both platforms.

<https://www.jomasoft.ch/downloads/>

#### Commercial Edition

Customers with a valid VDCF license/subscription can download the Entry, Standard or Enterprise Bundle corresponding to their license.

```
tar xfz vdcf_<edition>_8.3.x_<platform>.tar.gz
./vdcf_bundle/vdcf_install
/opt/jomasoft/vdcf/mods/setup/setup_vdcf -a
```

#### Free Edition

For Free Edition user a script is available, which does download, install and runs the initial setup.

```
wget https://www.jomasoft.swiss/vdcf_free_installer
chmod a+rx ./vdcf_free_installer
./vdcf_free_installer
```

Take a look at the VDCF Getting Started Video on Youtube  
<https://www.youtube.com/watch?v=vP-NBZxVkv8>

## 4 Customize the VDCF Framework

### 4.1 customize.cfg

There is a main configuration file to customize VDCF:  
`/var/opt/jomasoft/vdcf/conf/customize.cfg`

This file contains several default values. The `setup_vdcf` tool did automatically add the IP address of your management server to this file. Please check it for some recommended settings:

#### A) **Modify** the existing Variables with the following values

```
# Here you reference your Default Solaris 11 Repository. If on VDCF
# use vdcfhostname:8282. Specify the URL if you use another, existing Repo.
export IPS_DEFAULT_REPO=http://<vdcfhostname>:8282

# Allows to modify and show comments for SAN Disks
export DISKS_SHOW_COMMENT="TRUE"

# Deregister Disks from VDCF Repository, if SAN Disks are removed from System
export DISKS_DEREGISTER_INVISIBLE="TRUE"

# ONLY if you are using IPMP LinkBased only (No Probe Addresses)
export CONFIG_IPMP_LINK_BASED_ONLY=TRUE

# ONLY for Commercial Users with Standard or Enterprise Edition
# using the Monitoring Features
# Enable Resource Monitoring automatically after Install
export NODE_INSTALL_ENABLE_RCMON="TRUE"

# Define your default Timezone
export AI_TIMEZONE="Europe/Zurich"
```

#### B) **Add** the following Variables:

```
# To display more details of Virtual Network Interfaces
export NET_MAPPING_SHOW="TRUE"

# ONLY for Commercial Users with Standard or Enterprise Edition
# using the Monitoring Features
# Define eMail Addresses to send Monitoring eMails
export MONITOR_EVENT_EMAIL_LIST="admin1@mydomain.com admin2@mydomain.com"
export MONITOR_EVENT_EMAIL_FROM="vdcf@mydomain.com"
```

### 4.2 Cronjobs

The VDCF repository should be automatically updated with the States of the systems and the installed packages.

Add the entries from `/opt/jomasoft/vdcf/conf/sysconf/vdcf_base_crontab` to the root crontab.

### 4.3 VDCF System Configs

Make the following system environment attributes in the VDCF repository suitable for your environment. These values are used for every new system you install.

```
config -c add type=DEFAULTROUTE name=PROD ipaddr=10.10.1.1
serverconfig -c add type=DEFAULTROUTE name=PROD
config -c add type=DNS name=PROD server=192.168.0.1,192.168.0.2 \
domain=yourdomain.com search=yourdomain.com
serverconfig -c add type=DNS name=PROD
config -c add type=NTP name=PROD server=ntp1,ntp2
serverconfig -c add type=NTP name=PROD
```

Take a look into Chapter 3.3 “System configuration” of the VDCF Installation Guide for more information, including how to execute a script to add initial Users.

### 4.4 Enable VDCF Monitoring

For Standard and Enterprise Customers it is recommended to enable the Monitoring cronjobs

```
hwmon -c enable
osmon -c enable
osmon -c enable report
rcmon -c enable aggregator
rcmon -c enable collector
```

## 5 Setup Solaris 11 IPS Repository

Download Solaris 11.4 Repository files from

<https://www.oracle.com/solaris/solaris11/downloads/local-repository-downloads.html>

Create Repository

```
ipsadm -c create_repo name=prod dir=<path to downloaded files>
```

Customers with Oracle Solaris Support Contract can download Support Repository Updates (SRU) from My Oracle Support (MOS)

### **Oracle Solaris 11.4 Support Repository Updates (SRU) Index (Doc ID 2433412.1)**

Add the latest SRU using

```
ipsadm -c update_repo name=prod dir=<path to downloaded files>
```

Plan to use 10-15 GB of additional space each year for support updates.

## 6 Create AI Service and Build

To install Solaris 11 systems an AI service is required. You typically need one service per SRU and platform you would like to install.

Create the U4 SRU48 service for SPARC (SPARC is the VDCF default)

```
ipsadm -c create_service name=u4-sru48 patchlevel=4.48
```

VDCF uses the concept of predefined builds, which connects IPS Repository with the AI service and a PatchLevel. This VDCF Builds are later assigned to Nodes.

```
ipsadm -c create_build name=u4-sru48 service=u4-sru48 patchlevel=4.48
```



## 7 Import Node (Physical Server)

To import a physical Server into VDCF the system must be up and running and reachable over the Network. SPARC Server are delivered with a prepared boot disk. You need to boot and manually configure the system first.

Next you add the VDCF Client package to the system and install the VDCF ssh Key.  
Run as root on you system:

```
yes | pkgadd -d http://<vdcfhostname>/pkg/`uname -p`/JSvdcf-client.pkg all  
/opt/jomasoft/vdcf/client/sbin/update_key -u http://<vdcfhostname>
```

Check your ZFS Root pool, if a Mirror is already setup.

```
zpool status
```

If you run on a single disk only, it is recommended to add a second disk for host based mirroring

Sample

```
zpool attach rpool c0t500099902D1C4800d0 c0t500099902D197C00d0  
Make sure to wait until resilver is done before rebooting.
```

Now you are ready to import this Node into VDCF. Execute this command on the VDCF Management Server:

```
node -c import name=<hostname of your server>
```

Adding access to the System Controller makes it very easy to re-install the system and is required for Hardware Monitoring

```
console -c add name=<hostname of your server>
```

## 8 Next Steps

Next Steps could be: re-install the Node, deploy vServers (Zones) or setting up the Control Domain to deploy Guest Domains (GDoms). Consult the VDCF Administration Guide for details.