

**Oracle® Solaris Remote Lab**  
**User Guide for Release 1.0**

# Table of Contents

<b>1. INTRODUCTION .....</b>	<b>1</b>
PURPOSE OF THE OSRL.....	1
GAINING ACCESS TO THE OSRL .....	2
<i>Request access to the Oracle Solaris Remote Lab</i> .....	2
OSRL OVERVIEW .....	2
<b>2. OSRL QUICK START GUIDE.....</b>	<b>4</b>
REGISTRATION IN THE OSRL .....	4
OSRL DASHBOARD INFORMATION.....	6
CREATING AND DELETING VIRTUAL MACHINES IN THE OSRL.....	10
<i>Initial OSRL Dashboard</i> .....	10
<i>Creating Virtual Machines</i> .....	11
<i>Deleting Virtual Machines</i> .....	13
ACCOUNT INFORMATION .....	14
VIRTUAL MACHINE ROOT PASSWORD .....	15
<b>3. VIRTUAL MACHINE TEMPLATES.....</b>	<b>16</b>
APPLICATION TEMPLATE .....	16
WEBLOGIC 12C TEMPLATE.....	17
SAMP TEMPLATE .....	18
ORACLE DATABASE 11GR2 TEMPLATE .....	19
<b>4. CUSTOMIZING VIRTUAL MACHINES.....</b>	<b>20</b>
SOLARIS PACKAGES AND IPS .....	20
EXAMPLE – DEPLOYING AN APPLICATION AND ITS SOLARIS DEPENDENCIES.....	21
<b>5. TRANSFERRING FILES TO/FROM THE OSRL .....</b>	<b>22</b>
STATE OF CDM FOR A VM INSTANCE .....	22
INITIAL STATE .....	22
CHANGING THE STATE OF CDM FOR AN INDIVIDUAL VM .....	23
<i>Enabling CDM</i> .....	23
TRANSFERRING FILES FROM THE CLIENT SYSTEM TO THE OSRL .....	24
TRANSFERRING FILES FROM THE OSRL TO THE CLIENT SYSTEM .....	25
CONFIGURING CDM .....	25
<b>6. APPENDIX 1: VIRTUAL MACHINES AND CLIENT ACCESS: CHARACTERISTICS AND LIMITATIONS</b> <b>26</b>	
A. OSRL VIRTUAL MACHINES .....	26
<i>Lifetime of a Virtual Machine</i> .....	26
<i>Default Virtual Machine Resource Settings</i> .....	26
<i>Shared Filesystem</i> .....	26
<i>Networking Limitations</i> .....	26
<i>Device Access Limitations</i> .....	26
B. CLIENT ACCESS TO OSRL .....	27
<i>Supported Operating System and Browsers</i> .....	27
<i>Java Runtimes Supported</i> .....	28

## 1. Introduction

Welcome to the Oracle Solaris Remote Lab (OSRL), part of the [Oracle Exastack Remote Labs](#), available through Oracle PartnerNetwork (OPN). The OSRL provides qualifying OPN members access to SPARC and x86 systems running the latest releases of Solaris to test and validate their applications. Upon completion of the testing and once the application supports the latest major release, the application qualifies you to participate in [Oracle Exastack Ready](#).

This document provides a brief introduction for Partners using the OSRL. The Partner is assumed to have a basic understanding of Solaris or other Unix-like operating systems. This User Guide is not intended to be an exhaustive document but an overall guide to use of the OSRL.

### Purpose of the OSRL

The OSRL is intended to be used by Partners when they are ready to validate correct operation of their applications on Solaris 11. In this capacity use of the OSRL fits naturally into the testing phase and overlap into the maintenance phase of the classic software life cycle.

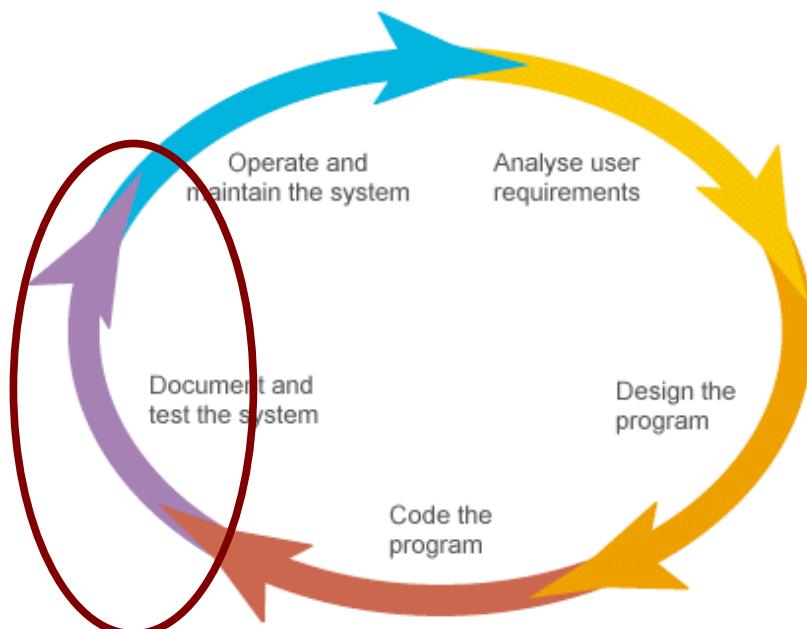


Figure 1-1: OSRL position in classic software life cycle

During the maintenance phase a Partner may need to return to the OSRL to validate new versions of their application on newer releases of Solaris 11.

To fill the continued testing role the OSRL provides the Partner the capability to create virtual machines (VMs) that reflect their requirements in a private network, upload their applications and test data from their home system to their private VMs in the OSRL, install their application, execute their tests and download results of their tests to their home systems.

## **Gaining Access to the OSRL**

As one of the [Oracle Exastack Remote Labs](#), the OSRL provides qualifying OPN members with access to remotely accessible environments for purposes of testing and tuning their applications on the latest major release of Oracle Solaris. Per the [Oracle Exastack Remote Labs Addendum to the Oracle PartnerNetwork Agreement](#), approved partners have access to the labs for 45 days. Should you require additional time, please send your request to [OracleExastack\\_ww@oracle.com](mailto:OracleExastack_ww@oracle.com).

Eligibility Criteria for access to the Oracle Exastack Remote Labs:

- You must be an OPN member at the Gold level or higher.
- You must have membership in the applicable OPN Knowledge Zone ([Oracle Solaris](#), [Oracle Linux](#), [Oracle Server Virtualization](#)).
- Your OPN PRM Administrator must complete the [Oracle Exastack Remote Labs](#) online application.
- You must provide an active URL that describes your application and verifies that your application is generally commercially available to commercial customers.
- You must have a published and current OPN Solutions Catalog profile for both your company and your application. [Click here](#) to view your current profile.
- You must achieve and maintain [Oracle Exastack Ready](#) status for the applicable Oracle product within the Oracle Exastack Remote Labs offering within two months of announcing general availability of your application support of the [latest major release](#) of Oracle Solaris, Oracle Linux and/or Oracle VM.
- You agree to update your application to be fully compatible and function with the applicable Oracle product within the Oracle Exastack Remote Labs offering within 24 months of Oracle's release of a new major release or version of the applicable Oracle Exastack Remote Labs offering.
- Your OPN PRM Administrator must accept the terms and conditions of the [Oracle Exastack Remote Labs Addendum to the Oracle PartnerNetwork Agreement](#).

### **Request access to the [Oracle Solaris Remote Lab](#)**

Once a Partner applies and receives authorization notice from OracleExastack\_ww@oracle, they will receive a URL to access the OSRL. When

the Partner accesses the lab they will be asked to register a username and password to be used to generate a user on the VMs the Partner creates in the OSRL. On all subsequent entries to the lab the Partner will be redirected to their Dashboard after entering their SSO credentials.

## **OSRL Overview**

The OSRL is a self-service lab allowing Partners to allocate up to five virtual Machines (VMs) with a combination of SPARC and x86 processors. Each Partner's VMs share a NFS mounted file system in a private network that segregates all network traffic.

The Partner interacts with the OSRL via the OSRL User Interface (UI). The UI enables the Partner to create and delete VMs, start terminals and desktop sessions on the VMs and upload/download files to/from the Partner's NFS file system.

The Partner selects from various images to use as they create their VMs selecting from a menu including Default Solaris 11, Solaris 11 plus the Oracle Database, Solaris 11 plus

WebLogic or Solaris 11 plus Apache, MySQL and php. At the same time the Partner selects the architecture (Sparc or x86) for the VM.

Once one or more VMs are created the Partner can selectively start terminals and/or desktops to interact with the individual VMs.

The Partner can also enable Client Drive Mapping (CDM – see Chapter 5), a feature of Secure Global Desktop (SGD), to allow transferring files between their client system and their VMs.

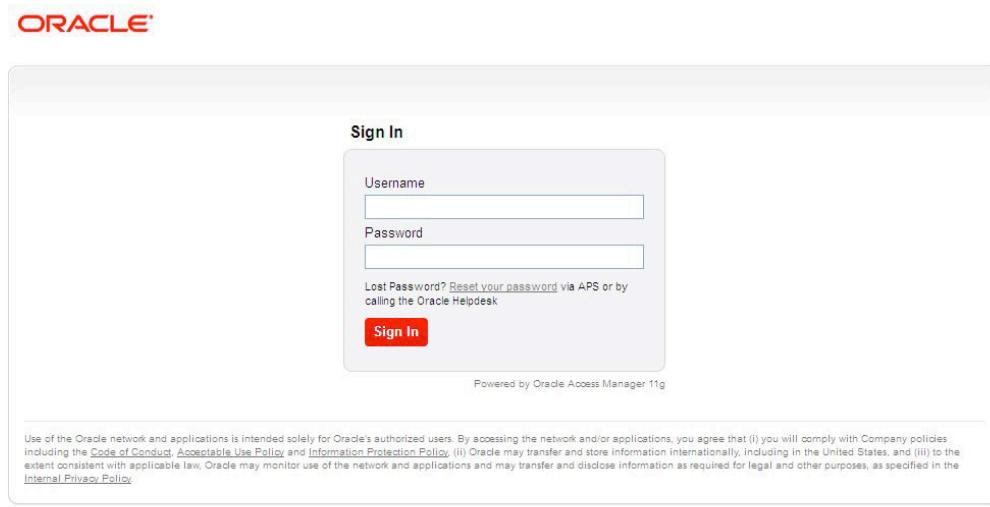
Once VMs are started they are persistent. A Partner's VMs continue to operate after the Partner has closed his OSRL UI session. In this way the VMs in the OSRL are similar to dedicated hardware in a lab. The VMs also continue to communicate with any associated terminals or desktops. This behavior allows the Partner to start long running tests and leave them running on their VMs just as they would leave a long running test running on dedicated hardware in their own lab.

The Partner needs to be aware of the persistent behavior of their VMs. If the Partner wants to be sure his terminals are not displaying information the Partner wants to protect he must be sure to lock his client system's desktop if he leaves it unattended or terminate any terminals and desktops he has opened to his VMs. If the Partner wants to be sure no tests are running while he leaves the VMs unattended he must halt his VMs and remember to boot them via the OSRL UI when he wants to resume work.

## 2. OSRL Quick Start Guide

### **Registration in the OSRL**

When accessing the OSRL the Partner will always be asked to sign on with their Oracle Single Sign On credentials.



*Figure 2-1: SSO login*

The Single Sign On credentials are usually your corporate email address and the password you use to login on the OPN portal.

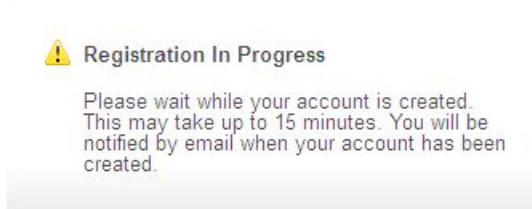
The first time the Partner accesses the OSRL the Registration page will appear.

The screenshot shows the 'Account Registration' page for the Oracle Solaris Remote Lab. The page has a header 'ORACLE® Solaris Remote Lab'. Below the header, there is a section titled 'Account Information' with a sub-instruction 'Please enter the requested account information.' It contains four input fields: 'Username' (empty), 'E-mail' (containing 'ron.larson@oracle.com'), 'Password' (empty), and 'Repeat Password' (empty). At the bottom of this section is a 'Register' button.

*Figure 2-2: Registering in the OSRL*

Please fill in the information appropriately. The Partner will always use their Single Sign On username and password when they reference the OSRL URL. The username and password they create during the registration process will be used to create a user in the VMs they create in the OSRL.

Once the Partner has completed the registration process a pop-up will notify them of their success. The set up of the Partner's infrastructure will take about 15 minutes. The Partner will receive an email when the set up process is complete.



*Figure 2-3: Registration complete pop-up*

Once the Partner has received the email notifying them their registration is complete they reference the OSRL URL, login with their SSO credentials and they will be presented their dashboard.

## OSRL Dashboard Information

The Partner Dashboard is the Partner's primary interface for identifying resources and performing most actions within the OSRL.

The screenshot shows the Oracle Solaris Remote Lab (OSRL) Partner Dashboard. At the top, there is a header bar with the "ORACLE® Solaris Remote Lab" logo on the left and "Welcome OSRLUser Home | Account | Sign Out" on the right. Below the header is a main content area divided into several sections:

- Virtual Machine Instances:** A table listing four VMs:

ID	Custom Name	Host Name	Host IP	Type	Date Created	CDM
1183	SPARC Application	OAMs4eNnD2	10.196.0.69	defaultZoneSPARC-rev6	2012-09-19 22:04:54	
1186	Web L	OA26wu6nEj	OA26wu6nEj	weblogicZonex86-rev5	2012-09-19 22:26:05	
1181	SPARC DB	OAmgHISPZX	10.196.0.68	dbZoneSPARC-rev1	2012-09-19 17:39:07	
1180	x86 Application	OAhF26Blmw	10.196.0.67	defaultZonex86-rev9	2012-09-19 17:37:15	
- Status:** A table showing resource status:

Active VMs	4
Available VMs	1
Days Left	45
- Resource:** A list of links:
  - > FAQ
  - > User Guide
  - > Email ISV Support
- ORACLE SOLARIS READY:** A button with the text "Become Oracle Solaris Ready Learn How ▾".

Figure 2-4: Dashboard with four VMs

The Dashboard allows the Partner to create Virtual Machines, presents information regarding the VMs the Partner has created in the OSRL, identifies actions the Partner can perform on those VMs and provides Status regarding the resources the Partner has available to them in the OSRL. The Dashboard also includes links to additional information available to the Partner.

The Dashboard also displays detailed information regarding the existing VMs including host name, IP address and VM Image loaded during VM.

This screenshot is identical to Figure 2-4, showing the Oracle Solaris Remote Lab (OSRL) Partner Dashboard. The "Virtual Machine Instances" table is highlighted with a thick blue border. The table data is the same as in Figure 2-4:

ID	Custom Name	Host Name	Host IP	Type	Date Created	CDM
1183	SPARC Application	OAMs4eNnD2	10.196.0.69	defaultZoneSPARC-rev6	2012-09-19 22:04:54	
1186	Web L	OA26wu6nEj	OA26wu6nEj	weblogicZonex86-rev5	2012-09-19 22:26:05	
1181	SPARC DB	OAmgHISPZX	10.196.0.68	dbZoneSPARC-rev1	2012-09-19 17:39:07	
1180	x86 Application	OAhF26Blmw	10.196.0.67	defaultZonex86-rev9	2012-09-19 17:37:15	

Figure 2-5: VM information available via the dashboard

A Virtual Machine's information line also includes a customizable field that allows the Partner to enter a Custom Name for the VM. This field can be set to any text the Partner desires such as a simple name for the VM or version numbers of the applications they install in the VM.

Virtual Machine Instances						
Create New Virtual Machine... ▾						
ID	Custom Name	Host Name	Host IP	Type	Date Created	CDM
1183	SPARC Application	OAMs4eNnD2	10.196.0.69	defaultZoneSPARC-rev6	2012-09-19 22:04:54	
1186	Web L	OA26wu6nEj	OA26wu6nEj	weblogicZonex86-rev5	2012-09-19 22:26:05	
1181	SPARC DB	OAmgHISPZX	10.196.0.68	dbZoneSPARC-rev1	2012-09-19 17:39:07	
1180	x86 Application	OAhF26BImw	10.196.0.67	defaultZonex86-rev9	2012-09-19 17:37:15	

<b>Status</b>	
Active VMs	4
Available VMs	1
Days Left	45
<b>Resource</b>	
> FAQ	
> User Guide	
> Email ISV Support	

Become Oracle Solaris Ready [Learn How ▾](#)

Figure 2-6: Customized name field for each VM

The Client Drive Mapping (CDM) icon included in each information line of the Dashboard is unique in that it both represents the status of CDM for the VM (enabled/disabled) and is a push button for changing the state.

CDM is a feature of the Secure Global Desktop (SGD) that is used for transferring files between the Partner's client machine and the VM environment they create in the OSRL. See the Transferring Files chapter for more information.

Virtual Machine Instances						
Create New Virtual Machine... ▾						
ID	Custom Name	Host Name	Host IP	Type	Date Created	CDM
1183	SPARC Application	OAMs4eNnD2	10.196.0.69	defaultZoneSPARC-rev6	2012-09-19 22:04:54	
1186	Web L	OA26wu6nEj	OA26wu6nEj	weblogicZonex86-rev5	2012-09-19 22:26:05	
1181	SPARC DB	OAmgHISPZX	10.196.0.68	dbZoneSPARC-rev1	2012-09-19 17:39:07	
1180	x86 Application	OAhF26BImw	10.196.0.67	defaultZonex86-rev9	2012-09-19 17:37:15	

<b>Status</b>	
Active VMs	4
Available VMs	1
Days Left	45
<b>Resource</b>	
> FAQ	
> User Guide	
> Email ISV Support	

Become Oracle Solaris Ready [Learn How ▾](#)

Figure 2-7: Client Drive Mapping status and push buttons

The Status section of the Dashboard contains information regarding the number of VMs the Partner has created and the number of additional VMs the Partner can create. The number of days left in the Partner's OSRL reservation are also displayed.

The screenshot shows the Oracle Solaris Remote Lab dashboard. At the top, there is a header bar with the Oracle logo, the text "Solaris Remote Lab", and a "Welcome OSRLUser" message along with links for "Home", "Account", and "Sign Out". Below the header is a main content area. On the left, there is a table titled "Virtual Machine Instances" with columns for ID, Custom Name, Host Name, Host IP, Type, Date Created, and CDM. The table contains four rows of data. To the right of the table is a "Status" box containing the following information:

Status	
Active VMs	4
Available VMs	1
Days Left	45

Below the status box is a "Resource" box containing three links: "FAQ", "User Guide", and "Email ISV Support". At the bottom right of the dashboard is a "Become Oracle Solaris Ready" button with the text "Learn How ▶".

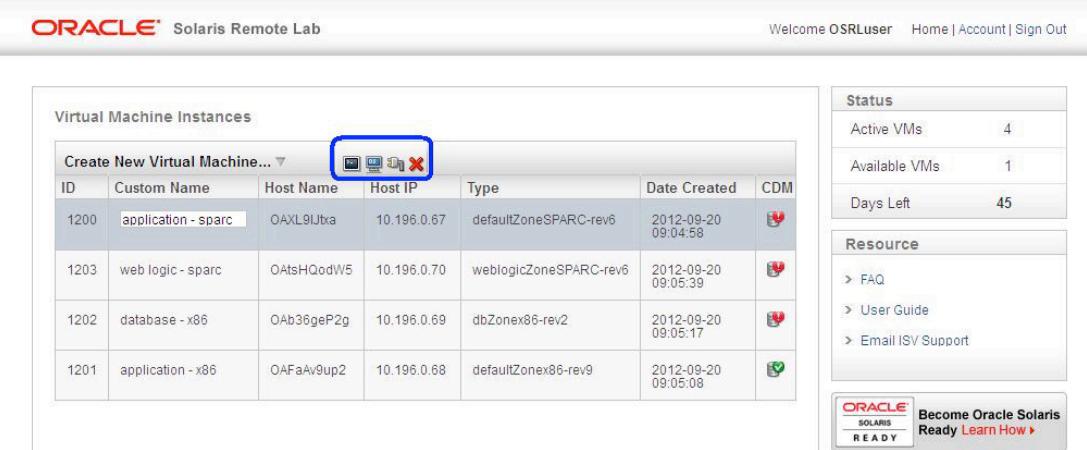
*Figure 2-8: Status Information*

The Resources section of the Dashboard contains links to where the Partner can get further help in using the OSRL. The FAQ link will download the current list of Frequently Asked Questions regarding the OSRL and its use. The User Guide link leads to this document. And the Email ISV Support link brings up a mail client to send mail directly to the ISV Support team.

This screenshot is identical to Figure 2-8, showing the Oracle Solaris Remote Lab dashboard. The main difference is that the "Resource" box, which previously contained links to "FAQ", "User Guide", and "Email ISV Support", now has a blue border around it, indicating it is the selected or active section of the dashboard.

*Figure 2-9: Links to additional resources*

Several other actions can be performed on VMs using the action buttons including opening a terminal window for command line work, opening a desktop for work requiring graphics displays and rebooting the VM. Clicking on a VM to be acted on makes these actions selectable. Pause your pointer over the icons in the Action section of the dashboard to see a pop-up describing the action performed by selecting each of the icons. To perform an action first select the VM to be acted on by clicking it's line in the Dashboard and then clicking on the action to perform in the Action section. Pop-up boxes ask for confirmation to protect against accidental actions.



The screenshot shows the Oracle Solaris Remote Lab interface. At the top, there is a header bar with the ORACLE Solaris Remote Lab logo, user information (Welcome OSRLUser), and navigation links (Home | Account | Sign Out). Below the header is a sidebar with sections for Status (Active VMs: 4, Available VMs: 1, Days Left: 45) and Resource (FAQ, User Guide, Email ISV Support). The main content area is titled "Virtual Machine Instances". It features a "Create New Virtual Machine..." button and a table of VM instances. The table columns are: ID, Custom Name, Host Name, Host IP, Type, Date Created, and CDM. The rows show the following data:

ID	Custom Name	Host Name	Host IP	Type	Date Created	CDM
1200	application - sparc	OAXL9IJtxa	10.196.0.67	defaultZoneSPARC-rev6	2012-09-20 09:04:58	
1203	web logic - sparc	OAtsHQodW5	10.196.0.70	weblogicZoneSPARC-rev6	2012-09-20 09:05:39	
1202	database - x86	OAb36geP2g	10.196.0.69	dbZonex86-rev2	2012-09-20 09:05:17	
1201	application - x86	OAFaAv9up2	10.196.0.68	defaultZonex86-rev9	2012-09-20 09:05:08	

A blue box highlights the action icons in the top right corner of the table header. In the bottom right corner of the dashboard, there is an "ORACLE SOLARIS READY" badge and a link to "Become Oracle Solaris Ready Learn How ▶".

Figure 2-10: VM actions available thru the dashboard

## ***Creating and Deleting Virtual Machines in the OSRL***

Virtual Machines (VMs) are created and deleted via actions on the Dashboard

### **Initial OSRL Dashboard**

Initially the Virtual Machine area of the Dashboard is empty because no Virtual Machines have been created.

The screenshot shows the Oracle Solaris Remote Lab (OSRL) dashboard. At the top, there is a header bar with the ORACLE Solaris Remote Lab logo, the user welcome message "Welcome OSRLUser", and navigation links for "Home | Account | Sign Out". Below the header, the main content area is divided into sections:

- Virtual Machine Instances:** A section containing a "Create New Virtual Machine..." button and a link "No VM Instances Assigned".
- Status:** A table showing the following data:

Status	
Active VMs	0
Available VMs	5
Days Left	45
- Resource:** A section with links to "FAQ", "User Guide", and "Email ISV Support".
- ORACLE SOLARIS READY:** A banner at the bottom right with the text "Become Oracle Solaris Ready" and a "Learn How" link.

*Figure 2-11: Empty Dashboard*

Note that the Status section of the empty Dashboard indicates the Partner has no VMs and is able to create up to five VMs

## Creating Virtual Machines

Virtual Machines are created from the Dashboard.

New VM Instances are created and started with predefined Virtual Machine Templates. Virtual Machine Templates are bootable Solaris 11 images with additional software pre-installed. An Application Template including compilers and libraries is available. Additionally there are Virtual Machine Templates available pre-installed with the Oracle Data Base, Weblogic software or Apache, MySQL and PHP. All of these Virtual Machine Templates are available in both SPARC and x86 versions.

To create a Virtual Machine the Partner selects a Virtual Machine Template from the Virtual Machine Template menu.



Figure 2-12: Pull down menu of VM templates available for creating a new VM

Creating the Virtual Machine takes a few minutes as a host system is identified, the VM Template is cloned and the local file system is created.

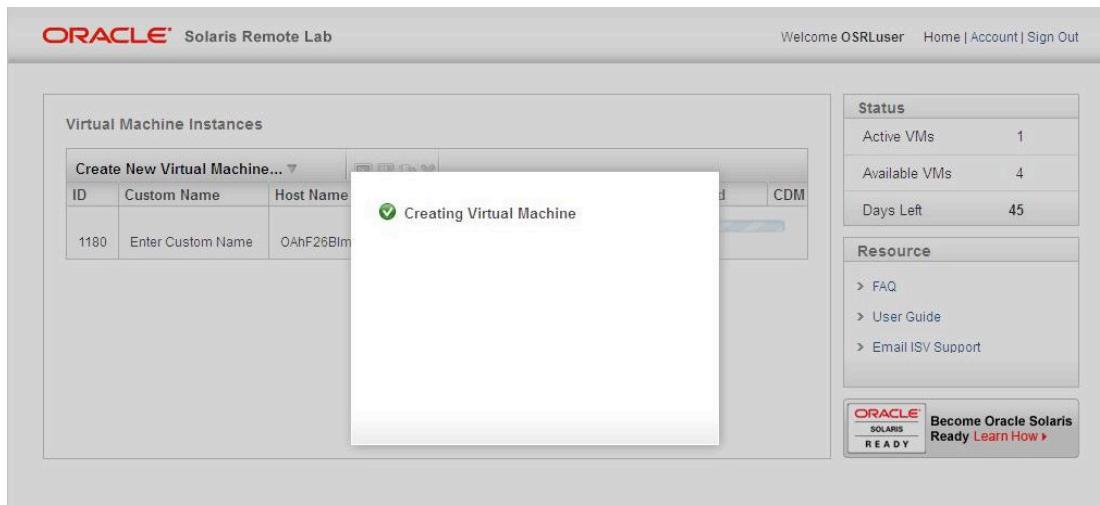


Figure 2-13: VM creation pop-up

While the VM is being created an activity bar indicates progress.

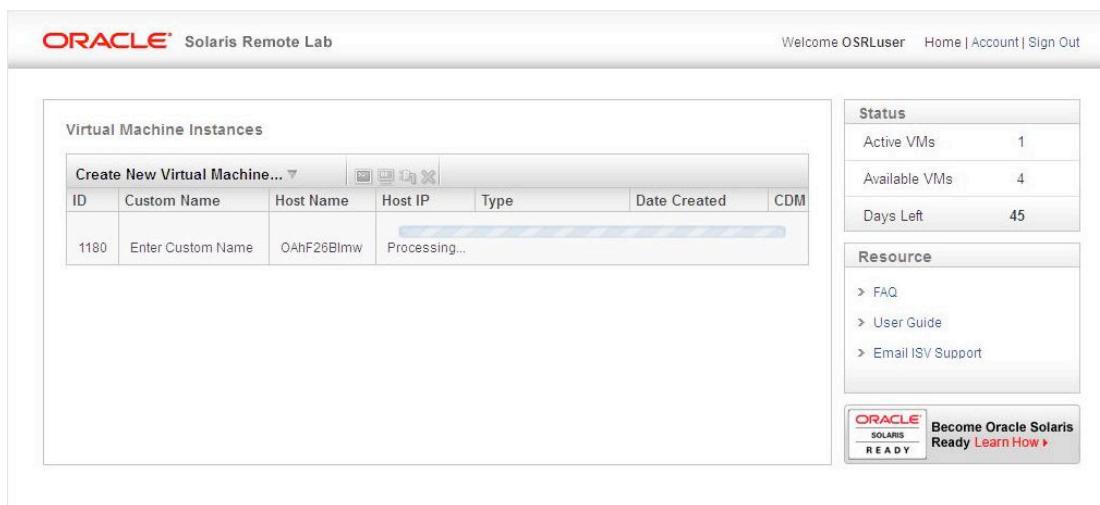


Figure 2-14: Delay bar during VM creation

## Deleting Virtual Machines

Virtual Machines are deleted by clicking on the VM to be deleted in the dashboard and then selecting the Delete action:

The screenshot shows the Oracle Solaris Remote Lab dashboard. At the top, there's a navigation bar with the ORACLE Solaris Remote Lab logo, user information (Welcome OSRLUser), and links for Home, Account, and Sign Out. Below the navigation is a section titled "Virtual Machine Instances". This section contains a table with four rows of VM data. The columns are ID, Custom Name, Host Name, Host IP, Zone, Date Created, and CDM. The first row has an ID of 1200, a custom name of "application - sparc", a host name of OAXL9IJtxa, a host IP of 10.196.0.67, a zone of defaultZoneSPARC-rev6, a date created of 2012-09-20 09:04:58, and a CDM icon. A blue circle highlights the "Delete VM" button in the second column of this row. To the right of the table is a "Status" box showing Active VMs (4), Available VMs (1), and Days Left (45). Further down is a "Resource" box with links to FAQ, User Guide, and Email ISV Support. At the bottom right is an "ORACLE SOLARIS READY" badge and a link to "Become Oracle Solaris Ready Learn How ▶".

ID	Custom Name	Host Name	Host IP	Zone	Date Created	CDM
1200	application - sparc	OAXL9IJtxa	10.196.0.67	defaultZoneSPARC-rev6	2012-09-20 09:04:58	
1203	web logic - sparc	OAtsHQodW5	10.196.0.70	weblogicZoneSPARC-rev6	2012-09-20 09:05:39	
1202	database - x86	OAb36geP2g	10.196.0.69	dbZonex86-rev2	2012-09-20 09:05:17	
1201	application - x86	OAFaAv9up2	10.196.0.68	defaultZonex86-rev9	2012-09-20 09:05:08	

Figure 2-15: Deleting a VM from the dashboard

## Account Information

There are a few activities that are performed off of the Dashboard page. The Account link in the upper right takes the Partner to a page where they can perform activities such as changing the password they entered during the registration process or terminate their account in the OSRL. Once the Partner's account is terminated either by the Partner's actions or by expiration, the Partner will not be able to register to use the OSRL. To regain entry to the OSRL the Partner must submit a new request via the OPN Partner's site.

The screenshot shows the 'Account Settings' section of the Oracle Solaris Remote Lab interface. It includes options to 'Change Password' and 'Delete Account'. On the right, there are two tables: 'Status' showing Active VMs (4), Available VMs (1), and Days Left (45); and 'Resource' with links to FAQ, User Guide, and Email ISV Support. At the bottom right is a 'Become Oracle Solaris Ready' button.

Status	
Active VMs	4
Available VMs	1
Days Left	45

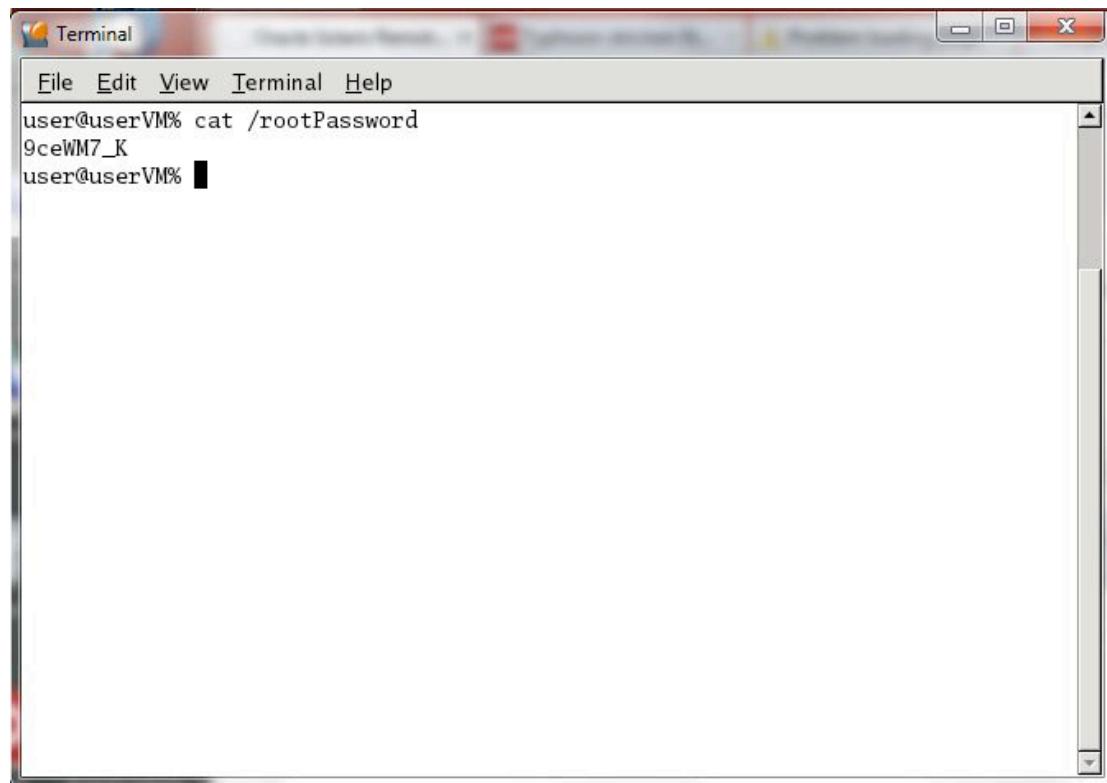
Resource	
> FAQ	
> User Guide	
> Email ISV Support	

**ORACLE SOLARIS READY** [Become Oracle Solaris Ready Learn How ▾](#)

Figure 2-16: Account Information

## **Virtual Machine Root Password**

Many applications require the root password of the system to complete their installation. Each Virtual Machine in the OSRL has a root password created from a randomly generated string and saved in /rootPassword. To see the root password simple open a terminal session on the VM and list the contents of /rootPassword.



A screenshot of a terminal window titled "Terminal". The window has a standard Windows-style title bar with icons for minimize, maximize, and close. The menu bar includes "File", "Edit", "View", "Terminal", and "Help". The main pane displays a command-line session. The user typed "cat /rootPassword" and the output was "9ceWM7\_K". The cursor is visible at the end of the command line.

```
File Edit View Terminal Help
user@userVM% cat /rootPassword
9ceWM7_K
user@userVM%
```

*Figure 2-17 Listing the root password of a Virtual Machine*

### ***3. Virtual Machine Templates***

There are currently four Virtual Machines Templates available to choose from when creating a new VM instance. These templates allow a developer to quickly and easily create an environment in which they can test applications for Solaris 11 readiness. Each template is available on both SPARC and x86.

#### ***Application Template***

This template installs the latest version of the Application image on your virtual machine.

This image contains:

1. Oracle Solaris Studio 12.3

Oracle Solaris Studio 12.3, Oracle's advanced C, C++ and Fortran development tool suite, delivers the latest in compiler optimizations, multithread performance, and powerful analysis tools for the best application performance and reliability on Oracle Solaris

All software was installed from the tarfile available on the Oracle Technology Network and has directory layout as per the following details :

	Configuration
Oracle Solaris Studio 12.3	Installation located at: /opt/SolarisStudio12.3-solaris-x86-bin/solarisstudio12.3/

## **Weblogic 12c Template**

This template installs the latest version of the Weblogic image on your virtual machine.

This image contains:

1. Oracle WebLogic Server 12c (12.1.1)-

<http://www.oracle.com/technetwork/middleware/weblogic/overview/index.html>

Oracle WebLogic Server 12c is the industry's best application server for building and deploying enterprise Java EE applications with support for new features for lowering cost of operations, improving performance, enhancing scalability and supporting the Oracle Applications portfolio.

All software was installed from the tarfile available on the Oracle Technology Network and has directory layout as per the following details:

	Port or Connection URL	Configuration	Logins and Passwords
Oracle WebLogic Server		WebLogic home = /home/wluser Full install with samples. Next steps: <a href="http://docs.oracle.com/cd/E24329_01/doc.1211/e24492/postins.htm#g1097842">http://docs.oracle.com/cd/E24329_01/doc.1211/e24492/postins.htm#g1097842</a>	su - wluser password1 (you will need to update on login)

## **SAMP Template**

This template installs the latest version of the Solaris-Apache-PHP-MySQL (SAMP) image on your virtual machine. All these components are configured to work together and provide best performance and user experience for Solaris 11 users.

This SAMP image contains:

1. **Apache HTTP server** - <http://httpd.apache.org/>  
The Apache HTTP Server Project is an effort to develop and maintain an open-source HTTP server for modern operating systems. The goal of this project is to provide a secure, efficient and extensible server that provides HTTP services in sync with the current HTTP standards. Apache httpd has been the most popular web server on the Internet since April 1996.
2. **PHP** - <http://www.php.net/>  
PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML.
3. **MySQL Server** - <http://www.mysql.com/>  
MySQL is the world's most popular open source database. Whether you are a fast growing web property, technology ISV or large enterprise, MySQL can cost-effectively help you deliver high performance, scalable database applications
4. **phpmyadmin** - <http://www.phpmyadmin.net>  
phpMyAdmin is a free software tool written in PHP, intended to handle the administration of MySQL over the World Wide Web. phpMyAdmin supports a wide range of operations with MySQL. The most frequently used operations are supported by the user interface (managing databases, tables, fields, relations, indexes, users, permissions, etc), while you still have the ability to directly execute any SQL statement.

All software were installed from default Solaris 11 repository with standard directory layout so you will be able to update them or install additional Apache modules.

	Port or Connection URL	Accept Remote Connections	Logins and Passwords
Apache HTTP server	80	Yes	
MySQL server	3306	No	'root' password is same as server's 'root' password
phpmyadmin	<a href="http://&lt;zonenumber or zone ip address&gt;/phpmyadmin">http://&lt;zonenumber or zone ip address&gt;/phpmyadmin</a>	Yes	'root' password is same as server's 'root' password

## **Oracle Database 11gR2 Template**

This template installs the latest version of the Oracle Database image on your virtual machine. Whenever possible, the Oracle Database image was installed and configured to use the default choices as per the Oracle Database installation guide.

This Oracle Database image contains:

- 1. Oracle Database 11g Release 2 (11.2.0.3) for Solaris**

Oracle Database 11g Release 2 provides the foundation for IT to successfully deliver more information with higher quality of service, reduce the risk of change within IT, and make more efficient use of IT budgets.

- 2. Oracle Enterprise Manager 11g**

All software was installed from the default Solaris 11 repository with standard configurations and has directory layout as per the following details:

	Port or Connection URL	Configuration	Logins and Passwords
Oracle Database	1521	SID : orcl Port : 1521 ORACLEHOME : /u01/app/oracle/product/11.2.0/dbhome_1	Oracle DBA user/password : sys/oracle123  Oracle User/Password in zone : oracle/oracle123
Oracle Enterprise Manager	<a href="https://&lt;zonename or zone ip address&gt;:1158/em/">https://&lt;zonename or zone ip address&gt;:1158/em/</a>		Oracle DBA user/password : sys/oracle123

## 4. Customizing Virtual Machines

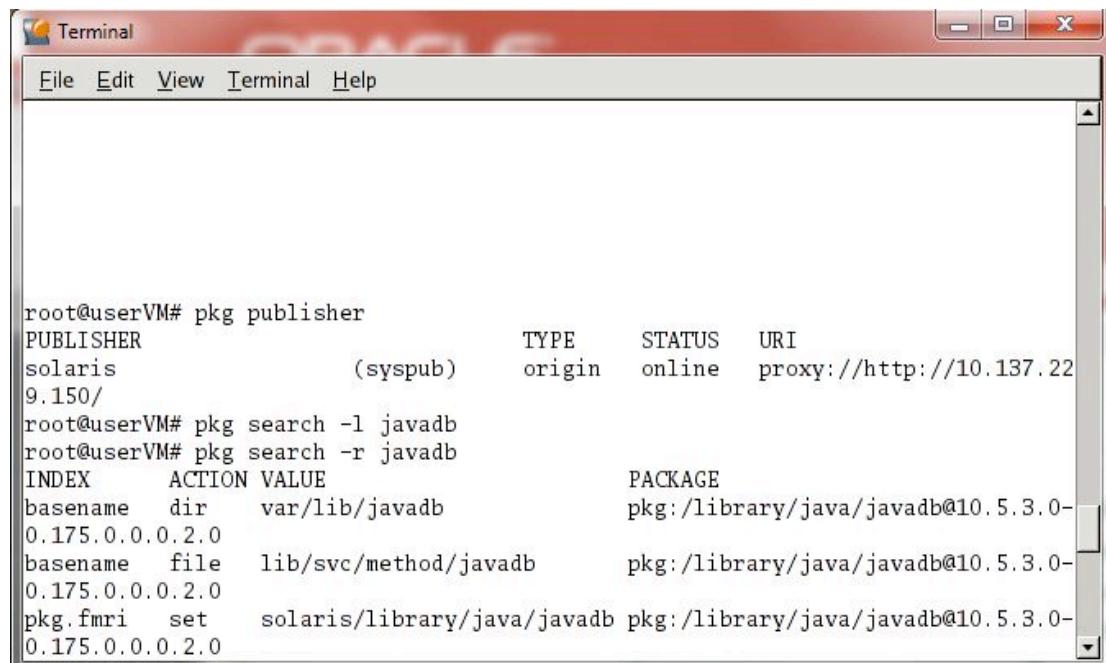
All OSRL Virtual Machines are created with a standard baseline configuration atop Oracle Solaris 11 11/11. This chapter describes pertinent characteristics of newly-created Virtual Machines, and details how Partners can make best use of these characteristics when installing, configuring and running their applications.

At their core, all OSRL Virtual Machines are instances of Oracle Solaris 11 non-global Zones, and as such are bound to the limitations of Zones, which are immaterial to most applications and their users.

Unless explicitly noted, everything in this section pertains to both SPARC and X86 Virtual Machines, regardless of the Template from which they were created.

### Solaris Packages and IPS

The Image Packaging System (IPS) is the standard packaging mechanism for Oracle Solaris 11, and all OSRL Virtual Machines are created with access to a standard IPS Solaris Repository. Whether using the Package Manager GUI or the `pkg(1)` command line tool, Partners will see that their VM is already configured to use this Repository (via standard Zone proxy mechanisms for IPS Repositories).



The screenshot shows a terminal window titled "Terminal" with a red header bar. The menu bar includes "File", "Edit", "View", "Terminal", and "Help". The terminal window displays the following command-line session:

```
root@userVM# pkg publisher
PUBLISHER          TYPE      STATUS    URI
solaris            (syspub)  origin    online   proxy://http://10.137.22
9.150/
root@userVM# pkg search -l javadb
root@userVM# pkg search -r javadb
INDEX      ACTION VALUE          PACKAGE
basename   dir    var/lib/javadb  pkg:/library/java/javadb@10.5.3.0-
0.175.0.0.0.2.0
basename   file   lib/svc/method/javadb  pkg:/library/java/javadb@10.5.3.0-
0.175.0.0.0.2.0
pkg.fmri   set    solaris/library/java/javadb  pkg:/library/java/javadb@10.5.3.0-
0.175.0.0.0.2.0
```

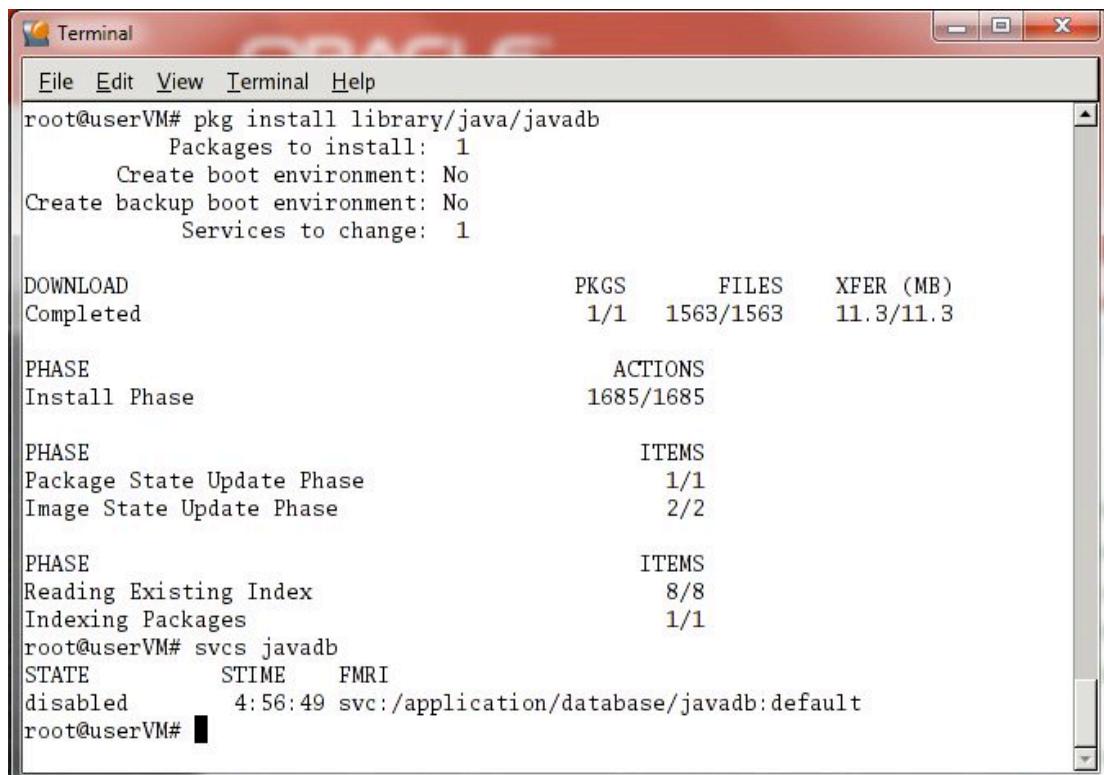
Figure 4-1: Local IPS Repository

Access to additional repositories is only possible if those repositories are local to the Virtual Machine, as there is no external network access. Package or Repositories must be copied locally before they can be used.

All OSRL Virtual Machines are based on Oracle Solaris 11 11/11 (the first general release), and there is no access to Oracle Support Repository Updates.

## ***Example – Deploying an Application and its Solaris Dependencies***

User application suite FOOapp installs from a single compressed tar(1) archive. It also possesses a dependency on the javadb implementation of Apache Derby. javadb is an example of an open-source offering available through the standard Solaris 11 IPS Repository, so the Partner can install it just as simply here as on any other Solaris 11 system.



The screenshot shows a Solaris terminal window titled "Terminal". The window contains the following command and its output:

```
root@userVM# pkg install library/java/javadb
    Packages to install: 1
        Create boot environment: No
        Create backup boot environment: No
        Services to change: 1

DOWNLOAD                                PKGS      FILES      XFER (MB)
Completed                               1/1      1563/1563   11.3/11.3

PHASE                                     ACTIONS
Install Phase                            1685/1685

PHASE                                     ITEMS
Package State Update Phase               1/1
Image State Update Phase                2/2

PHASE                                     ITEMS
Reading Existing Index                  8/8
Indexing Packages                      1/1
root@userVM# svcs javadb
STATE          STIME      FMRI
disabled       4:56:49  svc:/application/database/javadb:default
root@userVM#
```

Figure 4-2: Installing package javadb from local repository

FOOapp may now be installed and run successfully.

## 5. Transferring Files to/from the OSRL

To transfer all kinds of files between the Partner's client system and their secure file space in the OSRL the user interface uses the Client Drive Mapping (CDM) mechanism of Secure Global Desktop (SGD). Simply stated, CDM makes the file systems of the Partner's client system available for transferring files between the client system and the Partner's file spaces in the OSRL.

### State of CDM for a VM Instance

The status of CDM (enabled/disabled) for a VM is indicated by the CDM icon associated with the VM on the Partner's dashboard.

The screenshot shows the Oracle Solaris Remote Lab interface. At the top, there is a navigation bar with the Oracle logo, 'Solaris Remote Lab', and links for 'Welcome OSRLUser', 'Home', 'Account', and 'Sign Out'. Below the navigation bar is a section titled 'Virtual Machine Instances' containing a table of four VM instances. The table columns are: ID, Custom Name, Host Name, Host IP, Type, Date Created, and CDM. The CDM column contains icons indicating the status: a red lock for disabled and a green checkmark for enabled. To the right of the table is a sidebar with sections for 'Status' (Active VMs: 4, Available VMs: 1, Days Left: 45), 'Resource' (FAQ, User Guide, Email ISV Support), and an 'ORACLE SOLARIS READY' badge with a 'Become Oracle Solaris Ready Learn How' link.

ID	Custom Name	Host Name	Host IP	Type	Date Created	CDM
1183	SPARC Application	OAMs4eNnD2	10.196.0.69	defaultZoneSPARC-rev6	2012-09-19 22:04:54	🔒
1186	Web L	OA26wu6nEJ	OA26wu6nEJ	weblogicZonex86-rev5	2012-09-19 22:26:05	🔒
1181	SPARC DB	OAmgHISPZK	10.196.0.68	dbZoneSPARC-rev1	2012-09-19 17:39:07	🔒
1180	x86 Application	OAhF26Blmw	10.196.0.67	defaultZonex86-rev9	2012-09-19 17:37:15	✅

Figure 5-1: Displaying the status of CDM for a VM

### Initial State

When a VM is initially created it is booted with CDM disabled. By setting the initial state of CDM to disabled the OSRL provides the option for the Partner to "opt out" of exposing their client file systems to the OSRL. Although the Partner's file systems in the OSRL are secure and CDM transfers are secure, some Partner's have security requirements that require they do not expose sensitive information to systems outside their home network. These Partners may choose to set up standalone clients for accessing the OSRL in order to meet their security requirements.

## ***Changing the state of CDM for an individual VM***

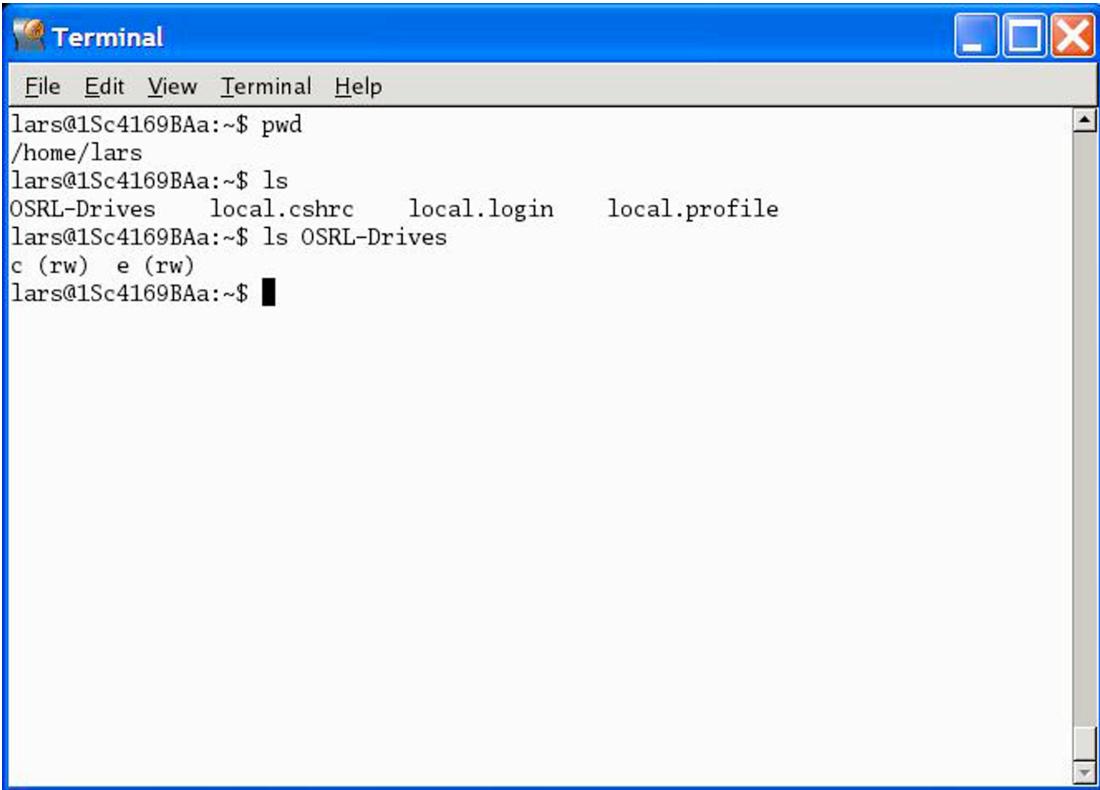
The Partner can change the state of CDM for an individual VM by left-clicking the cursor on the CDM icon associated with the VM on the dashboard. When the cursor is rolled over the CDM icon a pop-up will indicate the action that will be performed if the icon is left-clicked. Once the icon is left-clicked another pop-up box advises the Partner of the change of state and gives the Partner the option of proceeding with the change or canceling it.

Enabling CDM for a VM does not take affect immediately for terminals or desktops already open to the VM although the icon will indicate the change in status. The change of state will take place the next time a terminal or desktop is opened to the VM.

Disabling CDM for a VM does take affect immediately.

### **Enabling CDM**

When a terminal is opened to a VM with CDM enabled a new directory (*~/OSRL-drives*) is created in the Partner's home directory on the VM. The drives in the Partner's client system available for file transfers are identified in the */OSRL-Drives* directory.



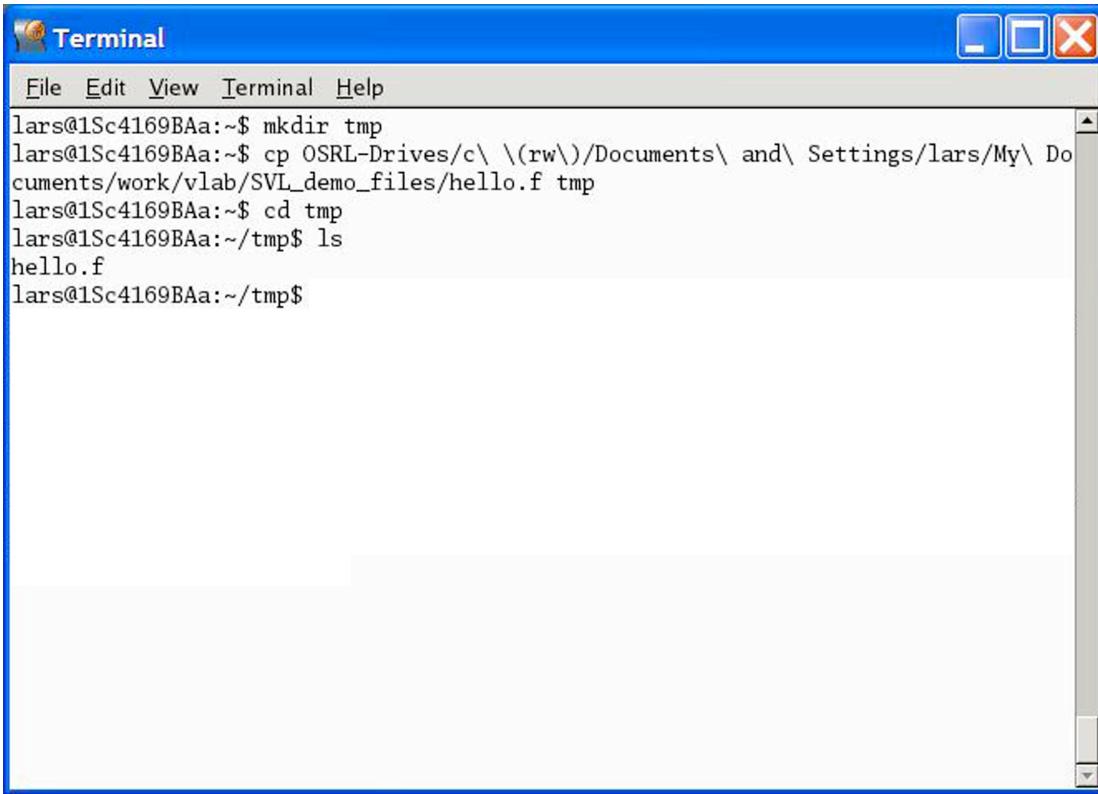
A screenshot of a terminal window titled "Terminal". The window has a blue header bar with the title and standard window controls (minimize, maximize, close). The menu bar includes "File", "Edit", "View", "Terminal", and "Help". The main pane displays a command-line session:

```
lars@1Sc4169BAa:~$ pwd
/home/lars
lars@1Sc4169BAa:~$ ls
OSRL-Drives  local.cshrc  local.login  local.profile
lars@1Sc4169BAa:~$ ls OSRL-Drives
c (rw)  e (rw)
lars@1Sc4169BAa:~$ █
```

Figure 5-2: *~/OSRL-Drives*

## **Transferring files from the client system to the OSRL**

Once the Partner has enabled CDM and identified the file to be transferred the actual transfer is completed by using a *cp* command to the target location in the Partner's OSRL file systems. Transfers can be done to any OSRL location such as local file system on the VM or to the NFS mounted file system. Transferring to the NFS mounted file system allows the file to be visible immediately on all of the Partner's VMs. Of course the Partner can transfer files between any of their file systems in the OSRL.



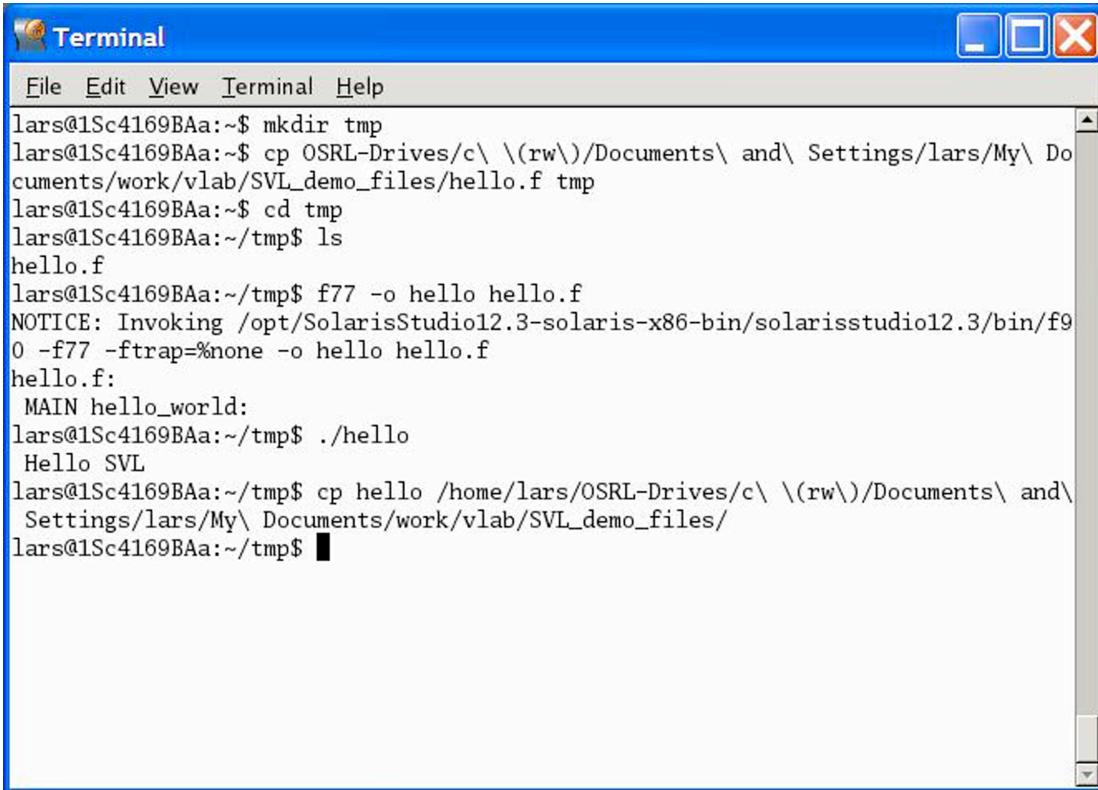
The screenshot shows a Windows terminal window titled "Terminal". The window contains the following command-line session:

```
lars@1Sc4169BAa:~$ mkdir tmp
lars@1Sc4169BAa:~$ cp OSRL-Drives/c\ \|(rw\|)/Documents\ and\ Settings/lars/My\ Documents/work/vlab/SVL_demo_files/hello.f tmp
lars@1Sc4169BAa:~$ cd tmp
lars@1Sc4169BAa:~/tmp$ ls
hello.f
lars@1Sc4169BAa:~/tmp$
```

*Figure 5-3: Transferring files from the client system to the Partner's OSRL file system*

## **Transferring files from the OSRL to the client system**

Transferring files from the Partner's OSRL directories to their client system is also very simple. Once CDM is enabled executing a *cp* of the files to the selected target directory on the client system will initiate the transfer.

A screenshot of a Solaris terminal window titled "Terminal". The window has a blue header bar with standard window controls (minimize, maximize, close) and a menu bar with "File", "Edit", "View", "Terminal", and "Help". The main pane displays a command-line session:

```
lars@1Sc4169BAa:~$ mkdir tmp
lars@1Sc4169BAa:~$ cp OSRL-Drives/c\ \(\rw\)/Documents\ and\ Settings/lars/My\ Documents/work/vlab/SVL_demo_files/hello.f tmp
lars@1Sc4169BAa:~$ cd tmp
lars@1Sc4169BAa:~/tmp$ ls
hello.f
lars@1Sc4169BAa:~/tmp$ f77 -o hello hello.f
NOTICE: Invoking /opt/SolarisStudio12.3-solaris-x86-bin/solarisstudio12.3/bin/f9
0 -ftrap=%none -o hello hello.f
hello.f:
 MAIN hello_world:
lars@1Sc4169BAa:~/tmp$ ./hello
Hello SVL
lars@1Sc4169BAa:~/tmp$ cp hello /home/lars/OSRL-Drives/c\ \(\rw\)/Documents\ and\ Settings/lars/My\ Documents/work/vlab/SVL_demo_files/
lars@1Sc4169BAa:~/tmp$
```

The terminal window has a scroll bar on the right side.

Figure 5-4: transferring files from the Partner's OSRL file system to the client system

## **Configuring CDM**

If the client system is Solaris, Linux or Mac it is possible to control the drives made visible by CDM via a configuration file on the client system. For more details see the [Secure Global Desktop documentation](#).

## **6. Appendix 1: Virtual Machines and Client Access: Characteristics and Limitations**

### **A. OSRL Virtual Machines**

While OSRL Virtual Machines are intended to provide a complete machine environment, there are differences and limitations of which Partner should be aware.

#### **Lifetime of a Virtual Machine**

By default, OSRL Virtual Machines are created with a 45 calendar day lifetime, and Partners will receive status emails as that deadline draws close. Partners can request extensions to this lifetime, if needed.

#### **Default Virtual Machine Resource Settings**

- 4GB physical memory
- 4GB swap space
- 10GB local filesystem storage
- The root password for the Virtual Machine is contained in the file /rootPassword; initially, the 'sudo' command is not enabled for the default user, and the 'su' command will be required to access the Solaris 11 root role

#### **Shared Filesystem**

- 10GB filesystem NFS mounted on all the Partner's Virtual Machines

#### **Networking Limitations**

- The only external network routes are to Partner's other Virtual Machines
- There is no network routing to the Internet
- The SMB (CIFS) sharing protocol is not available between Virtual Machines

#### **Device Access Limitations**

- Applications that assume the existence of /devices will not run in a Virtual Machine
- Applications that use eeprom to modify SPARC eeprom setting will not run in a Virtual Machine
- The following utilities do not work properly in Virtual Machines: add\_drv, disks, prtconf, prtdiag, rem\_dev

## **B. Client Access to OSRL**

Access to OSRL is primarily via a Partner's browser. Several requirements and restrictions do exist for the Partner's environment:

### **Supported Operating System and Browsers**

<b><i>Supported Client Platform</i></b>	<b><i>Supported Browsers</i></b>
Microsoft Windows 7 (32-bit and 64-bit)	Internet Explorer 8, 9 Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Microsoft Windows XP Professional SP3 (32-bit)	Internet Explorer 7, 8 Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Oracle Solaris (SPARC and X86 Platforms): Solaris 10 8/11 Solaris 11	Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Mac OS X 10.6 and 10.7	Safari 5 Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Oracle Linux 5.7, 5.8, 6.2, 6.3 (32-bit, 64-bit)	Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17
Ubuntu Linux 10.04, 12.04 (32-bit, 64-bit)	Mozilla Firefox 3.6, 10.0.0.3:ESR, 11 Chrome 17

*Note: all browsers must have JavaScript support enabled*

## Java Runtimes Supported

- **Note: Only Java 6 is supported on the client side.** Java 7 is not compatible with the OSRL at this time due to the OSRL's use of the Oracle Secure Global Desktop which has not yet been certified on Java 7.

We recommend that you work with your IT department to ensure that you have Java 6 installed on the client systems you will be using to access the OSRL. To help with this here are some recommended sites:

To check that you have the recommended version of java go the the following site:  
<http://www.java.com/en/download/installed.js>

You can download Java 6 here:  
[http://www.java.com/en/download/faq/java\\_6.xml](http://www.java.com/en/download/faq/java_6.xml)