

Using Velocity Software's zPRO Demo System

Velocity Software provides a cloud architecture for education and demonstration purposes. This allows users to create CMS servers, Linux servers and a 2nd level VM server using our zPRO product, and then use those servers for the duration of their self study education. It also allows for demonstration of our zPRO product.

zPRO is Velocity Software's Cloud Enablement product, allowing end users to define and manage their servers without having z/VM knowledge. zPRO supports a private cloud for z/VM that includes support for Linux servers, CMS users, and 2nd level z/VM systems

This paper describes the functions available on our demo system for zPRO. It is based on the version running on our demo system.

To access the Velocity Software cloud, click on <https://demo.velocitysoftware.com/zpro/>

To acquire your zPRO User ID enter demozpro as the user ID and demodemo as the password. The "DEMOZPRO" user ID is a specific user ID available only for purpose of creating a zPRO user ID for you to use for education of Linux and CMS on the mainframe and demonstration of our zPRO product.

The first step is to complete the logon process. Point your browser to our zPRO system <https://demo.velocitysoftware.com/zpro/>. You will receive this welcome screen with the logon panel as shown in Figure 1-1.

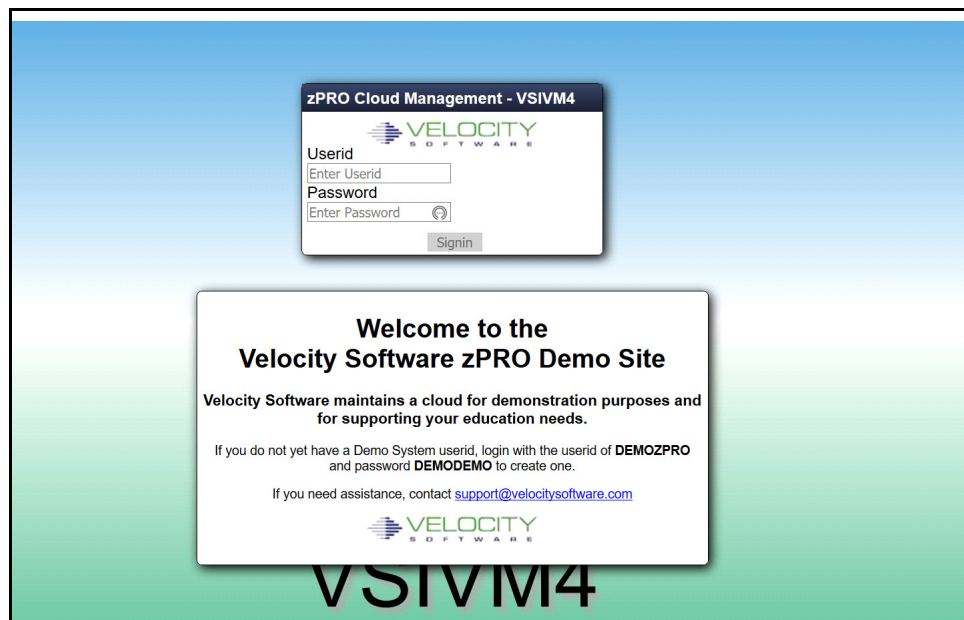


Figure 1-1 Opening panel and logon panel for zPRO

Again, demozpro is a special ID that will only allow you to create your own User ID for zPRO on our demo system.



Figure 1-2 Initial Logon

To register for an ID for the Velocity Software Cloud, click on Register for VSI Cloud on the left menu, then enter your name and email address. and click on Process Request as shown in Figure 1-3.

Note: For this paper, we used Group as the first name of the user and User1 as the last name. Also for this paper the passwords are noted as xxxxxxxxx. You will receive your passwords in the emails.

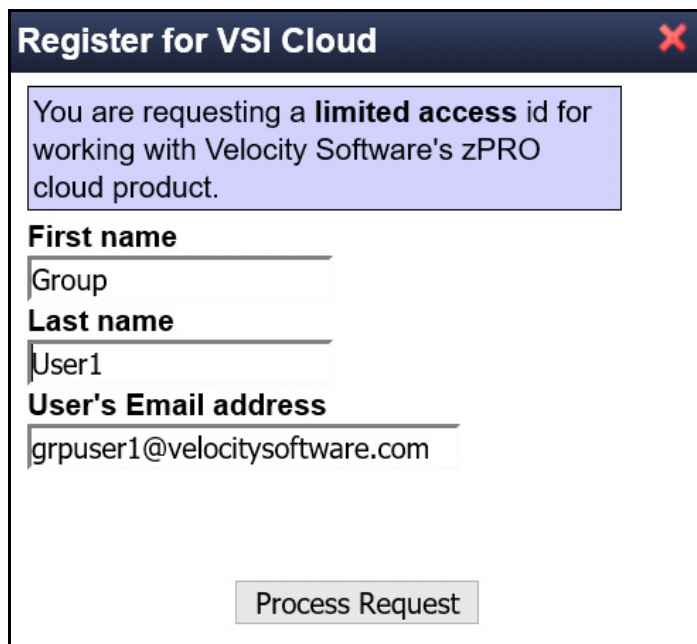


Figure 1-3 Register for a zPRO User ID

You will receive a message on the screen giving you the zPRO user ID that has been created as shown in Figure 1-4. You will also receive a message in your email with the name of the zPRO user ID that has been created and a password that has been assigned. You will need the password to logon.

Note: If you have previously applied for a DEMOZPRO User ID with that email, you will

receive a message that you already have an ID. If you need the password reset, please contact support@velocitysoftware.com.

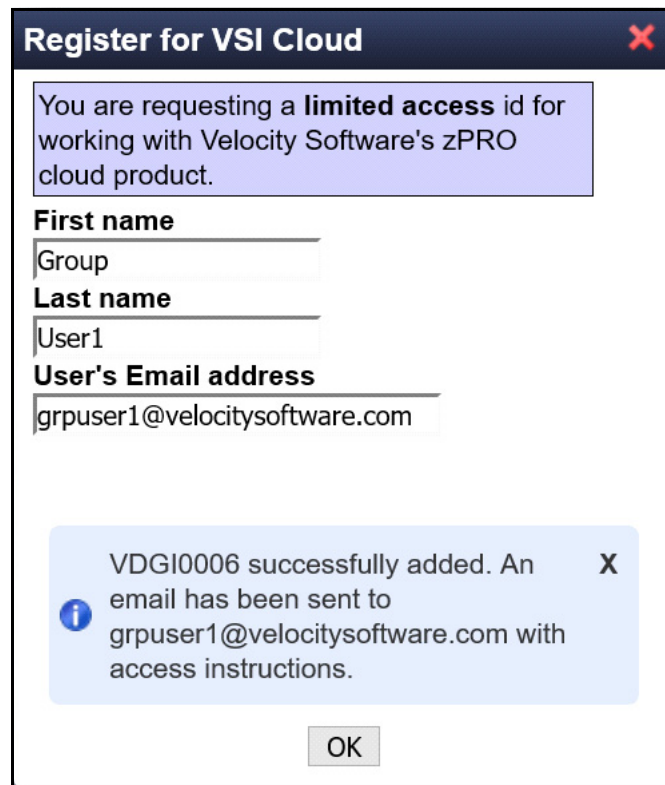


Figure 1-4 Message that your ID has been created

The email will give you your own zPRO user ID and password for use on our demo system as shown in Figure 1-5.

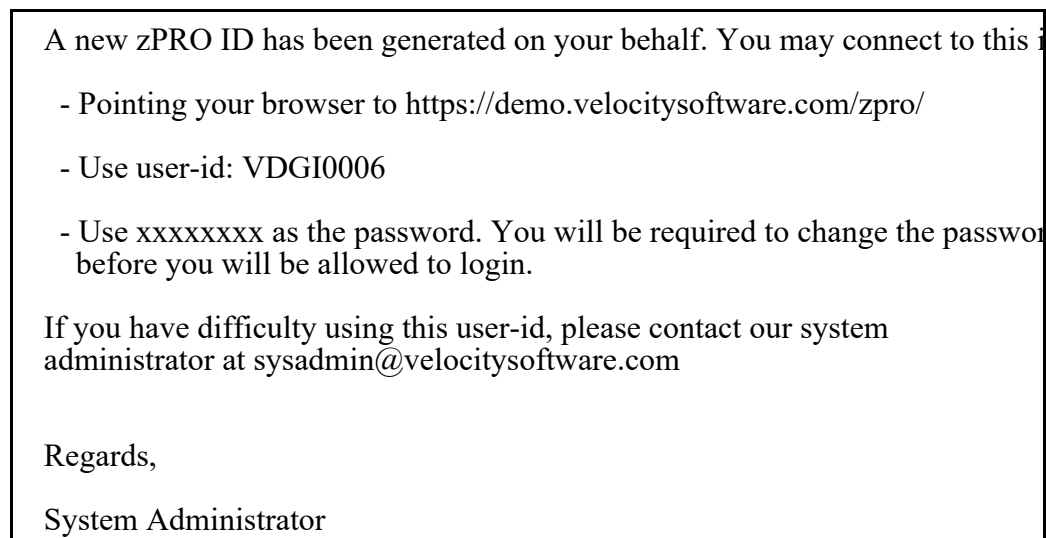


Figure 1-5 Sample email for registering for zPRO ID

Now, logoff the user ID DEMOZPRO by using the DEMOZPRO Settings pull down on the upper right corner and click on Logout as shown in Figure 1-6.

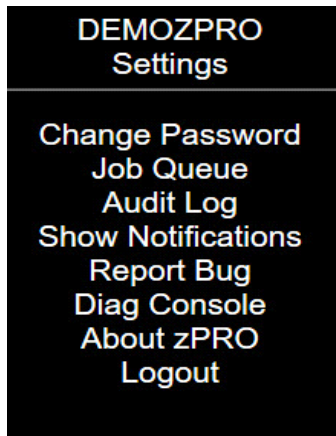


Figure 1-6 DEMOZPRO Settings

Using the user ID and password from the email, access zPRO, as shown in Figure 1-7.



Figure 1-7 Sign in with new zPRO User ID

On the first logon, you will be asked to change your password as shown in Figure 1-8. Enter the password you received in the email and your new password. Click Change Password. Make a note of the new password.

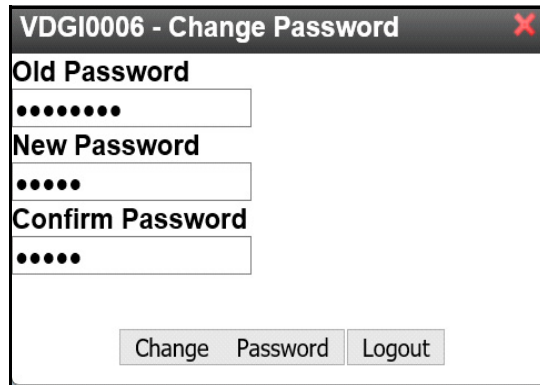


Figure 1-8 Change password on first logon

When you get the message shown in Figure 1-9, click on OK and you will be presented with the menu shown in Figure 1-10.

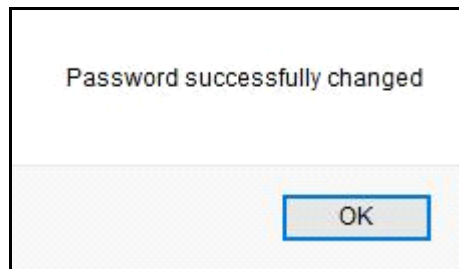


Figure 1-9 Message to show that password was changed

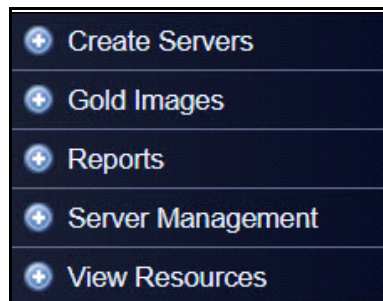


Figure 1-10 Self Service Menu

These are the groups of zPRO user functions available to your user ID:

- Create Servers
- Gold Images
- Reports
- Server Management
- View Resources

These functions are at the top of the page

- Auto Arrange
- Refresh All
- Close All

The last three functions have a pull down menu with the detailed functions. The following sections will describe each of the functions in these groups.

Note: For self service zPRO users, functions specific to a virtual machine only apply to servers owned by this zPRO user to ensure a safe and secure environment.

As you go through this document, you will have user IDs and passwords for several systems. They are:

- For zPRO accessed by browser- DEMOZPRO to create your own ID and then your own zPRO user ID VDGxxxx
- For Linux guests accessed by putty- use root or vsidemo as the Linux user ID and use the password supplied in the email you received.
- For zVM or CMS accessed by TN3270 or x3270 - use the VM user ID and password in the email you received.

Note: You will be automatically logged of your zPRO User ID after about 15 minutes of inactivity. You will receive a warning message, one minute before as shown in Figure 1-11. If this happens just click Keep Working or log on again to continue.

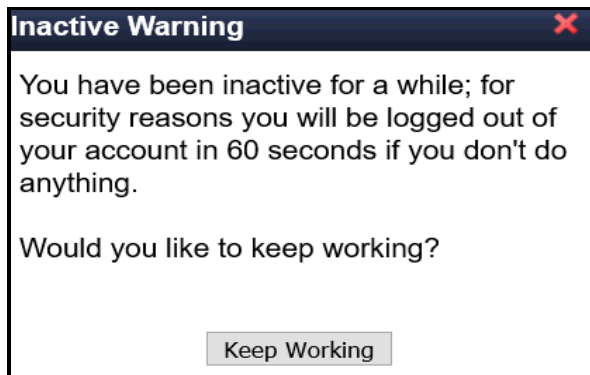


Figure 1-11 Inactive warning

Window Control Options

There are three buttons at the top of the panel to help you control your windows as shown in Figure 1-12.



Figure 1-12 Window control options

Auto Arrange

This function rearranges any open windows you have and puts them in the order of last opened to first opened.

Close All

This function will close all open windows.

Refresh

This function will refresh all dynamically changed windows.

Create Servers Functions

The next section of this paper describes the functions an end-user can execute to create servers. These functions are highly customizable when you install zPRO in your own computer system. This paper is based on the version running on our demo system. The choices for Create Servers are shown in Figure 1-13.

Note: The servers you create on our demo system will have an expiry date. On this date the server will be deleted and the resources it uses will be returned to the pool.

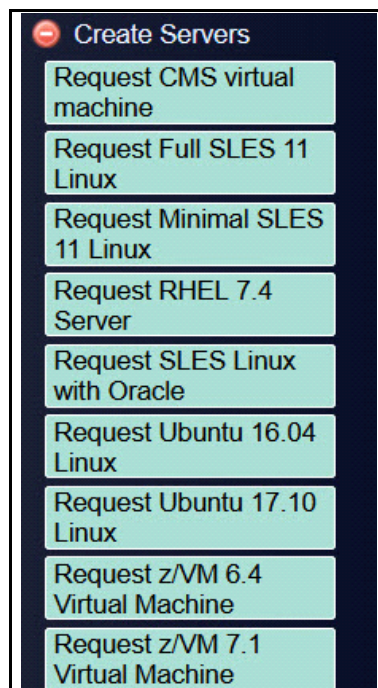


Figure 1-13 Create Server Functions

In this paper, we will create eight Linux guest to show all the options. At the end, we will have a set up as shown in Figure 1-14. We only created one z/VM server.

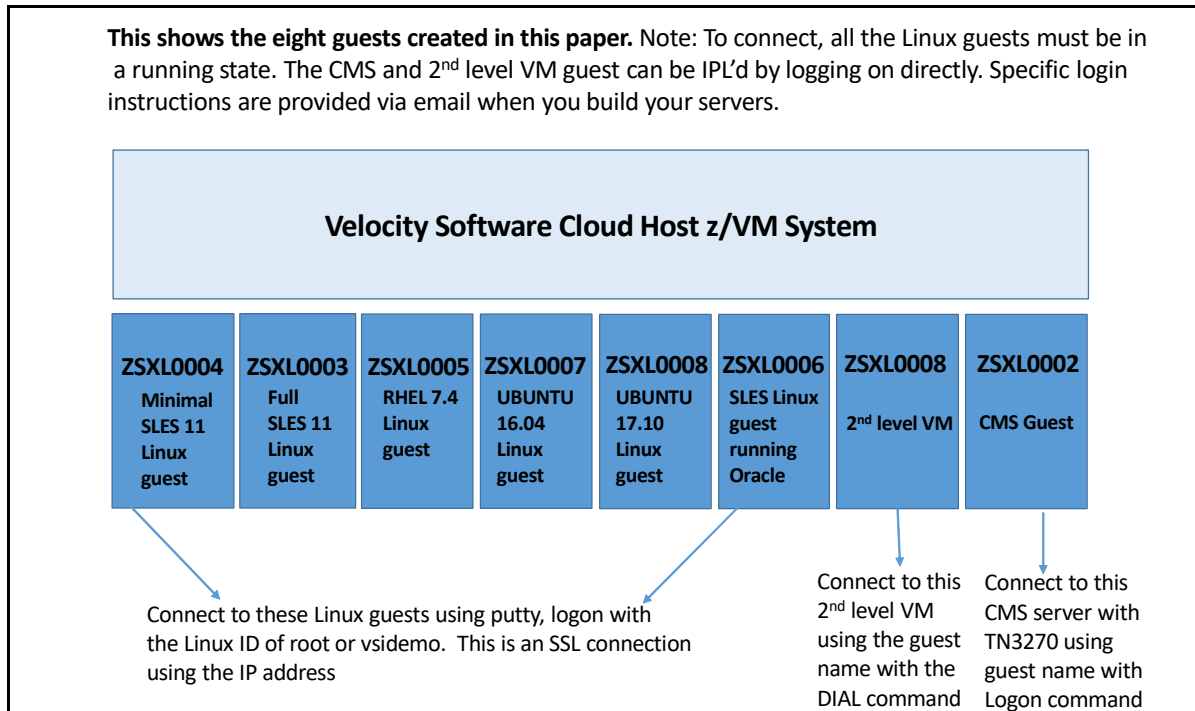
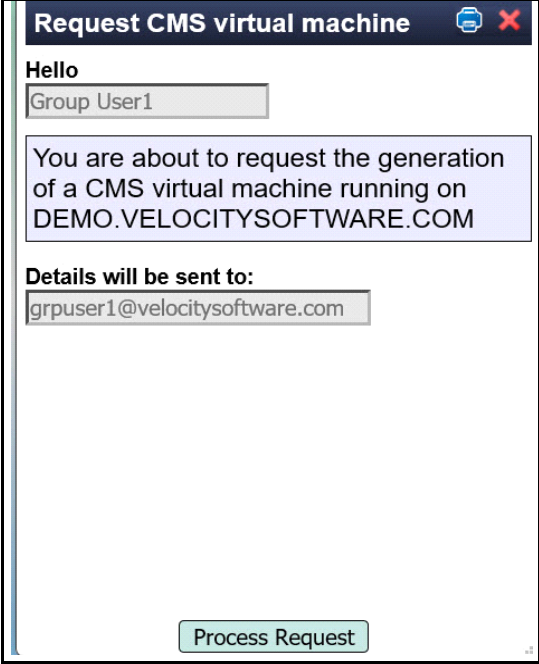


Figure 1-14 Overview of system with eight guests

The next eight sections show how we created these eight guests

Request a CMS Virtual Machine

This function enables you to create a CMS Virtual guest. It can be used to learn CMS commands. Choose Request a CMS Virtual Machine from the panel on the left of the zPRO home page as shown in Figure 1-15.



The screenshot shows a dialog box titled "Request CMS virtual machine" with a close button (X) and a help icon. The dialog contains the following elements:

- Hello**: A text label above a text input field containing "Group User1".
- Confirmation**: A light blue shaded box containing the text: "You are about to request the generation of a CMS virtual machine running on DEMO.VELLOCITYSOFTWARE.COM".
- Details will be sent to:**: A text label above a text input field containing "grpuser1@velocitysoftware.com".
- Process Request**: A button at the bottom center of the dialog.

Figure 1-15 Panel when cloning a CMS Server

Click on Process Request in the panel shown in Figure 1-16. You will receive the job queue messages shown in Figure 1-16.

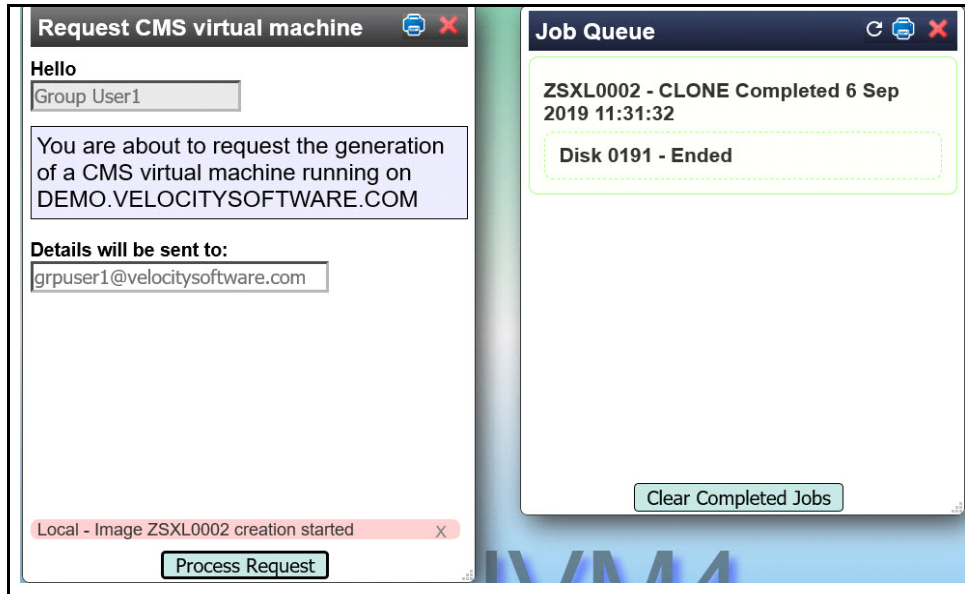


Figure 1-16 Message with CMS Guest Name and Job Queue status

The Job Queue will show you when the cloning is completed. Once it says completed you can go to your email to get the CMS User ID and password. Then using a 3270 emulator such as x3270 or TN3270 you can logon to your CMS server.

See the connectivity document for more information on how to connect to a 3270 emulator on <http://velocitysoftware.com/educate>.

Figure 1-17 shows a sample of the email you will receive when you have cloned a CMS server. You will need OpenSSL to access our demo system

A new CMS user-id has been generated on your behalf. You may connect to this id by

- Using a TN3270 monitor emulator. A free 3270 emulator can be downloaded at <https://sourceforge.net/directory/os:windows/?q=x3270>

You will also need OpenSSL for a secure connection:

https://slproweb.com/download/Win64OpenSSL_Light-1_1_0g.exe

If that link does not work, try

<https://slproweb.com/products/Win32OpenSSL.html>

and look for the latest version of Win64 OpenSSL Light

NOTE: Some TN3270 emulators have OpenSSL built-in. Check your TN3270 software before downloading and installing OpenSSL.

- Point your emulator to DEMO.VELOCITYSOFTWARE.COM. You will need to configure the port number, use port 992, and select SSL TLS V1.2.
- Use an ID of ZSXL0002
- Use xxxxxxxx as the password. You will be required to change the password before you will be allowed to login.

If you have difficulty using this user-id, please contact our system administrator.

Figure 1-17 Email when creating a CMS server

You enter the CMS User ID and password at the bottom of the z/VM screen as shown in Figure 1-18. For TN3270 you can enter logon xxxxxxxx where xxxxxxxx is the User ID supplied in the email..

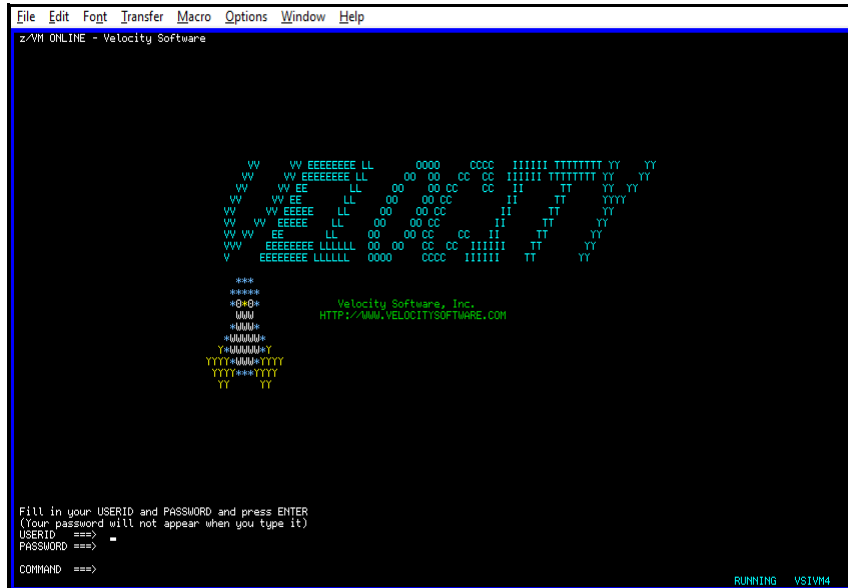


Figure 1-18 x3270 logon screen for CMS Server

After you logon you will be asked to change your password as it is the initial logon with this VM user ID as shown in Figure 1-19.

```

logon zsx10002
Enter your password,
or
To change your password, enter: ccc/nnn/nnn
      where ccc = current password, and nnn = new password
RPIMGR042I PASSWORD EXPIRED
To change your password - enter: nnn/nnn  where nnn = new password
or,
enter LOGOFF to cancel

```

Figure 1-19 Logon to CMS guest for first time sample

You can use this guest to exercise CMS commands. Please see these documents:

- IBM Redbook - Introduction to the New Mainframe: z/VM Basics at <http://www.redbooks.ibm.com/abstracts/sg247316.html?Open> Chapter 1 to 5 can give you an quick overview, Chapter 6 has the CMS commands you could work with.
- IBM Library at https://www.ibm.com/support/knowledgecenter/SSB27U_6.4.0/com.ibm.zvm.v640.hcpa0/liboper.htm#liboper
z/VM V6.4 CMS Commands and Utilities Reference, SC24-6166-05
.z/VM V6.1 CMS Primer, SC24-6172-00
z/VM V6.4 CMS User's Guide, SC24-6173-03

Request Full SLES 11 Linux Server

This option enables you to create a full Linux server. Click on Request a Full SLES 11 Linux Server.

Click on process request to start the cloning process. You will see two panels as shown in Figure 1-20.

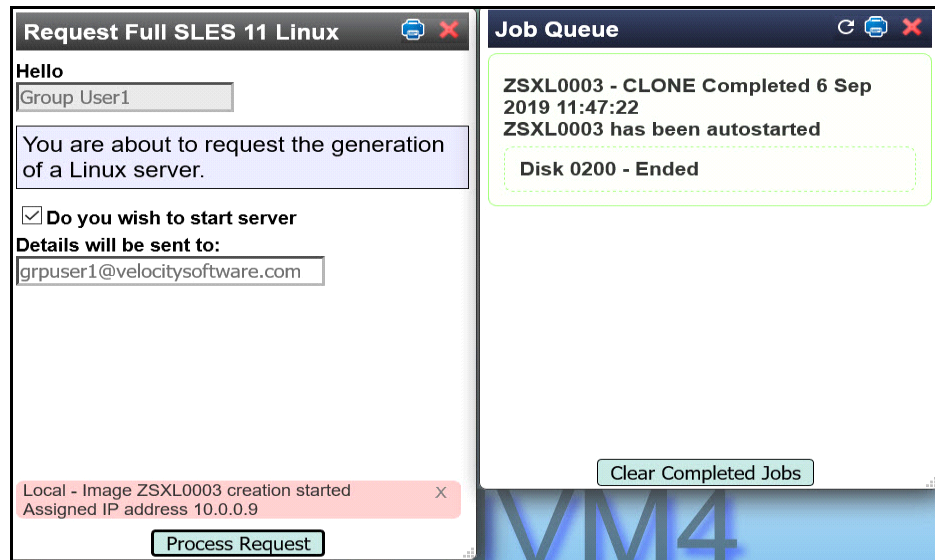


Figure 1-20 Message for Full Linux Cloning and Job Queue

Note: ZSXL0003 is the name of the Linux guest, an image of SUSE Linux 11.3 that we used and 09 is the IP address for this guest.

Once the cloning is complete, you will receive an email with the Host Name and Port number to access your server. The completed message means the cloning has completed. It then takes a minute or two for Linux to boot. Then you can go to putty to logon in to your Linux guest as shown in Figure 1-21 and Figure 1-22. If putty closes, Linux may not have completely booted, please try again. In this case the email said to use port 8092.

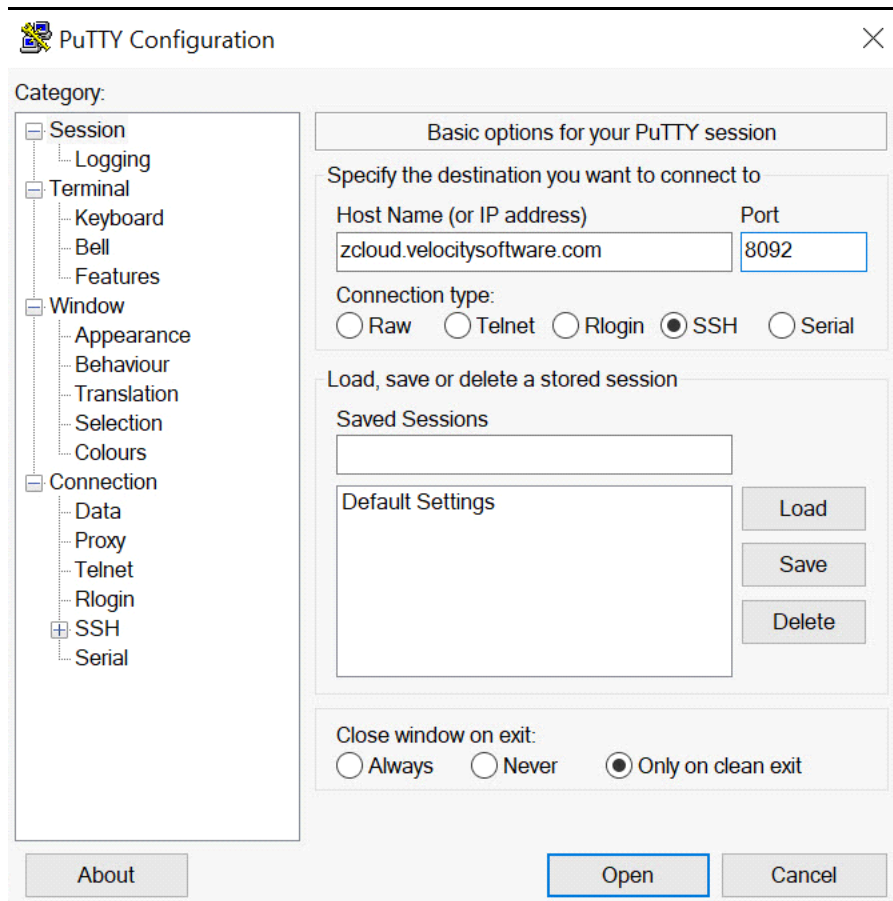


Figure 1-21 Using Putty to connect to Linux Server

Click Open to get the logon prompt, as shown in Figure 1-22.

```
login as: root
Using keyboard-interactive authentication.
Password:
Last login: Wed May 24 06:06:36 2017 from 192.168.5.77
zsxl0003:~ #
```

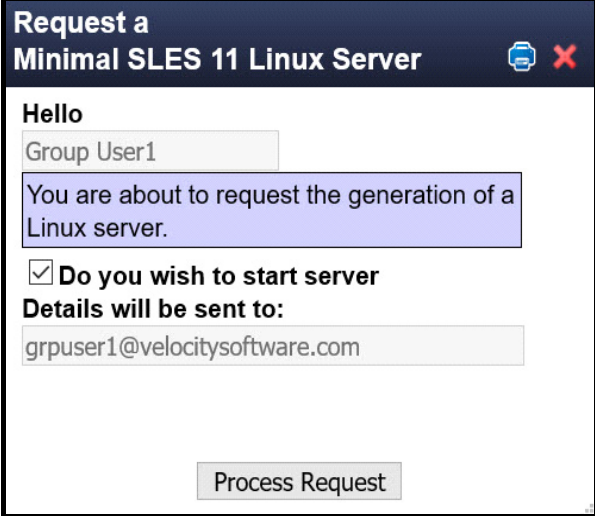
Figure 1-22 Logging on to Linux Server

You can use *root* or *vsidemo* as the Linux user ID and use the password supplied in the email you received. The last login date is the date the golden image was created.

As this is a full SUSE 11.3 server, you can install products, issue Linux commands and use as a regular Linux server.

.Request a Minimal SLES 11 Linux Server

This option allows you to create a read-only small Linux server. Click on Request a Minimal SLES Linux Server, in the menu panel on the left of the screen. This will give you a panel to create a Linux server as shown in Figure 1-23. Click on process request to start the cloning process.



Request a Minimal SLES 11 Linux Server

Hello

Group User1

You are about to request the generation of a Linux server.

Do you wish to start server

Details will be sent to:

grpuser1@velocitysoftware.com

Process Request

Figure 1-23 Completed Request Panel for Linux Cloning

After you click on Process Request and you will see the messages presented in Figure 1-24.

If the job queue does not show automatically go to the top right of the screen, click on Settings, then on the pull down, click on Job Queue. Remember the job queue will show completed when the disks have all been copied, then you have to wait a few minutes until Linux boots before you can connect to the Linux guest using putty.

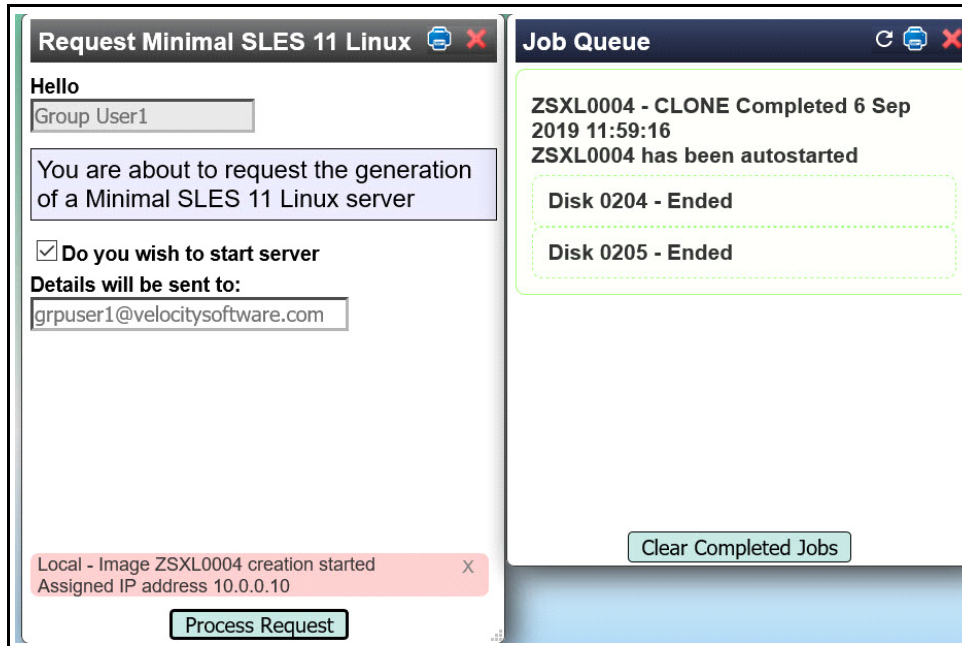


Figure 1-24 Messages for Minimal Linux cloning

The completed message in the Job Queue panel means the cloning has completed. It then takes a minute or two for Linux to boot. It is a good practice to clear completed jobs when the completed message appears on all lines so the next time you create another server, you will not have old messages. You will get the message shown in Figure 1-25 when you clear the job queue.



Figure 1-25 Clearing job queue when job completed.

You will receive an email with the host name and the port number to use with putty as shown in Figure 1-29. Then you can go to a putty screen to enter the hostname and port number as shown in Figure 1-26.

In this case the email says the host name is zcloud.velocitysoftware.com and the port number to use is 8102.

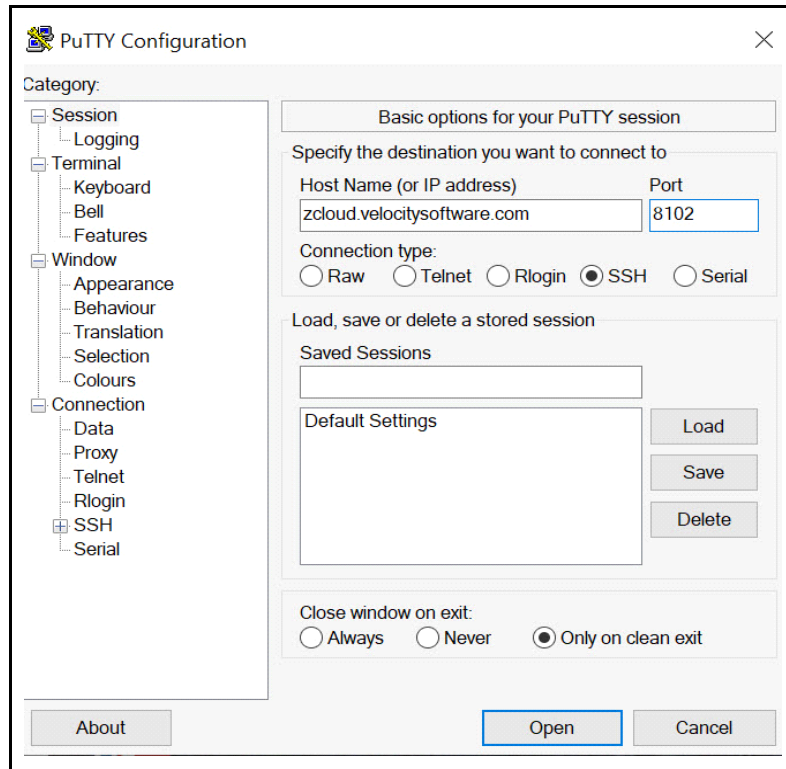


Figure 1-26 Using Putty to connect to Linux Server

The first time you connect to your Linux server, you will get the message shown in Figure 1-27.

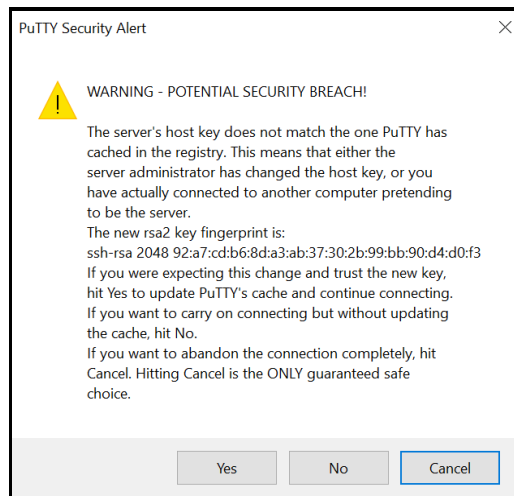


Figure 1-27 Message after first logon

Click yes and you will get the Linux logon Prompt.

When you get the logon prompt as shown in Figure 1-28, logon with Linux User ID *root* or *vsidemo* and use the password supplied in the email you received. If putty closes, Linux may not have completely booted, please try again.

```
login as: root
Using keyboard-interactive authentication.
Password:
zslx10004:~ #
```

Figure 1-28 Logging on to Linux Server

Note: This is a SLES 11 Read only system.

In your own environment, these functions are highly customized by your zPRO administrator so if you need a different set of functions please see your zPRO administrator.

At this time you can work with your Linux read-only guest by issuing Linux commands such as help, ls, ifconfig etc.

Sample of Linux Server Email with User ID and password information

You will receive an email with this information:

```
A new Linux server has been generated on your behalf. You may
connect to this id by

- using putty, set the host name to zcloud.velocitysoftware.com
- configure the port to 8102
- you can sign into the "root" id using a password of "vsidemo"
  for overall Linux administration
- you can sign into the "vsidemo" id using a password of "vsidemo"
  for general user access

To access the Apache web services running in this system, point
your browser to http://zcloud.velocitysoftware.com:8108

If you have difficulty using this user-id, please contact our
system administrator at sysadmin@velocitysoftware.com
```

Figure 1-29 Sample email for minimal SLES Linux server

Request Full Red Hat 7.4 Linux Server

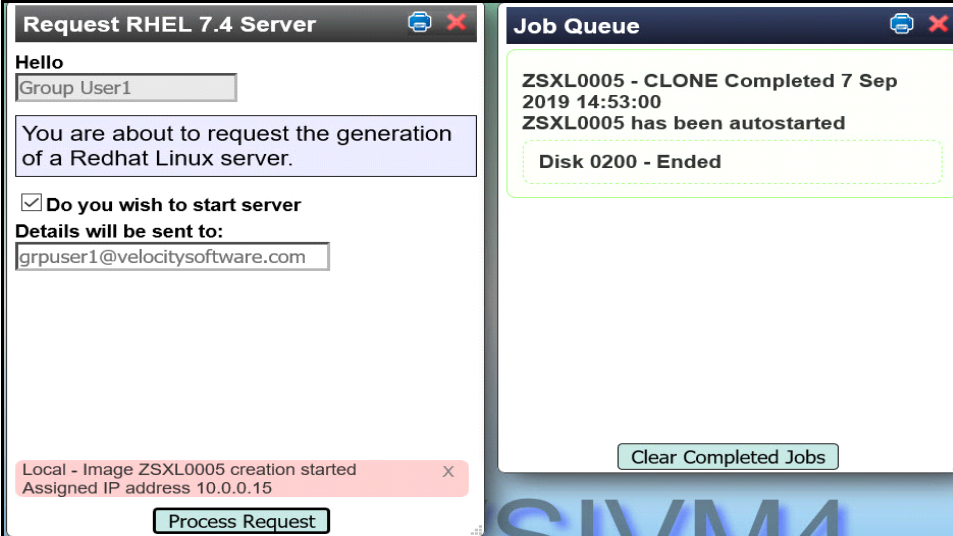
This option enables you to create a full RHEL 7.4 Linux server. Click on Request a Full RHEL 7.4 Linux Server to get this panel to create a Linux server as shown in Figure 1-30.



The screenshot shows a dialog box titled "Request RHEL 7.4 Server". It contains a "Hello" section with a text input field containing "Group User1". Below this is a blue-shaded box with the text "You are about to request the generation of a Redhat Linux server." There is a checked checkbox labeled "Do you wish to start server". Underneath, it says "Details will be sent to:" followed by a text input field containing "grpuser1@velocitysoftware.com". At the bottom center is a "Process Request" button.

Figure 1-30 Request Full RHEL 7.4 Linux Server

Click on process request to start the cloning process. You will see two panels as shown in Figure 1-31 and Figure .



The screenshot shows two panels side-by-side. The left panel is the "Request RHEL 7.4 Server" dialog box, identical to the one in Figure 1-30. The right panel is titled "Job Queue" and contains the following text: "ZSXL0005 - CLONE Completed 7 Sep 2019 14:53:00" and "ZSXL0005 has been autostarted". Below this is a dashed green box containing the text "Disk 0200 - Ended". At the bottom of the Job Queue panel is a "Clear Completed Jobs" button. At the bottom of the Request RHEL 7.4 Server panel, a red notification box says "Local - Image ZSXL0005 creation started" and "Assigned IP address 10.0.0.15".

Figure 1-31 Message for RedHat Linux Cloning

Note: ZSXL0005 is the name of the Linux guest, and 15 is the IP address for this guest.

Once the cloning is complete, you will receive an email with the Host Name and Port number to access your server. The completed message means the cloning has completed. It then takes a minute or two for Linux to boot. Then you can go to putty to log in to your Linux guest as shown in Figure 1-32 and Figure 1-33. If putty closes, Linux may not have completely booted, please try again. In this case the email said to use port 8152.

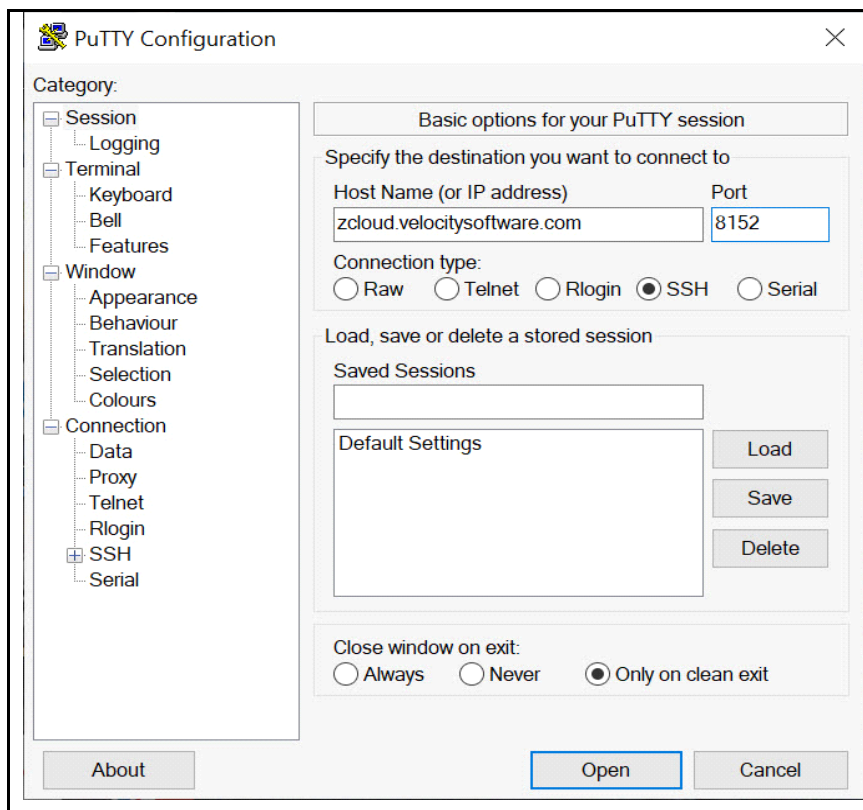


Figure 1-32 Using Putty to connect to Linux Server

Click Open to get the logon prompt, as shown in Figure 1-33. You can use `root` or `vsidemo` as the Linux user ID and use the password supplied in the email you received.

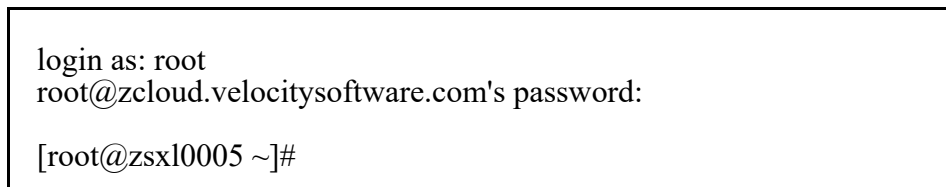


Figure 1-33 Logon to RHEL 7.2 Linux guest

As this is a full RHEL7.2 server, you can install products, issue Linux commands and use as a regular Linux server.

Request a Ubuntu 16.04 Server

This option allows you to create a Ubuntu Linux server. Click on Request a Ubuntu 16.04 Linux Server, in the menu panel on the left of the screen. This will give you a panel to create a Linux server as shown in Figure 1-34.



Figure 1-34 Request a Ubuntu Linux Server

After clicking on Process Request, you will see the 2 messages in Figure 1-35.

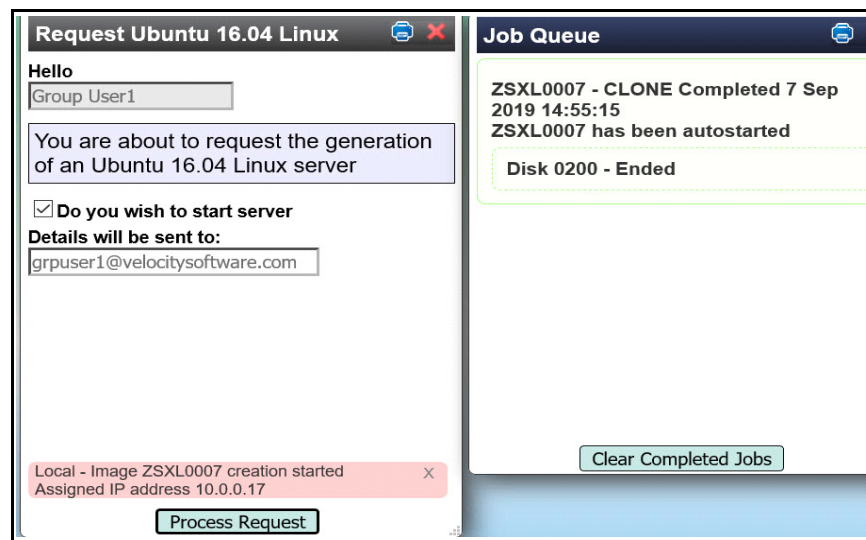


Figure 1-35 Cloning messages for Ubuntu Server

Notice in the job queue there is a refresh button. The Ubuntu guest takes a while to complete the copying process. Click on refresh and you will eventually get the job completed message.

You will receive the logon information in the email as shown in Figure 1-36.

A new Linux server has been generated on your behalf. You may connect to this id by

- using putty, set the host name to `zcloud.velocitysoftware.com`
- configure the port to `8172`
- you can sign into the "root" id using a password of "xxxxxxx" for overall Linux administration
- you can sign into the "vsidemo" id using a password of "xxxxxxx" for general user access

To access the Apache web services running in this system, point your browser to `http://zcloud.velocitysoftware.com:8178`

If you have difficulty using this user-id, please contact our system administrator.

Figure 1-36 Email for connection information for Ubuntu 16.04 Server

Use this information in a putty panel to connect to the Ubuntu server. You will have a logon prompt as shown in Figure 1-37.

```
login as: root
root@zcloud.velocitysoftware.com's password:
Welcome to Ubuntu 16.04.1 LTS (GNU/Linux 4.4.0-31-generic s390x)

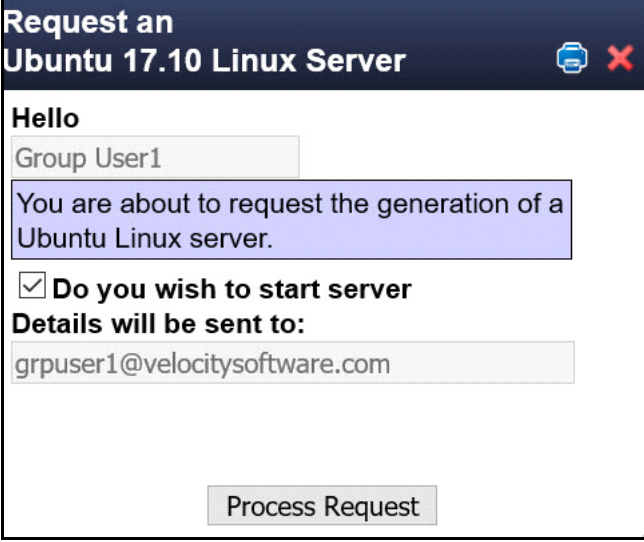
* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage
Last login: Sat Mar 10 08:43:19 2018 from 192.168.5.72
root@zsl0007:~#
```

Figure 1-37 Logon Prompt for Ubuntu server

You may execute any Linux command at this point.

Request a Ubuntu 17.10 Server

This option allows you to create a Ubuntu Linux server. Click on Request a Ubuntu 17.10 Linux Server, in the menu panel on the left of the screen. This will give you a panel to create a Linux server as shown in Figure 1-38.

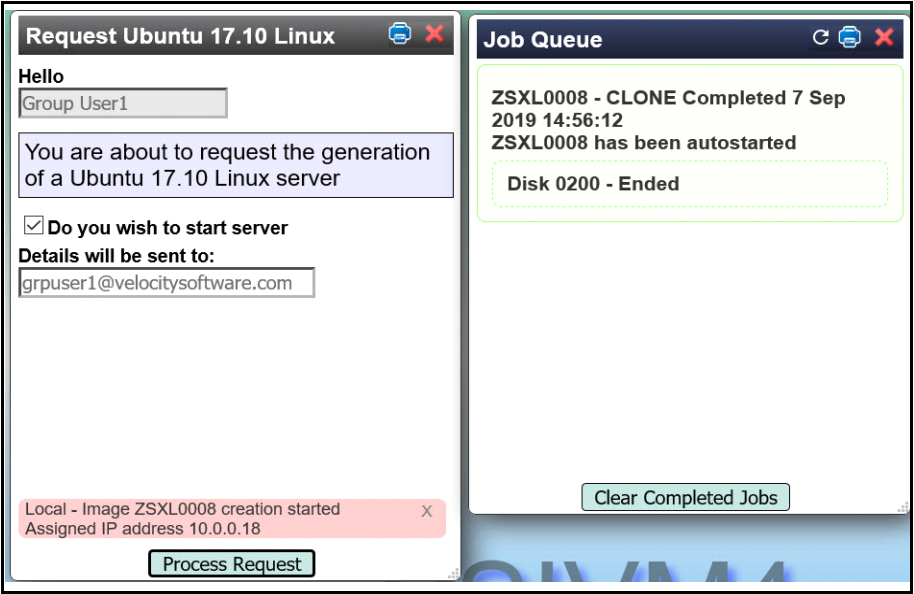


The screenshot shows a dialog box titled "Request an Ubuntu 17.10 Linux Server". It contains the following elements:

- Hello** section with a text input field containing "Group User1".
- A message box: "You are about to request the generation of a Ubuntu Linux server."
- A checked checkbox: **Do you wish to start server**
- Details will be sent to:** section with a text input field containing "grpuser1@velocitysoftware.com".
- A "Process Request" button at the bottom.

Figure 1-38 Request a Ubuntu 17.10 guest

After clicking on Process Request, you will see the 2 messages in Figure 1-39.



The screenshot shows two panels side-by-side:

- Request Ubuntu 17.10 Linux** panel: This panel is identical to the one in Figure 1-38, showing the request form with the "Process Request" button.
- Job Queue** panel: This panel displays the status of the request. It shows:
 - A green message: "ZSXL0008 - CLONE Completed 7 Sep 2019 14:56:12"
 - A green message: "ZSXL0008 has been autostarted"
 - A dashed green box around a message: "Disk 0200 - Ended"
 - A "Clear Completed Jobs" button at the bottom.

At the bottom of the "Request Ubuntu 17.10 Linux" panel, there is a red notification box that says: "Local - Image ZSXL0008 creation started" and "Assigned IP address 10.0.0.18".

Figure 1-39 Messages for completion of Ubuntu 17.10 guest

You will receive the logon information in the email as shown in Figure 1-40.

A new Linux server has been generated on your behalf. You may connect to this id by

- using putty, set the host name to `zcloud.velocitysoftware.com`
- configure the port to 8182
- you can sign into the "root" id using a password of "vsidemo" for overall Linux administration
- you can sign into the "vsidemo" id using a password of "vsidemo" for general user access

To access the Apache web services running in this system, point your browser to `http://zcloud.velocitysoftware.com:8188`

If you have difficulty using this user-id, please contact our system administrator.

Figure 1-40 Email for connection information for Ubuntu Server

Use this information in a putty panel to connect to the Ubuntu server. You will have a logon prompt as shown in Figure 1-41.

```
login as: root
root@zcloud.velocitysoftware.com's password:
Welcome to Ubuntu 17.10 (GNU/Linux 4.13.0-36-generic s390x)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

Last login: Tue Mar 27 05:44:56 2018 from 192.168.5.77
root@zsx10008:~#
```

Figure 1-41 Logon Prompt for Ubuntu server

You may execute any Linux command at this point.

Request a Linux Server Running Oracle

In this case, we choose Request a Linux Server running Oracle.. Figure 1-42 shows the panel with the information required. Click Process to start the cloning.

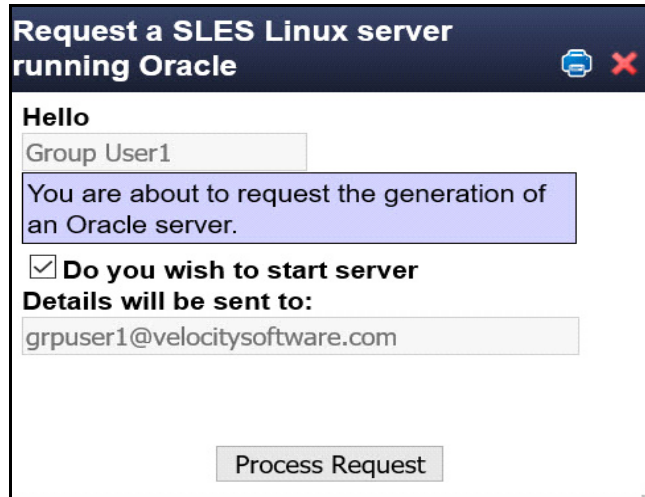


Figure 1-42 Request panel for Linux server running Oracle Database

You will then receive the message shown in Figure 1-43 and the job queue window will show completed when the cloning has finished.

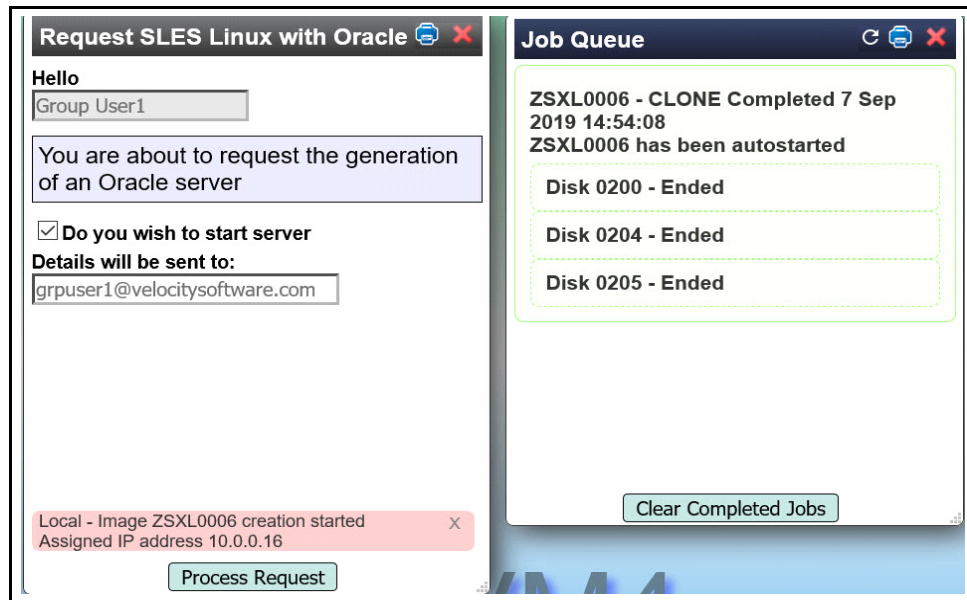


Figure 1-43 Message about completion of Oracle Linux guest

You must wait for the Job Queue to say completed for each disk entry. The Oracle image is fairly large and it may take several minutes for the cloning and booting to complete. Also as it uses more disk than the other images you might run out of disk space. You can delete other servers you no longer need or contact our system administrator for help at sysadmin@velocitysoftware.com.

Once, the Oracle Linux guest is booted, you can connect using putty. It is important to note the IP address in this message or in the email as shown in Figure 1-44.

A new Linux server with Oracle has been generated on your behalf. You may connect to this id by

- using putty, set the host name to `zcloud.velocitysoftware.com`
- configure the port to 8162
- you can sign into the "root" id using a password of "xxxxxxx" for overall Linux administration
- you can sign into the "oracle" id using a password of "xxxxxxx" for Oracle DB administration
- you can sign into the "vsidemo" id using a password of "xxxxxxx" for general user access

To access the Apache web services running in this system, point your browser to `http://zcloud.velocitysoftware.com:8168`

If you have difficulty using this user-id, please contact our system administrator.

Figure 1-44 Email for Linux Server running Oracle Database

Then logon with the User IDs *root* or *vsidemo* and use the password supplied in the email you received. Also the User ID *oracle* will work. Remember you use putty connecting to the hostname `zcloud.velocitysoftware.com` and in our case the port number of 8162 as our IP was 16.

See the section, "LINUX Oracle Performance" on page 1-34 for the zVIEW information on this Oracle Linux server.

Request a 2nd Level Virtual Machine

This option allows you to create a 2nd level z/VM server. Click on Request a 2nd level Virtual Machine, in the menu panel on the left of the screen. This will give you a panel to create a Linux server as shown in Figure 1-45.

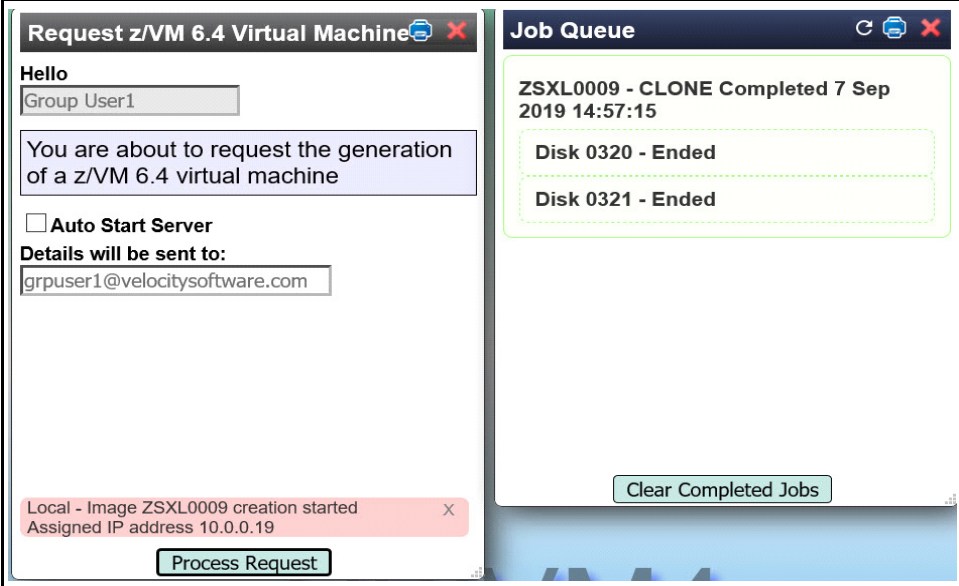


The screenshot shows a dialog box titled "Request a z/VM 6.4 Virtual Machine". It contains the following elements:

- Hello** section with a text input field containing "Group User1".
- A blue highlighted box with the text: "You are about to request the generation of a z/VM 6.4 virtual machine running on DEMO.VELOCITYSOFTWARE.COM".
- An unchecked checkbox labeled "Auto Start Server".
- A section titled "Details will be sent to:" with a text input field containing "grpuser1@velocitysoftware.com".
- A "Process Request" button at the bottom.

Figure 1-45 Request panel for 2nd Level Virtual Machine

Click on Process Request to start the cloning. When the job queue shows complete, the cloning is finished.



The screenshot shows two panels side-by-side:

- Request z/VM 6.4 Virtual Machine** panel: This panel is identical to the one in Figure 1-45, but it now includes a red notification box at the bottom left that reads: "Local - Image ZSXL0009 creation started Assigned IP address 10.0.0.19".
- Job Queue** panel: This panel shows the status of the cloning process. It displays "ZSXL0009 - CLONE Completed 7 Sep 2019 14:57:15" and lists two completed tasks: "Disk 0320 - Ended" and "Disk 0321 - Ended". A "Clear Completed Jobs" button is located at the bottom of this panel.

Figure 1-46 Messages during cloning of 2nd Level Virtual Machine

Figure 1-47 shows the email we received after creating a 2nd level Virtual Machine.

A new z/VM 6.4 guest system has been generated on your behalf. You may connect to the userid by:

- Using a TN3270 monitor emulator. A free 3270 emulator can be downloaded at <https://sourceforge.net/directory/os:windows/?q=x3270>

You will also need OpenSSL for a secure connection:
https://slproweb.com/download/Win64OpenSSL_Light-1_1_0f.exe

- Point your emulator to DEMO.VELLOCITYSOFTWARE.COM. You will need to configure the port number as 992 and select SSL TLS V1.2

Once connected, you should see VSIVM4 on the bottom right of the 3270 session.

- Enter the userid ZSXL0009
- Use xxxxxxxx as the password. You will be required to change the password before you will be allowed to login.

Once your z/VM 6.4 system is up and running, you can DIAL to it with addresses 700-703. Connect your 3270 session to the DEMO site as described above, then on the logon screen enter in the COMMAND area:

```
DIAL ZSXL0009 700
```

You should see SYSTEM1 on the bottom right of the 3270 session.

You can use MAINT640 with password xxxxxxxx to logon to your guest z/VM 6.4 system.

If you have difficulty using this user-id, please contact the system administrator at sysadmin@velocitysoftware.com

Regards,

System Administrator
Velocity Software, Inc.
sysadmin@velocitysoftware.com

Figure 1-47 Email for 2nd Level Virtual Machine

If you have already checked Auto Start Server, the virtual machine will be running and you can connect to it.

If you did not select Auto Start Server, there are two ways you can start it up:

- Go to the Server Management function (see “Figure 1-61), to start it

or

- Logon to the guest userid directly with the password provided in the email you received and begin the z/VM IPL process. You will see two PAGE volumes formatted for you when you logon, and then be presented with the z/VM Stand Alone Program Loader panel where you can review and modify how z/VM will be IPL'd. Use PF10 to begin the CP LOAD process. Once the system is IPL'd you will be on the 2nd level system's OPERATOR userid. If you have clicked to auto start your server, you then connect to demo.velocitysoftware.com using a TN3270

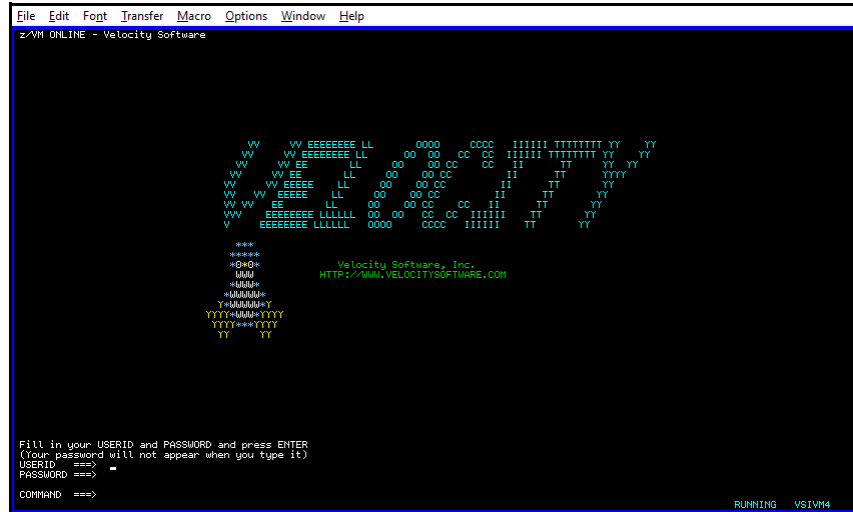


Figure 1-48 Panel showing TN3270 connection to VSIVM4

Press Enter to get the logon prompt shown in Figure 1-49.

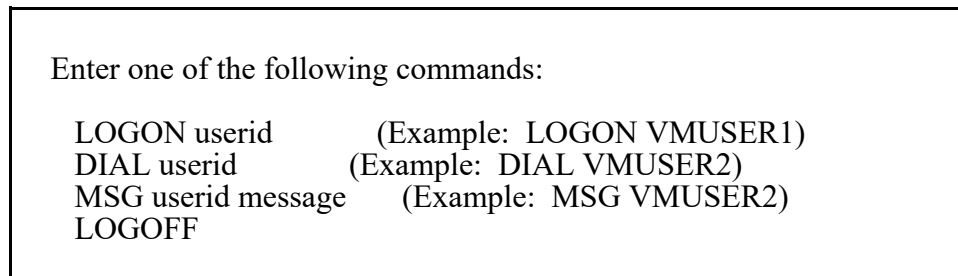


Figure 1-49 Prompt to Dial to your 2nd Level Virtual Machine

Enter DIAL ZSXL0009 700 and you will see the logon panel as shown in Figure 1-50.

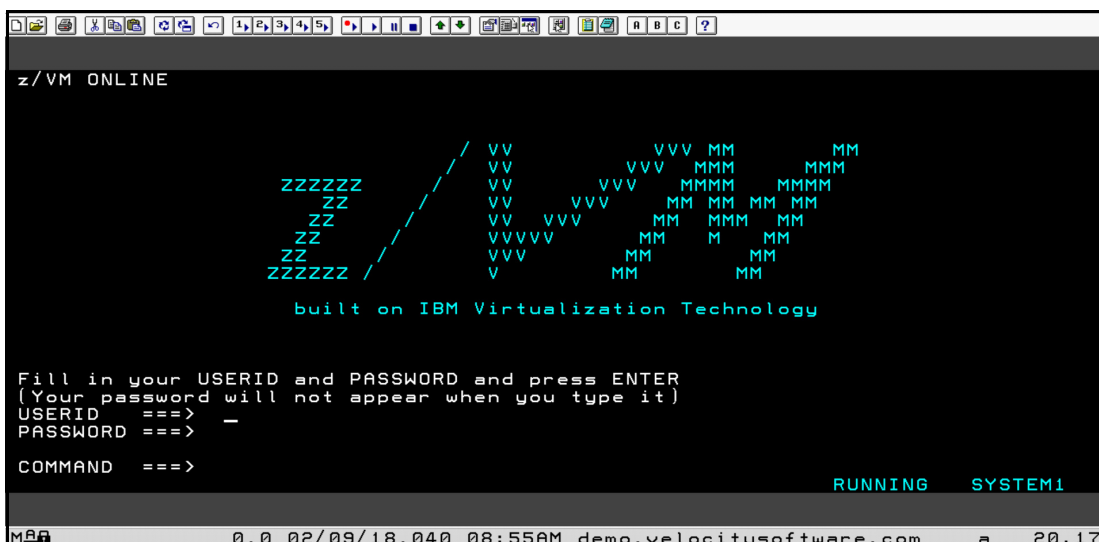


Figure 1-50 Logon screen for your 2nd Level Virtual Machine

Note the SYSTEM1 are the right corner. This means you are connected to the Virtual Machine that your have cloned. You can now logon with the UserID MAINT640 and use the password supplied in the email you received.

You can execute commands such as:

- ID - to show which virtual machine is logged on
- QUERY NAMES - to see all of the logged on virtual machines
- QUERY CPLEVEL - to see the level of z/VM that is running
- FILELIST - to get a list of files on your 'A' disk (F3 when done)

The HELP command will give you detailed information about commands available to you.

Note: For the DIAL command to be working, your 2nd Level VM system must be running. If you have logged on to the guest (ZXSL0009 in our case), be sure you use DISC to disconnect as LOGOFF will stop the guest.. You should not need to logon to the guest as you can use the Display/Modify Owned Server function of zPRO to manage this guest.

View Resources

This section allows you to view the resources your servers are using . The options are shown in Figure 1-51.

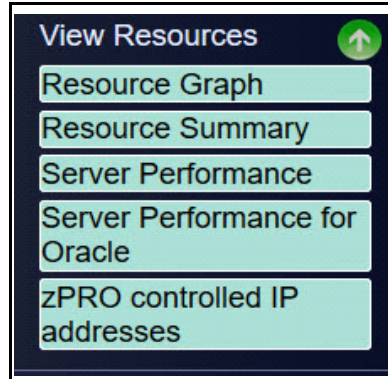


Figure 1-51 View Resources Functions

Resource Graph

To use this function, click on Resource Graph on the menu panel at the left of the zPRO home page.

Choosing to check the resource use will provide this panel seen in Figure 1-52.

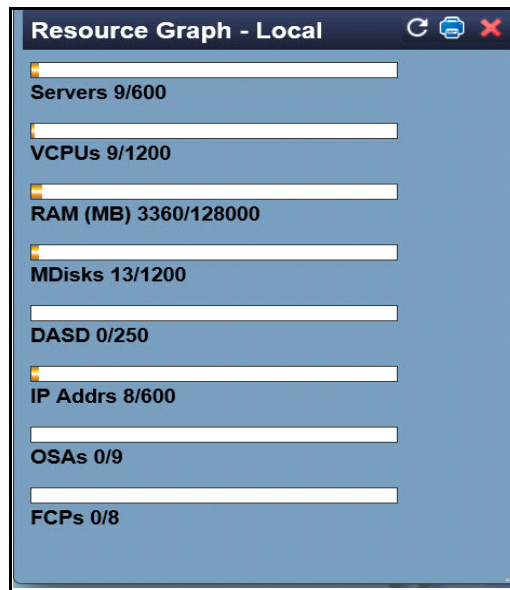
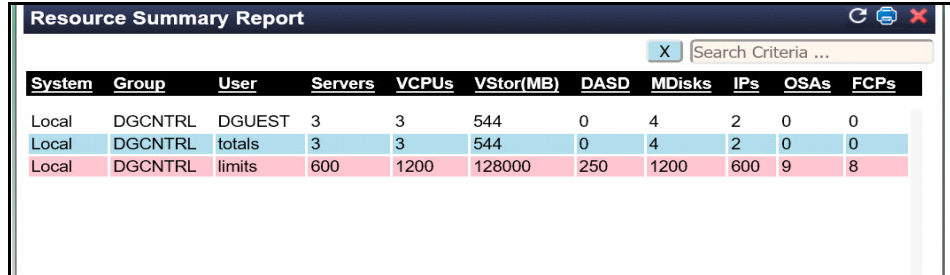


Figure 1-52 Check the resource graph

This shows you the usage of resource assigned to your group, You can determine how many more servers your group can create before running out of resource.

Resource Usage

Click on Resource Usage to get another view of the resource used by your group and other groups as shown in Figure 1-53.



System	Group	User	Servers	VCPUs	VStor(MB)	DASD	MDisks	IPs	OSAs	FCPs
Local	DGCNTRL	DGUEST	3	3	544	0	4	2	0	0
Local	DGCNTRL	totals	3	3	544	0	4	2	0	0
Local	DGCNTRL	limits	600	1200	128000	250	1200	600	9	8

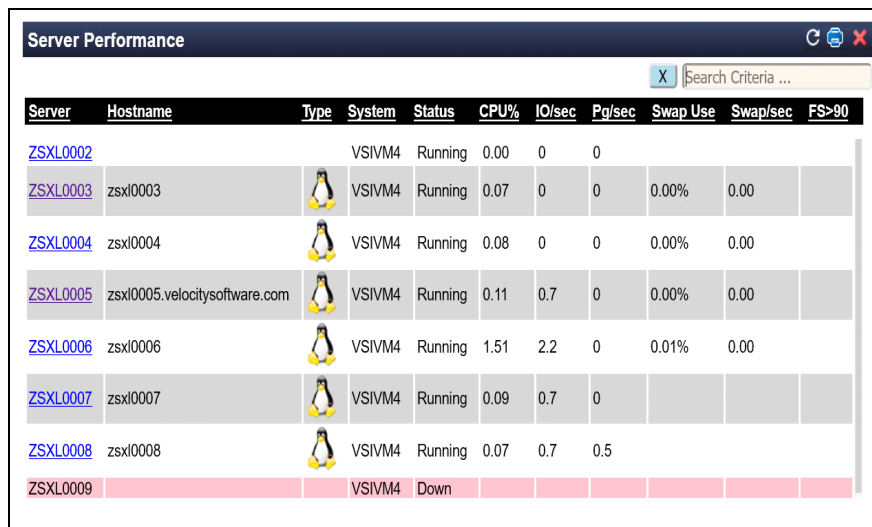
Figure 1-53 Group Resource

This shows the resources used by several groups, one of which contains your user ID (in our case DGUEST). DGCNTRL shows the total used by for this pool and the last line shows the total available. The first column shows this is running on the local LPAR. This panel is shown at login time.

Server Performance

Click on Server Performance in the menu on the left. You will be presented with a list of your servers as shown in Figure 1-54. This screen shows some performance information on the right. Click on the server you want to monitor for more information. In our case, we choose ZSXL0007. The penguin denotes a Linux server.

Note: It takes a few minutes for the Linux guests to boot and produce data for zVIEW, so this option may not work immediately after you create a Linux guest.









Server	Hostname	Type	System	Status	CPU%	IO/sec	Pg/sec	Swap Use	Swap/sec	FS>90
ZSXL0002			VSIVM4	Running	0.00	0	0			
ZSXL0003	zsx0003		VSIVM4	Running	0.07	0	0	0.00%	0.00	
ZSXL0004	zsx0004		VSIVM4	Running	0.08	0	0	0.00%	0.00	
ZSXL0005	zsx0005.velocitysoftware.com		VSIVM4	Running	0.11	0.7	0	0.00%	0.00	
ZSXL0006	zsx0006		VSIVM4	Running	1.51	2.2	0	0.01%	0.00	
ZSXL0007	zsx0007		VSIVM4	Running	0.09	0.7	0			
ZSXL0008	zsx0008		VSIVM4	Running	0.07	0.7	0.5			
ZSXL0009			VSIVM4	Down						

Figure 1-54 List of servers to monitor performance

You will be presented with a custom zVIEW selection of reports for Linux servers as shown in Figure 1-55, which shows the report for ZSXL0007.

This is a zVIEW report for the Linux server you have requested performance information on. The zVIEW product contains over 160 different zMON reports available on the current data. The zMAP option shows the daily, weekly and monthly summary data. This window on our demo system shows 6 of the Linux reports available and 1 system graph on zVIEW. They are:

- ESALNXC - Linux Process Configuration
- ESALNXP - Linux VSI Process Statistics Report - Demo
- ESSHST2 - Linux HOST Storage Analysis Report
- ESAUCD2 - LINUX UCD Memory Analysis Report
- ESAUCD4 - Linux UCD System Statistics Report
- ESAHST4 - Linux HOST System Statistics Report
- Graph of LPAR Shared IFL Configuration (under System tab for Graphs)

For more information on zVIEW, see the zVIEW Users Guide at

<http://velocitysoftware.com/customer/PUBS/ESALPS43/VIEWWBK43.PDF>

A description of each report and the fields in that report can be found in the document zMON Performance Data Reference Manual available at

<http://velocitysoftware.com/customer/PUBS/ESALPS43/ZMONPDR4.PDF>

You can see a complete demo of our zVIEW product at

<http://demo.velocitysoftware.com/ZVIEW/zview.cgi>

You can also click on Menu in the upper left corner to get access to the complete list of over 160 zMON reports and over 140 daily zMAP report.

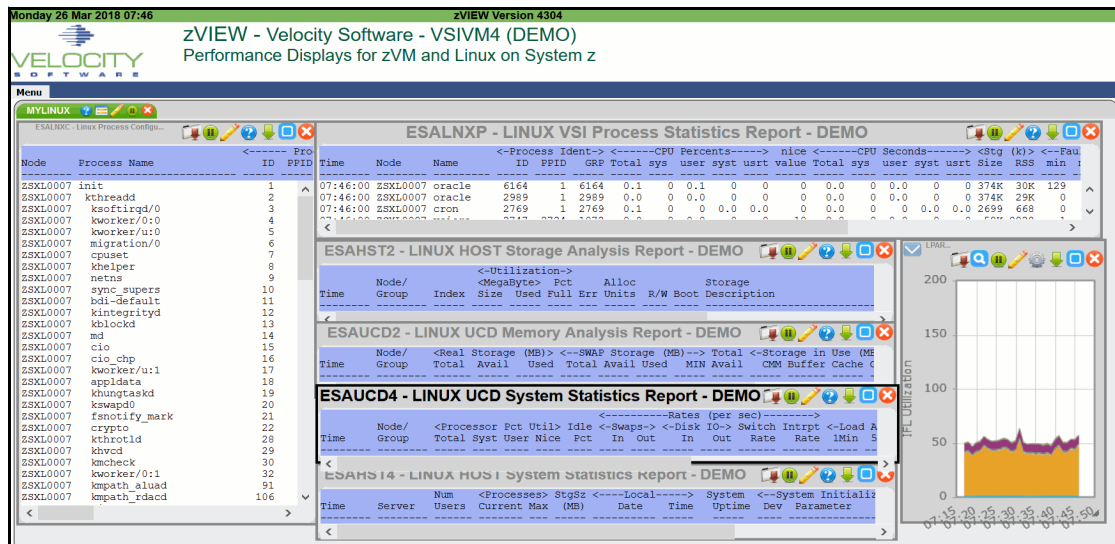


Figure 1-55 zVIEW collection of Linux Reports

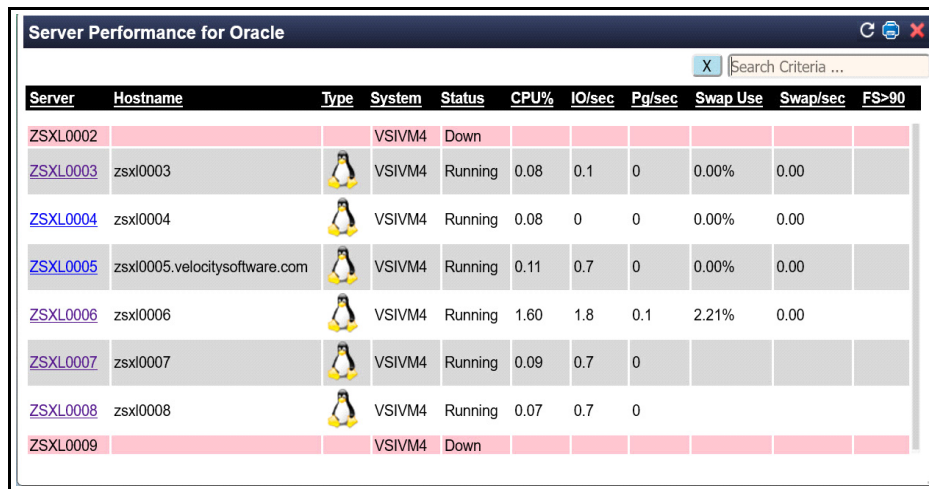
Note: This function shows only the reports for Linux and CMS servers, The server list

will contain any 2nd level VM system you have created. The server must be running to display a report.

LINUX Oracle Performance

This gives a view of the Oracle Linux server (ZSXL0006) we created earlier in this paper:

When you click on Linux Oracle Performance item on the menu, you are presented with this panel as shown in Figure 1-56.









Server	Hostname	Type	System	Status	CPU%	IO/sec	Pg/sec	Swap Use	Swap/sec	FS>90
ZSXL0002			VSIVM4	Down						
ZSXL0003	zsx10003		VSIVM4	Running	0.08	0.1	0	0.00%	0.00	
ZSXL0004	zsx10004		VSIVM4	Running	0.08	0	0	0.00%	0.00	
ZSXL0005	zsx10005.velocitysoftware.com		VSIVM4	Running	0.11	0.7	0	0.00%	0.00	
ZSXL0006	zsx10006		VSIVM4	Running	1.60	1.8	0.1	2.21%	0.00	
ZSXL0007	zsx10007		VSIVM4	Running	0.09	0.7	0			
ZSXL0008	zsx10008		VSIVM4	Running	0.07	0.7	0			
ZSXL0009			VSIVM4	Down						

Figure 1-56 Linux Oracle Performance function

Only one of these servers is running Oracle - ZSXL0006. Click on ZSXL0006 and you will be presented with the Oracle zVIEW reports as shown in Figure 1-57. Since other servers are not running an Oracle database, you will get a zVIEW error message if you click on them.

This customized zVIEW report shows these reports;

- ESAORAC - Oracle Database Configuration
- ESAORAG - Oracle SGA/PGA Analysis
- ESAORAS - Oracle Subsystem Analysis
- ESAORAW - Oracle Database Wait Analysis
- Graph of Oracle CPU Seconds
- Graph of Oracle IO Rate
- Graph of Oracle Average Wait Times

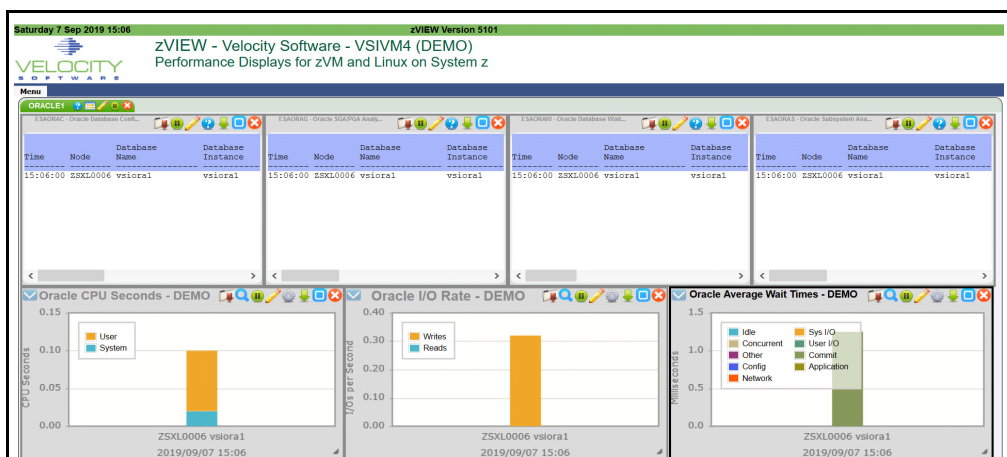


Figure 1-57 Oracle zVIEW Reports

zPRO Controlled IP Addresses

This function shown in Figure 1-58 lists the IPs that have been assigned to your servers.

IP Address List for VDG1006						
IP Address	System	Status	Date	User	Server	VSWITCH
10.0.0.9	Local	ALLOC	09/06/19	VDGI0006	ZSXL0003	VSI10NET
10.0.0.10	Local	ALLOC	09/06/19	VDGI0006	ZSXL0004	VSI10NET
10.0.0.15	Local	ALLOC	09/07/19	VDGI0006	ZSXL0005	VSI10NET
10.0.0.16	Local	ALLOC	09/07/19	VDGI0006	ZSXL0006	VSI10NET
10.0.0.17	Local	ALLOC	09/07/19	VDGI0006	ZSXL0007	VSI10NET
10.0.0.18	Local	ALLOC	09/07/19	VDGI0006	ZSXL0008	VSI10NET
10.0.0.19	Local	ALLOC	09/07/19	VDGI0006	ZSXL0009	VSI10NET

Figure 1-58 List of IPs

You need the IP address for the Linux and Oracle guests so you can putty to them. You do not need the IP when using a 3270 emulator to logon to CMS or VM. You can use this list if you did not note the IP when creating the server or when reading the email.

To get the correct port to putty in to the velocity system, you take the last 2 digits of the IP address and insert it in 8xx2 where xx is the IP for the guest.

For example for ZSXL0003 the IP is 9 so the port number to logon on our system is 8092. For putty, the hostname is zcloud.velocitysoftware.com and the port number is 8092.

Server Management

This section allows you to manage your servers that you have created.

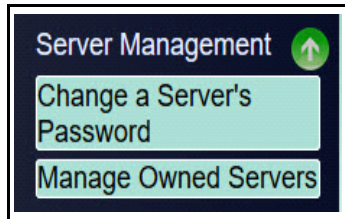


Figure 1-59 Manage Servers and Resources Function

For this paper, we have created several guests (a CMS, a minimal SLES Linux guest, a full SLES Linux guest, a Red Hat Linux guest, two Ubuntu Linux guests, one Oracle Linux server and a 2nd level z/VM guest). The Manage Owned Servers function of the menu gives you the ability to manage these servers. You can:

- Stop and Start the servers
- Delete the server when you are finished using it
- View the logs
- Edit the Server attributes

The Change Server's Password enables you to update the password of the servers you have created.

The Search criteria allows you to enter the server name you want to manage and only have that one appear as the server to manage.

When you are finished with your education or demonstration, please delete the server so the resources can be returned to the pool.

Change a Server's Password

You may change the password of any server you own using this panel shown in Figure 1-60. First select the server user ID in the pull down list, then change the password.

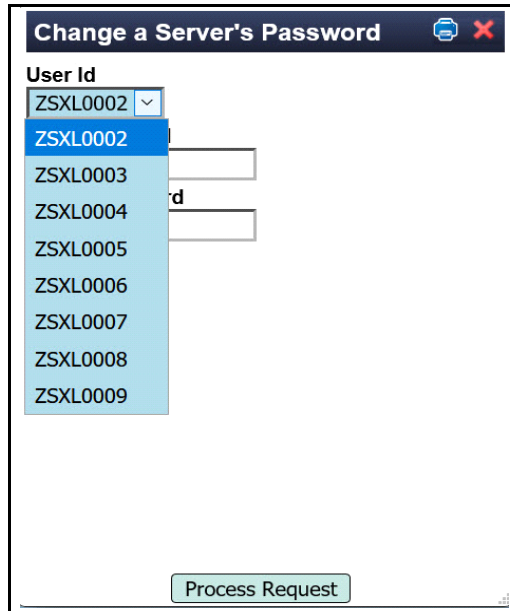


Figure 1-60 Change a Server's Password

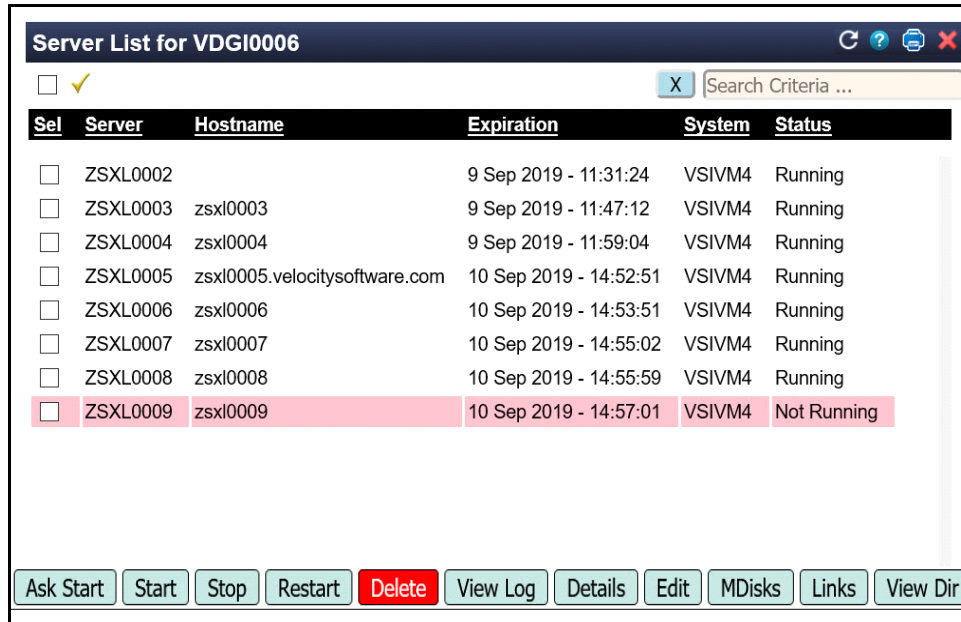
Enter new password twice and click on Process Request. You will be asked to change this new password the next time you logon to the server.

You should only be using this function for the CMS servers or the second level VM servers you created. This function changes the z/VM password.

Normally, you would not logon to z/VM for the Linux server (you use Linux logon of root or vsidemo).

Manage Owned Servers

This function, as shown in Figure 1-61, allows you to start, stop, edit and delete your server. At this point we had created 8 servers.



Sel	Server	Hostname	Expiration	System	Status
<input type="checkbox"/>	ZSXL0002		9 Sep 2019 - 11:31:24	VSIVM4	Running
<input type="checkbox"/>	ZSXL0003	zsl0003	9 Sep 2019 - 11:47:12	VSIVM4	Running
<input type="checkbox"/>	ZSXL0004	zsl0004	9 Sep 2019 - 11:59:04	VSIVM4	Running
<input type="checkbox"/>	ZSXL0005	zsl0005.velocitysoftware.com	10 Sep 2019 - 14:52:51	VSIVM4	Running
<input type="checkbox"/>	ZSXL0006	zsl0006	10 Sep 2019 - 14:53:51	VSIVM4	Running
<input type="checkbox"/>	ZSXL0007	zsl0007	10 Sep 2019 - 14:55:02	VSIVM4	Running
<input type="checkbox"/>	ZSXL0008	zsl0008	10 Sep 2019 - 14:55:59	VSIVM4	Running
<input type="checkbox"/>	ZSXL0009	zsl0009	10 Sep 2019 - 14:57:01	VSIVM4	Not Running

Figure 1-61 Manage Owned Server Panel

Select the server you want to examine and click on the function you want to execute such as

- Ask Start - enables you to start the server up on a specific SSI Member LPAR
- Start or Stop a server - it will show as running or not running. If you did not click on autostart option, you may have to start it manually with this function.
- Restart - this will stop and start your server.
- Delete - if you finished using your server, you should delete it to free resource for others to use.
- View the logs allow you to track the activities of the server. You can also view the entire log for all servers using the option under the Settings pull down.
- Details - shows the virtual guest definition
- Edit enables you to increase or decrease the amount of CPU and memory used. Edit also allows you to change the expiry date and time of the server when it will be automatically deleted. (see Figure 1-63 and Figure 1-64)
- Mdisk enables you to change the size of an existing disk, or add or remove additional minidisks, available to the server. (see Figure 1-65)
- LINKs allows you to link to existing disk of another server.
- View Dir shows the CP directory entry for your server

The option to view the logs will show the activity for that server as shown in Figure 1-62.

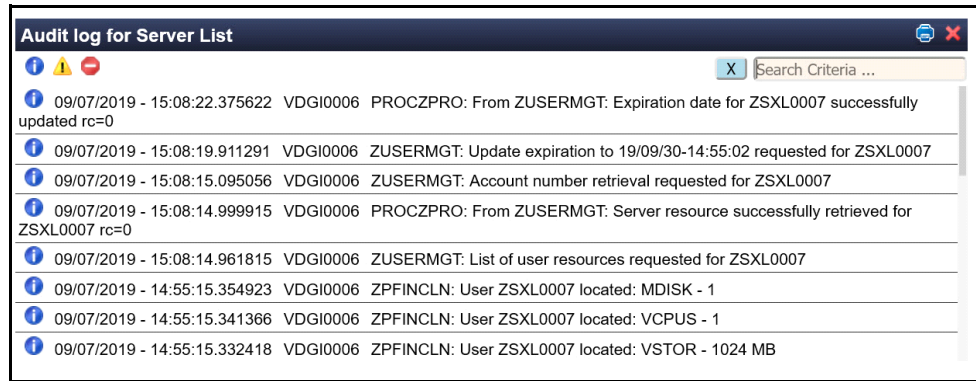


Figure 1-62 Log for ZSXL0007

The Edit function, as shown in Figure 1-63, allows you to increase the memory and number of virtual CPUs available to the server and change the expiration date (as shown in Figure 1-64). The account number is for use in a charge back system.

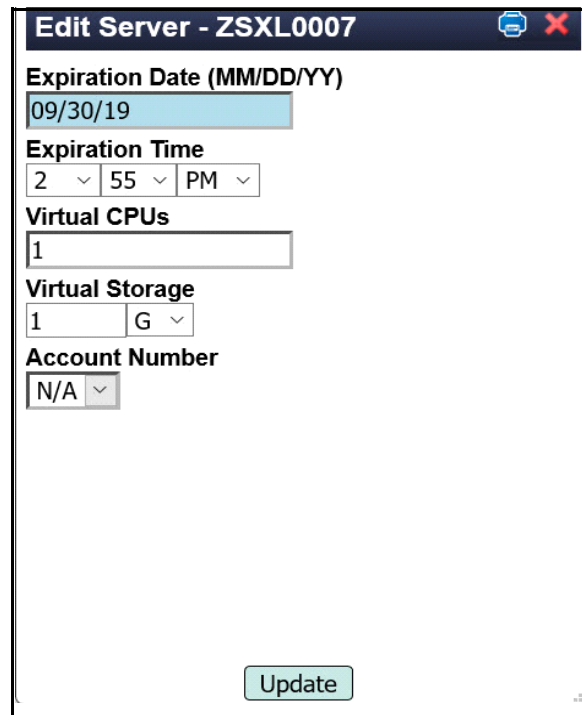


Figure 1-63 Edit and list for ZSXL0007

To change the expiry date, click on the date, as shown in Figure 1-64, and you will have a calendar presented to choose a new date. Choose a new date then click on update to change the date. You will receive a message that the date was changed.

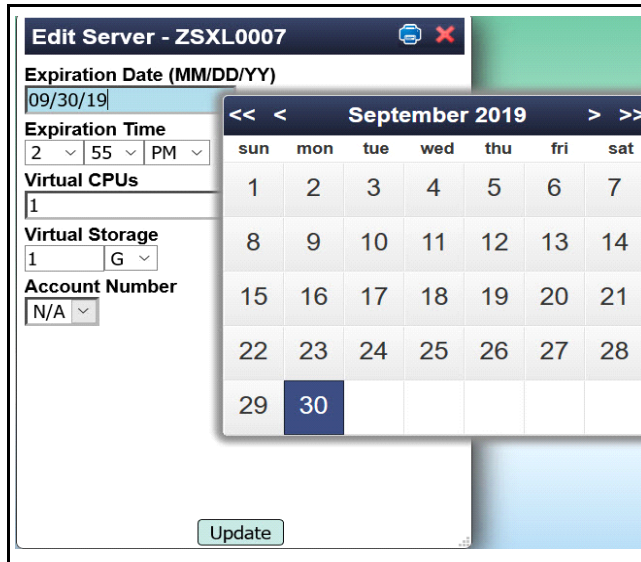


Figure 1-64 Changing the expiry date

The mdisk option enables you to add disk space or delete disk space. Figure 1-65 shows the disk space for ZSXL0009 for our 2nd level VM guest. You can only change a disk if the guest is not running.

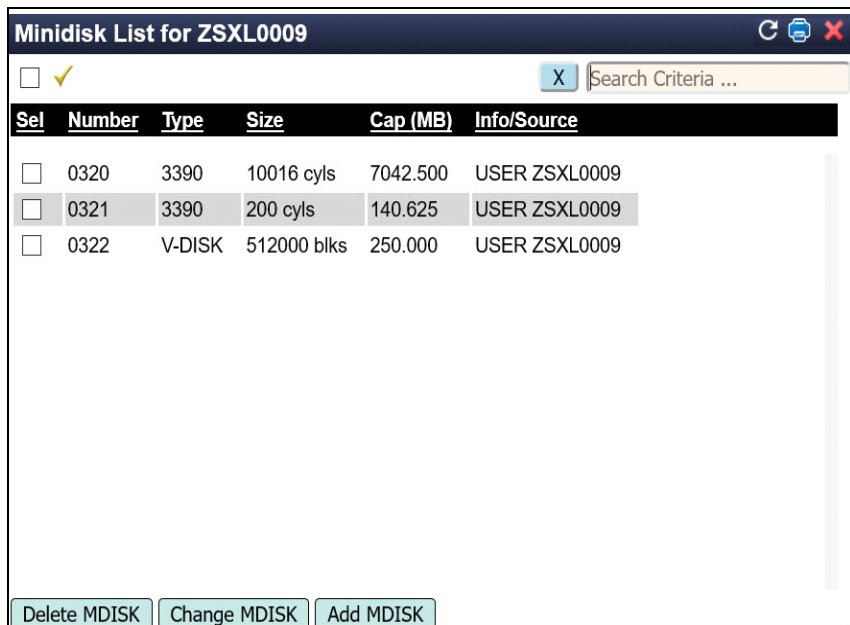


Figure 1-65 Mini disk function

There are 3 system disks for this server. To add a new disk click on Add Mdisk as shown in Figure 1-66.

Add MDISK for Server - ZSXL0009

Virtual Address
0323

DASD Pool
DEMOECKD(ECKD)

Device Type
3390

Cylinders / Blocks
2

Access Mode
MR

Local - Minidisk 0323 added to guest ZSXL0009 with size 2 cylinders

Process Request

Figure 1-66 Add disk function

Note: If you delete system minidisks, then the system is no longer usable.

Gold Images

This function enables you to list the golden images available on this system.

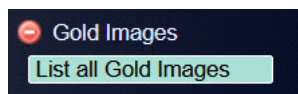


Figure 1-67 Gold Image Menu

Click on this to produce a list as shown in Figure 1-68.

Gold Image	Description	Type	System
GOLDCMS	Simple CMS userid	CP Guest	VSIVC1
GOLDFLNX	Full SLES 11 image	GOLDDEF File	VSIVC1
GOLDLXRO	Minimal SLES 11 image	CP Guest	VSIVC1
GOLDORA	Oracle server	GOLDDEF File	VSIVC1
GOLDRL74	RHEL 7.4 image	GOLDDEF File	VSIVC1
GOLDUBU	Ubuntu 16.04	CP Guest	VSIVC1
GOLDVM64	z/VM 6.4 image	GOLDDEF File	VSIVC1
GOLDVM71	z/VM 7.1 image	GOLDDEF File	VSIVC1
UBU1710A	Ubuntu 17.10 image	CP Guest	VSIVC1

Figure 1-68 Gold Images Report

Reports

There are two choices of reports available as shown in Figure 1-69.

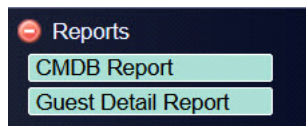


Figure 1-69 Reports menu

CMDB Report

This function enables you to produce a Configuration Management report about your servers. Figure 1-70 shows the options you can choose for your report.

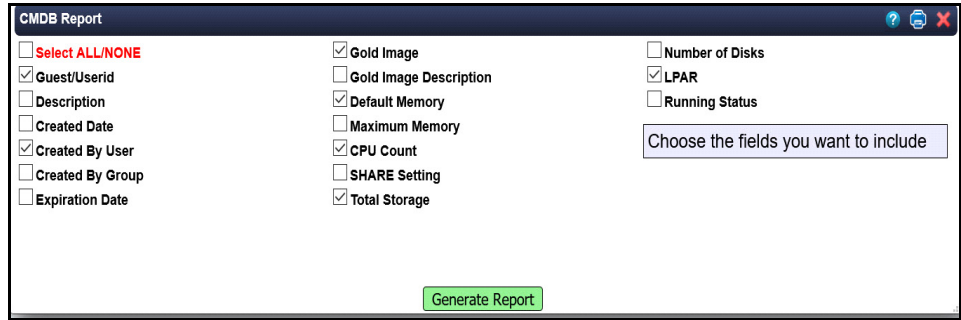


Figure 1-70 CMDB report request

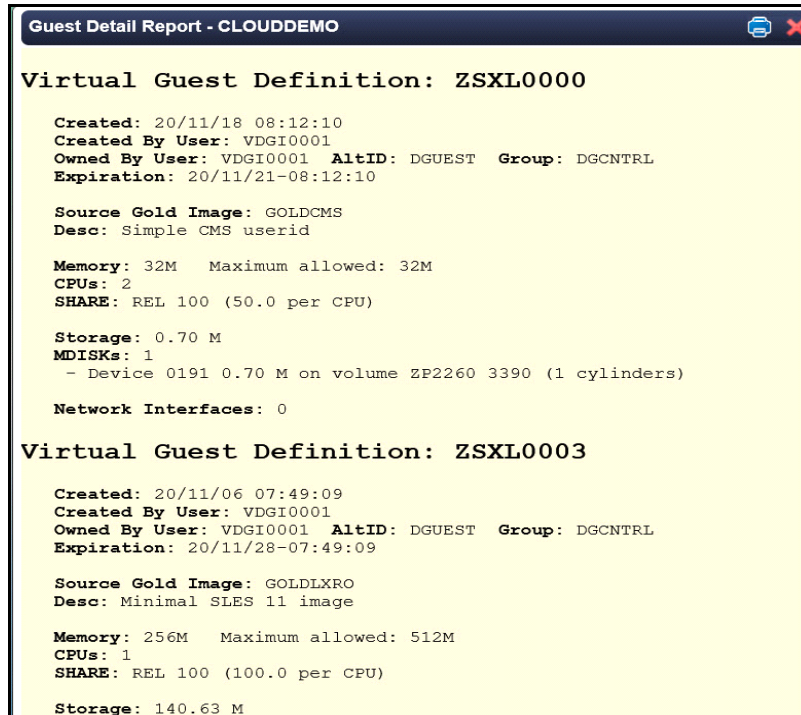
Figure 1-71 shows the report that is generated

Guest	CreatedBy	GoldImage	DefMem	CPUs	Storage	LPAR
ZSXL0000	VDGI0001	GOLDCMS	32M	2	0.70M	VSIVC1
ZSXL0003	VDGI0001	GOLDLXRO	256M	1	140.63M	VSIVC1

Figure 1-71 Guest detail table sample

Guest Detail Report

This option produces a reports as shown in Figure 1-72



```
Guest Detail Report - CLOUDEM0

Virtual Guest Definition: ZSXL0000

Created: 20/11/18 08:12:10
Created By User: VDMI0001
Owned By User: VDMI0001 AltID: DGUEST Group: DGCNTRL
Expiration: 20/11/21-08:12:10

Source Gold Image: GOLDCMS
Desc: Simple CMS userid

Memory: 32M Maximum allowed: 32M
CPUs: 2
SHARE: REL 100 (50.0 per CPU)

Storage: 0.70 M
MDISKS: 1
- Device 0191 0.70 M on volume ZP2260 3390 (1 cylinders)

Network Interfaces: 0

Virtual Guest Definition: ZSXL0003

Created: 20/11/06 07:49:09
Created By User: VDMI0001
Owned By User: VDMI0001 AltID: DGUEST Group: DGCNTRL
Expiration: 20/11/28-07:49:09

Source Gold Image: GOLDLXRO
Desc: Minimal SLES 11 image

Memory: 256M Maximum allowed: 512M
CPUs: 1
SHARE: REL 100 (100.0 per CPU)

Storage: 140.63 M
```

Figure 1-72 Guest Detail Report

Note: If you have any questions on any functions, please email support@velocitysoftware.com.

Using these guest for education purposes.

You can use these guests to learn about the mainframe by learning CMS and VM commands. Go to www.velocitysoftware.com/educate for information on some of the basic commands you can try.

Situations you might encounter

1. If you enter a valid format for the email address but it is not your email, you will not get the message with the user ID and password for your server.
2. If your putty window closes quickly without connecting, you can click on never at the bottom of the putty window for the option on when to close the window. This will provide you with an error message.
3. If you get access denied message when logging in on putty, this is could be due to an IP address problem. Contact us if this persists.

4. After you create a Linux server, you have to wait a couple of minutes for LINUX to complete booting before you can putty in to the guest
5. If you want to report a bug using the DEMOZPRO Settings, the system will try to connect to your Windows mail option. If it is not already set up, you can just send an email to support@velocitysoftware.com
6. x3270/tn3270 session may not connect. Verify your session is set up to go to demo.velocitysoftware.com on port 992 and uses SSL TLS V1.2. For x3270 from Linux, use `T:demo.velocitysoftware.com:992` for a secure connection.
7. You will have several user ID and password combinations . It can become confusing on when trying to logon on:
 - Access to VSI Cloud - demozpro and demodemo
 - Access to Linu x guests via putty- *root* or *vsidemo* and use the password supplied in the email you received. Follow the instructions for putty access in email.
 - Access to Linux guest via x3270 - you do not have the password for this option
 - Access to CMS guest via z3270 - ID and password sent via an email
 - Access to 2nd level VM -Use the ID and password sent via an email

Please contact us at support@velocitysoftware.com for any questions or concerns.

These functions are highly customized by your zPRO administrator so if you need a different set of functions on your own installation, please see your zPRO administrator.

Please direct any comments or questions you may have about zVPS to:

Velocity Software, Inc.
zVPS Product Manager
PO Box 390640
Mountain View, CA 94039-0640

TEL: (650) 964-8867
FAX: (650) 964-9012

Velocity Software Contact Information:

SUPPORT@VelocitySoftware.com

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