



Customer Installation Instructions

TS7520 Patch Update for 3954-CV6 Virtualization Engine

update-ve1382upto21-SP02– Cumulative patch fixing issues with enhancing Email Notification, fiber channel card recovery, failover recovery, x-ray collection, stub tape and data decompression. This patch includes patches update-ve13821201 to update-ve138221a.

TS7520 Software Version 2.1 (Build 1382)

Patch update-ve1382upto21-SP02

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Patch update-ve1382upto21-SP02

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Before Installation (Section 1 through 5)

Warning:

Throughout this documentation, there are occurrences of service passwords and sudo commands that are used to manage and configure the product. Improper use of these commands and passwords poses significant risk to the product and your data. It is imperative that these commands and passwords are used only as documented.

1.0 Machines Affected

This is a field patch installation instruction for the TS7520 3954-CV6 Virtualization Engine.

This patch should be installed on all TS7520 systems, with software version 2.2 that do not have patch update-update-ve1382upto21-SP02 installed. TS7520 systems without this patch will not have support for the fixes within this patch.

Important Note:

Technical Bulletin Regarding TS7500 and Removing Failover Configurations

If a machine is in a failed-over state or a take-over state, **you must NOT attempt to remove failover**. In addition, if failover must be removed to change configurations of the machine (such as IP addresses, etc.) then it must be ensured that the system is not in a failed-over state, a take-over state, or a failover-suspended state. If any of these cases are true, call IBM support immediately.

1.1 Check Software version of TS7520

You can check the version of TS7520 software and determine whether or not the patch is already installed, using the VE Console *Version Info* tab.

1. If necessary, start the TS7500 Virtualization Engine management console (VE console) workstation by performing one of the following:
 - If there is a desktop shortcut for the **VE for Tape Console** application, double-click it.
 - If there is not a desktop shortcut for the **VE for Tape Console** application, click **Start** → **All Programs** → **IBM** → **VE for Tape** → **VE for Tape Console**.

Note: This is the default installation location for the **VE for Tape Console** application. The location of the application might differ for you.

2. Double-click **VE for Tape Servers** to expand the TS7500 list.
3. Double-click any server icon.
4. In the VE for Tape User Login window, enter the following user name and password:

User Name: **vetapeservice**

Password: **service4u**

Note: The user name and password are case-sensitive

5. Click on the VE Console *Version Info* tab (refer to Figure-1) to see what patches you have installed. If you see update-ve1382upto21-SP02 mentioned in the version info, then you already have this patch installed. Please close the VE Console after you have verified this information.

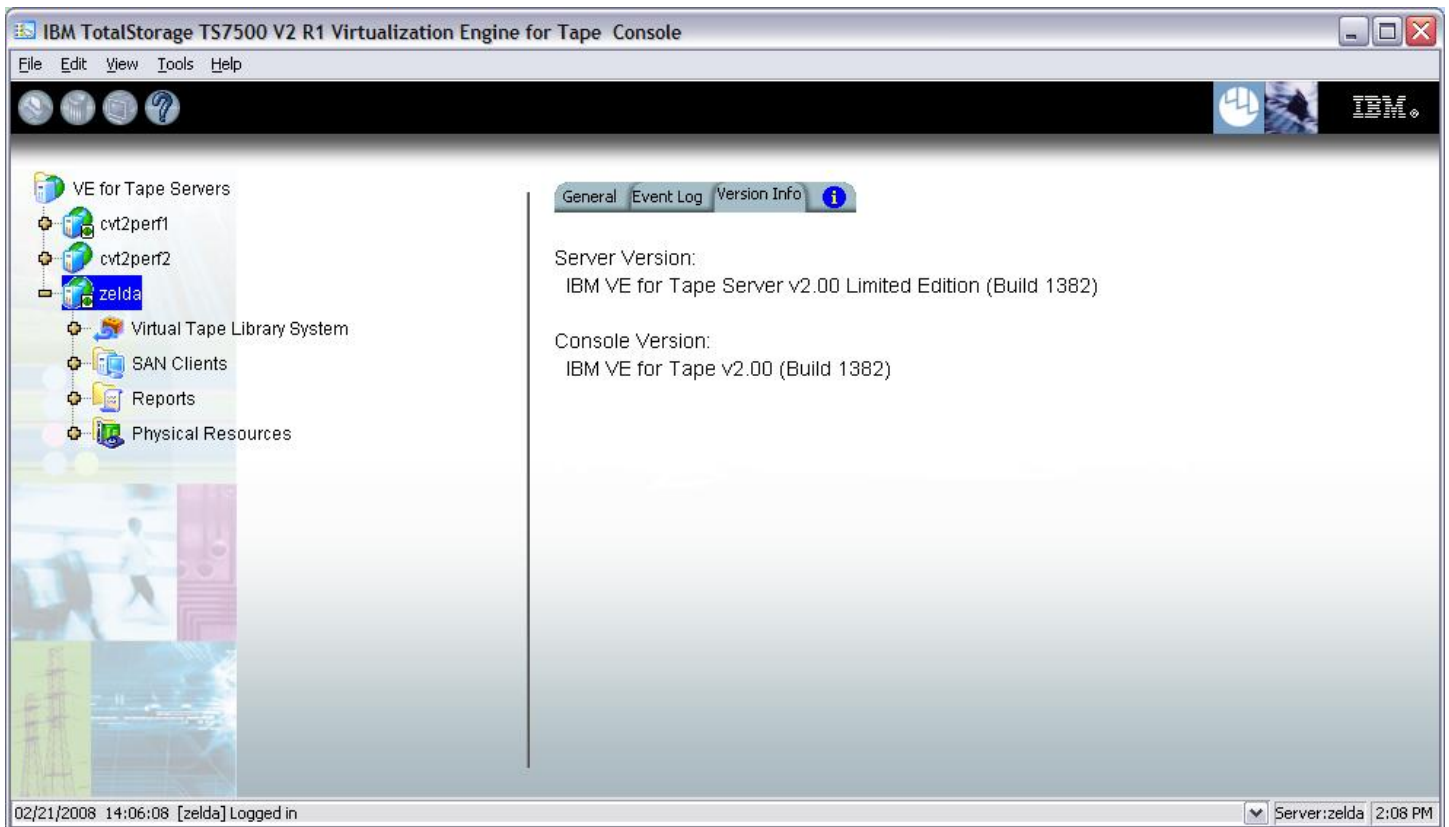


Figure-1



2.0 Prerequisites

If using a 64-bit Windows host, ensure the installed level of the IBMTape driver is at a minimum of 6.1.8.2 or higher.

You may also require the following software CDs if your system is not at the required levels for this patch (steps to verify this are provided in this document). Password protected ISO images for this software are also available from the following Virtualization Engine patch download page:

http://www-1.ibm.com/support/search.wss?rs=1174&tc=HW29K&q=ssg1*&dc=D400&dtm

The password for the ISO images is the following:
service4u

- TS7500 Software Upgrade Disk Version 2.2.2 (LCD8-0687-01)
<http://www.elink.ibm.com/publications/servlet/pbi.wss>
- TS7520 CVT Console Installation Disk v2.2.3 1382-06 (EC L30806 Part number 45E2071)

Attention:

Special notes for HA (High Availability) configurations

In each step, there will be times when the servers are required to be restarted or rebooted. Since this will trigger a failover, it is required that failover is **suspended**. Instructions on how to suspend failover can be found in section 3.1 of this document.

Removing failover is **not recommended** and should never be done unless directed by IBM support prior to doing so.

If failover has been not configured yet, it is IBM's advice to first install the upgrades and patches outlined in this document prior to configuring HA. After failover has been suspended, it is important to allow enough time for the systems to activate their Primary Server IPs. While in most cases, it takes only 2 to 3 minutes for the server IP to become active, it can take a bit longer. If after 20 minutes, the server IP access has not been restored, please call IBM support for assistance.

2.1 TS7520 Software Upgrade CD

The TS7520 Software Upgrade CD must be applied prior to installing this patch. To check if the Software Upgrade CD has already been applied, perform the following steps:

1. Open a PuTTY Session by performing the following steps from the PuTTY console:

Note: If PuTTY is not installed, refer to "Install PuTTY on VE Console" in the TS7520 User's Guide (GC27-2068-02) and return to this point once complete.

2. Click **Start**.
3. Click **All Programs**.
4. Click **PuTTY**.
5. Click **PuTTY**.
6. Enter IP Address of the server you are connecting to where specified.
7. Select **Open**.
8. Enter the following userid and password. The userid and password are case-sensitive.
 - Login: **vetapeservice**
 - Password: **service4u**
9. At the command prompt, enter the following command:
`cat /var/log/ve.log | more`
10. Press enter and examine the /var/log/ve.log file on the CVT server for messages similar to those in Figure-2 below:

```

=====
Mon Feb 25 16:08:25 UTC 2008 Software Upgrade CVT2.0 configuration to CVT2.2.
Install Director Core Services version 5.20.1.
Install IBM Electronic Service Agent for xSeries 5.0.
Modifying sudoers.
Mon Feb 25 16:13:22 UTC 2008 Updating Storage Manager packages.
Mon Feb 25 16:15:03 UTC 2008 UPGRADING TO CVT2.2 COMPLETED SUCCESSFULLY.
    
```

Figure-2

- If the messages are present, then the SW Upgrade CD was previously installed and there is no need to install it again. Continue to section 2.2 - TS7520 CVT Console Installation Disk v2.2.3 1382-06 If the messages are not present, the SW Upgrade CD must be installed. Continue to section 2.1.2 - Installation of the TS7520 Software Upgrade CD

2.1.2 Installation of the TS7520 Software Upgrade CD

To install the TS7520 Software Upgrade CD, perform the following steps:

Note: Press enter after typing commands at the command prompt.

1. Obtain the TS7520 Software Upgrade CD with part number: LCD8-0687-01
2. If necessary, repeat steps 1 through 4 in section 1.0 to start the **VE for Tape Console** application and log into the server through the VE for Tape Console.
3. Perform one of the following, depending upon whether one or two TS7520 Servers are installed in the 3954 F05 frame:
 - If **two** servers are installed and Failover has been configured, **Suspend Failover on both the lower and the upper** servers as described in section 3.1 of this document and continue to step 4.

Note: To suspend failover; right click on the library and select **Failover → Suspend Failover** from the popup menu.

- If **one** server is installed, go to step 4.

4. Place the TS7520 Software Upgrade CD into the DVD drive of the lower TS7520 server.
5. If necessary, repeat steps 1 through 8 in section 2.1 to log into the server through the PuTTY Console.
6. Mount the CD by running the following command at the command prompt:

```
sudo mount /dev/hda /media/cdrom
```

7. Run the Software Upgrade by running the following command at the command prompt:

```
sudo /media/cdrom/Software_upgCVT2.2/upgCVT2.2
```

8. Type 'yes' to proceed when prompted.

Note: During the upgrade process, you will see status messages on the screen displaying the percentage complete of installing various software packages. This is normal.

If you see a series of messages similar to the following scroll past on the screen, just **press <enter>** afterwards to be taken to the command prompt again.

“Checking device /dev/sday (/dev/sg50) : Skipping”

```
zelda:~ # /media/cdrom/Software_upgCVT2.2/upgCVT2.2
WARNING: We will stop.
Do you want to continue (yes/no)?
yes
Starting ...
Software Upgrade CVT2.0 configuration to CVT2.2.
CVT2 LE
Installing RETAIN packages. Please wait...
Updating Storage Manager packages.
Preparing... ##### [100%]
 1:SMruntime ##### [ 25%]
Stopping Agent process 13015.
 2:SMagent ##### [ 50%]
SMagent started.
Stopping SMmonitor process 4616
SMmonitor has been stopped.
/var/tmp/rpm-tmp.66469: line 5: /etc/rc.d/init.d/SMmonitor: No such file or directory
 3:SMclient ##### [ 75%]
SMmonitor started.
 4:SMutil ##### [100%]
UPGRADING TO CVT2.2 COMPLETED SUCCESSFULLY.
Please verify the patches for CVT2.2..
*****
* Please unmount the CDROM and eject it *
* then REBOOT the server *
*****

zelda:~ # IBM System Storage DS4000/FASiT Storage Manager Agent, Version 09.23.A5.00
Built Mon Mar 05 09:39:29 CST 2007
(C) Copyright International Business Machines Corporation, 2003-2007 Licensed Material - Program Property of IBM. All rights reserved.
Checking device /dev/sda (/dev/sg0) : Skipping
Checking device /dev/sdb (/dev/sg1) : Skipping
Checking device /dev/sdk (/dev/sg10) : Skipping
Checking device /dev/sdl (/dev/sg11) : Skipping
Checking device /dev/sdm (/dev/sg12) : Skipping
```



Checking device /dev/sdn (/dev/sg13) : Skipping
Checking device /dev/sdo (/dev/sg14) : Skipping
Checking device /dev/sdp (/dev/sg15) : Skipping
Checking device /dev/sdq (/dev/sg16) : Skipping
Checking device /dev/sdr (/dev/sg17) : Skipping
Checking device /dev/sds (/dev/sg18) : Skipping
Checking device /dev/sdt (/dev/sg19) : Skipping
Checking device /dev/sdc (/dev/sg2) : Skipping
Checking device /dev/sdu (/dev/sg20) : Skipping
Checking device /dev/sdv (/dev/sg21) : Skipping
Checking device /dev/sdw (/dev/sg22) : Skipping
Checking device /dev/sdx (/dev/sg23) : Skipping
Checking device /dev/sdy (/dev/sg24) : Skipping
Checking device /dev/sdz (/dev/sg25) : Skipping
Checking device /dev/sdaa (/dev/sg26) : Skipping
Checking device /dev/sdab (/dev/sg27) : Skipping
Checking device /dev/sdac (/dev/sg28) : Skipping
Checking device /dev/sdad (/dev/sg29) : Skipping
Checking device /dev/sdd (/dev/sg3) : Skipping
Checking device /dev/sdae (/dev/sg30) : Skipping
Checking device /dev/sdaf (/dev/sg31) : Activating
Checking device /dev/sdag (/dev/sg32) : Skipping
Checking device /dev/sdah (/dev/sg33) : Skipping
Checking device /dev/sdai (/dev/sg34) : Skipping
Checking device /dev/sdaj (/dev/sg35) : Skipping
Checking device /dev/sdak (/dev/sg36) : Skipping
Checking device /dev/sdal (/dev/sg37) : Skipping
Checking device /dev/sdam (/dev/sg38) : Skipping
Checking device /dev/sdan (/dev/sg39) : Skipping
Checking device /dev/sde (/dev/sg4) : Skipping
Checking device /dev/sdao (/dev/sg40) : Skipping
Checking device /dev/sdap (/dev/sg41) : Skipping
Checking device /dev/sdaq (/dev/sg42) : Skipping
Checking device /dev/sdar (/dev/sg43) : Skipping
Checking device /dev/sdas (/dev/sg44) : Skipping
Checking device /dev/sdat (/dev/sg45) : Skipping
Checking device /dev/sdau (/dev/sg46) : Skipping
Checking device /dev/sdav (/dev/sg47) : Skipping
Checking device /dev/sdaw (/dev/sg48) : Skipping
Checking device /dev/sdax (/dev/sg49) : Skipping
Checking device /dev/sdf (/dev/sg5) : Skipping
Checking device /dev/sday (/dev/sg50) : Skipping
Checking device /dev/sdaz (/dev/sg51) : Skipping
Checking device /dev/sdba (/dev/sg52) : Skipping
Checking device /dev/sdbb (/dev/sg53) : Skipping
Checking device /dev/sdbc (/dev/sg54) : Skipping
Checking device /dev/sdbd (/dev/sg55) : Skipping
Checking device /dev/sdbe (/dev/sg56) : Skipping
Checking device /dev/sdbf (/dev/sg57) : Skipping
Checking device /dev/sdbg (/dev/sg58) : Skipping
Checking device /dev/sdbh (/dev/sg59) : Skipping
Checking device /dev/sdg (/dev/sg6) : Skipping
Checking device /dev/sdbi (/dev/sg60) : Skipping
Checking device /dev/sdbj (/dev/sg61) : Skipping
Checking device /dev/sdbk (/dev/sg62) : Skipping
Checking device /dev/sdbl (/dev/sg63) : Skipping
Checking device /dev/sdbm (/dev/sg64) : Skipping
Checking device /dev/sdbn (/dev/sg65) : Skipping
Checking device /dev/sdbo (/dev/sg66) : Skipping
Checking device /dev/sdbp (/dev/sg67) : Skipping
Checking device /dev/sdbq (/dev/sg68) : Activating
Checking device /dev/sdbrr (/dev/sg69) : Skipping
Checking device /dev/sdh (/dev/sg7) : Skipping


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Checking device /dev/sdbs (/dev/sg70) : Skipping
Checking device /dev/sdbt (/dev/sg71) : Skipping
Checking device /dev/sdbu (/dev/sg72) : Skipping
Checking device /dev/sdbv (/dev/sg73) : Skipping
Checking device /dev/sdi (/dev/sg8) : Skipping
Checking device /dev/sdj (/dev/sg9) : Skipping

Running...
    
```

Figure-3

9. Unmount the CD-ROM disk by running the following command at the command prompt:
`sudo umount /dev/hda`

10. Eject the CD-ROM disk by running the following command at the command prompt:
`sudo eject /dev/hda`

11. Reboot the server by running the following command at the command prompt:
`sudo shutdown -r now`

12. Repeat steps 4 through 12 on any other servers present.

2.2 TS7520 CVT Console Installation Disk v2.2.3 1382-06

The client portion of this patch requires that your console be at the above mentioned version. To verify if the **VE for Tape Console** application is at the required level, perform the following steps:

1. If necessary, repeat steps 1 through 4 in section 1.0 to start the **VE for Tape Console** application.
2. Click **Help → About TotalStorage TS7500...**
 - a. If you have Build 1382-04 Update 2 Build Date: “Jun 26, 2008”, as seen in the figure below, then you are at the required level including patch upto21 and should proceed to section 2.3 to install the server portion of patch upto21.

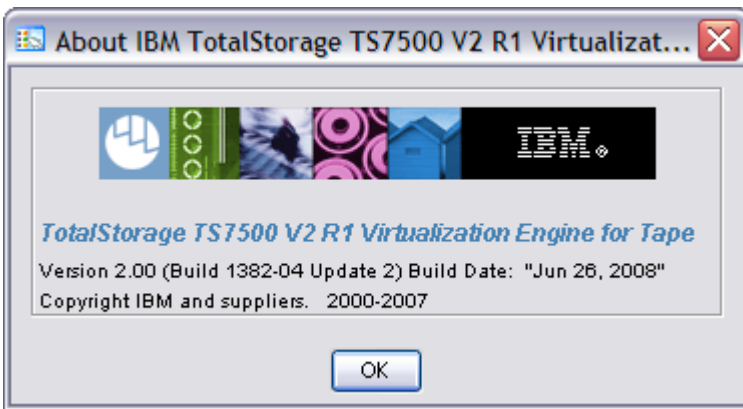


Figure-4

- b. If you have Build 1382 Build Date: “Oct 11, 2007”, or later, as seen in the figure below, then you are at the 2.2 version of the console. You should proceed to section 2.3 for instructions on how to install the server and console patches.

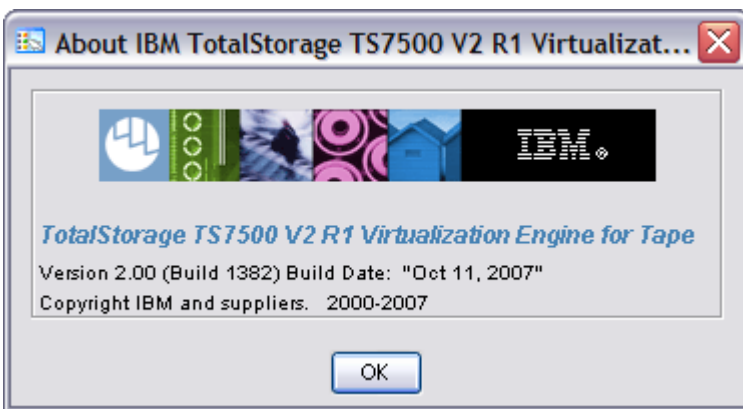


Figure-5

- c. If you have Build 1382 Build Date: “May 08, 2007”, as seen in the figure below, then you are not at the 2.2 level of the console and will need to upgrade your VE console.

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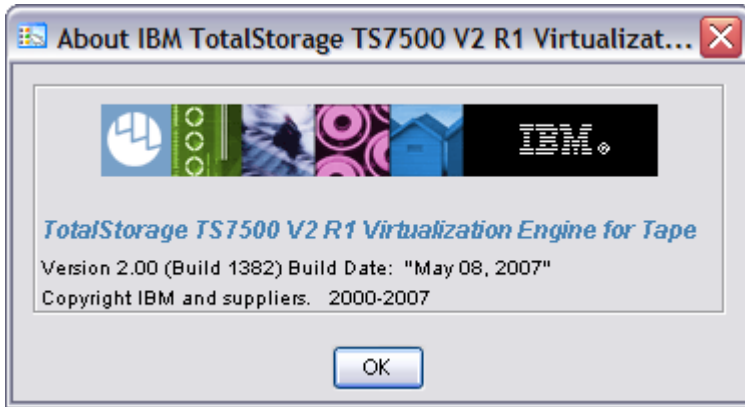


Figure-6

Perform the following steps to install the correct console version:

- i. Obtain the TS7520 CVT Console Installation Disk v2.2.3 1382-06 with part number: **45E2071**
- ii. Locate the TS7520 User’s Guide (GC27-2068-02)
- iii. Go to the “Installing the VE console on a workstation running Windows” section in chapter 2 of the TS7520 User’s Guide and follow the instructions on installing the VE console.

Note: Please record the directory path where you install the VE for Tape Console if you do not use the default path. You will also need to follow the steps in sections “Starting the VE Console” and “Connecting to the TS7500 Virtualization Engine” to re-establish the connection between the TS7500 VE for Tape Console and all the TS7500 Virtualization Engine Servers which you want to manage using this VE for Tape Console.

- iv. Once finished, repeat step 2 to verify that the required VE console is installed.
- v. If the required version is listed, proceed to section 2.3 - Obtain the latest Installation Instruction and the patch file. If version is still incorrect, please call IBM support for assistance.

2.3 Obtain the latest Installation Instruction and the patch file

Download the latest patch by completing the following steps:

1. Using the VE console workstation, go to the following Virtualization Engine patch download page:
http://www-1.ibm.com/support/search.wss?rs=1174&tc=HW29K&q=ssg1*&dc=D400&dtm
2. Select the following patch level files and save these to a directory on the VE console workstation.
 - **TS7520 Patch update-ve1382upto21-SP02**
 - **update-ve1382upto21-SP02.zip**
 - **CVT2.2-Console-1382-04.zip**

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3.0 Preparation

Installation of this patch is disruptive to normal TS7520 operation. Application of the patch will cause the 3954-CV6 server software to shutdown and restart. Schedule time when the TS7520 system can be taken out of normal operation.

Attention:

Ensure that all host jobs to the TS7520 are quiesced, and complete all pending TS7520 operations.

3.1 Suspend Failover (Only for systems with Failover configured)

For HA configurations (FC-7420 Failover/Failback Enable), use the **VE for Tape Console** application to Suspend Failover on both 3954-CV6 servers in the frame. Refer to Figure-3 and Figure-4, and use the following procedure to Suspend Failover **on each server in the frame (both the upper and lower server if in an HA environment)**.

1. If necessary, repeat steps 1 through 4 in section 1.0 to start the **VE for Tape Console** application and login to the VE for Tape server (Figure-4), or highlight the VE for Tape server if already connected, using the following userid and password:

 Userid: **vetapeuser**

 Password: **veuserpassword**

2. From the **VE for Tape Console** application, right-click the TS7520 Server.
3. Click **Failover** → **Suspend Failover**. Refer to Figure-5.

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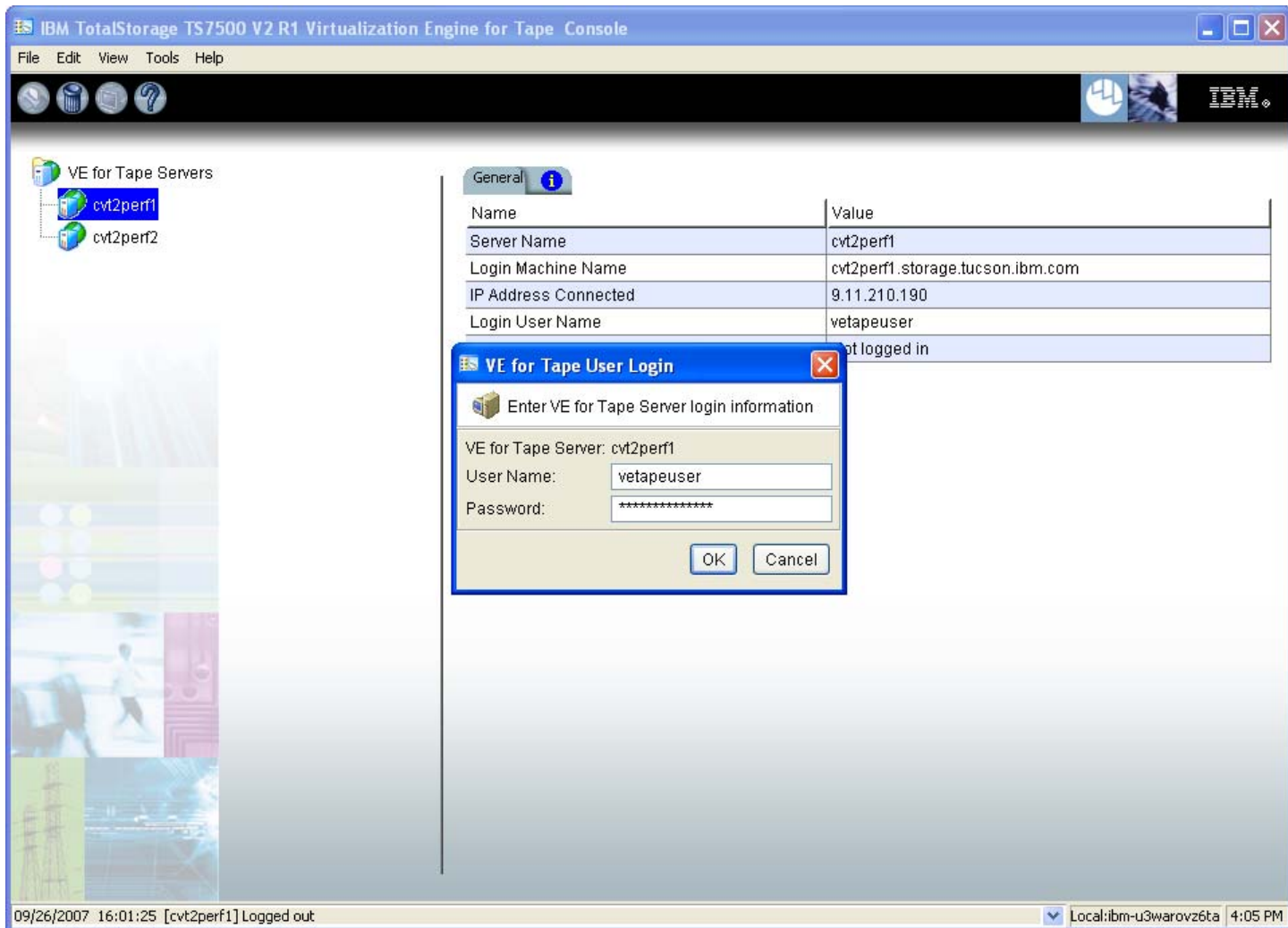


Figure-7

WARNING:

You must choose **Suspend Failover** and not Remove Failover Server or any of the other options, otherwise unpredictable results may occur.

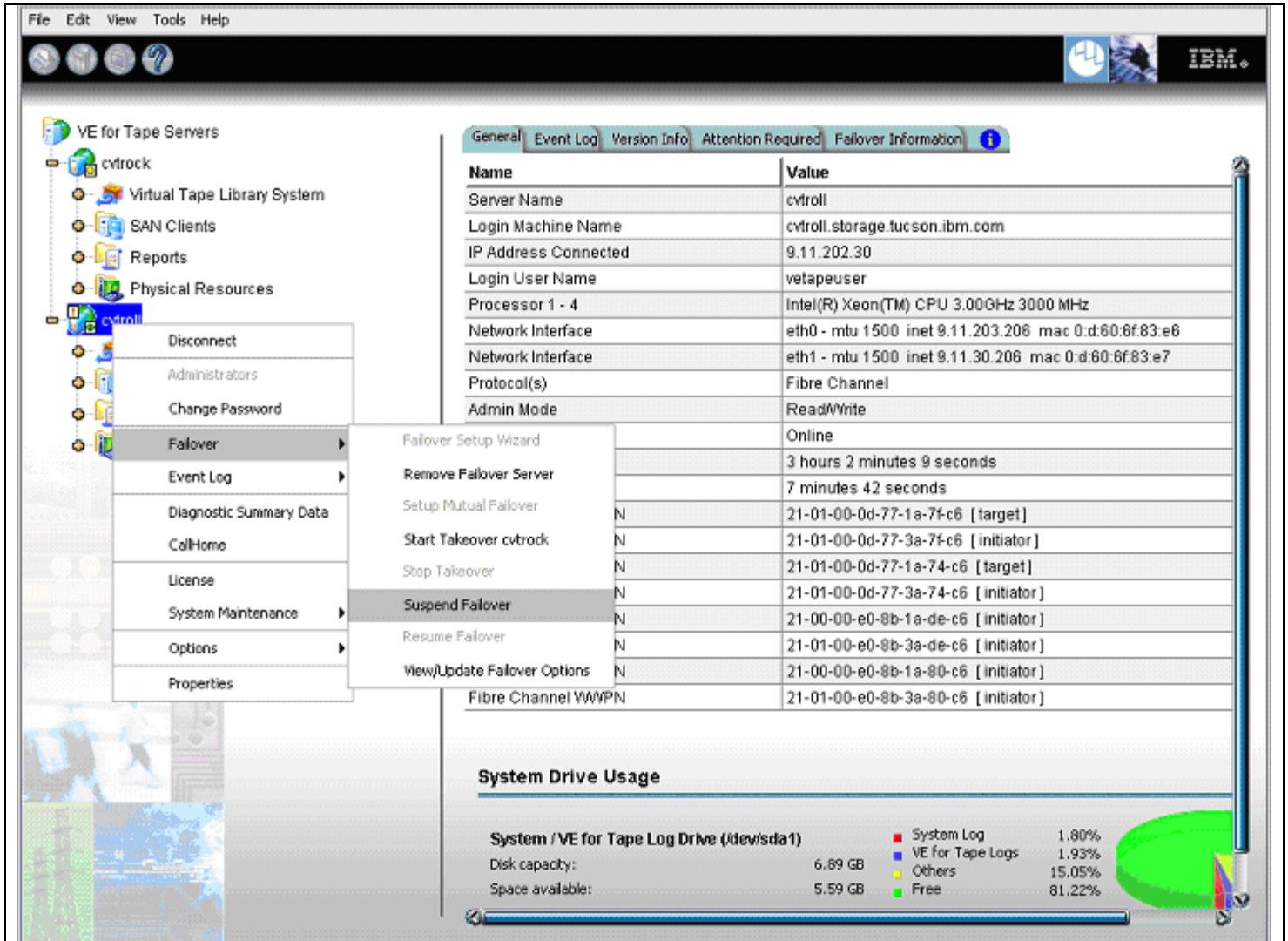


Figure-8

4.0 Purpose and Description

This patch should be installed on all TS7520 systems, with software version 2.2 that do not have patch update-ve1382upto21-SP02 installed. TS7520 systems without this patch will not have support for the fixes in this patch.

5.0 Installation Time

The average time to install this patch on a HA configuration is 1.0 hour. The number of persons required to install the patch is 1.

Installation (Section 6 through 7)

6.0 Details of Installation

Perform the steps outlined in section 6.1 on each server present before proceeding to section 6.2. You should always start with the lower server in the frame and proceed to the upper server.

6.1 Patch Installation

Use the following procedure to install the patch on each 3954-CV6 VE for Tape server (both the upper and lower server if in an HA environment). Refer to Figure-6 through Figure-8.

1. Use a zip utility program to extract the contents of update-ve1382upto21-SP02.zip to a directory on your hard drive. Note this location as you will require this information in Step 5.
2. If necessary, repeat steps 1 through 4 in section 1.0 to start the **VE for Tape Console** application.
3. Highlight the VE for Tape server and click **Tools** → **Add Patch** (Figure-6)

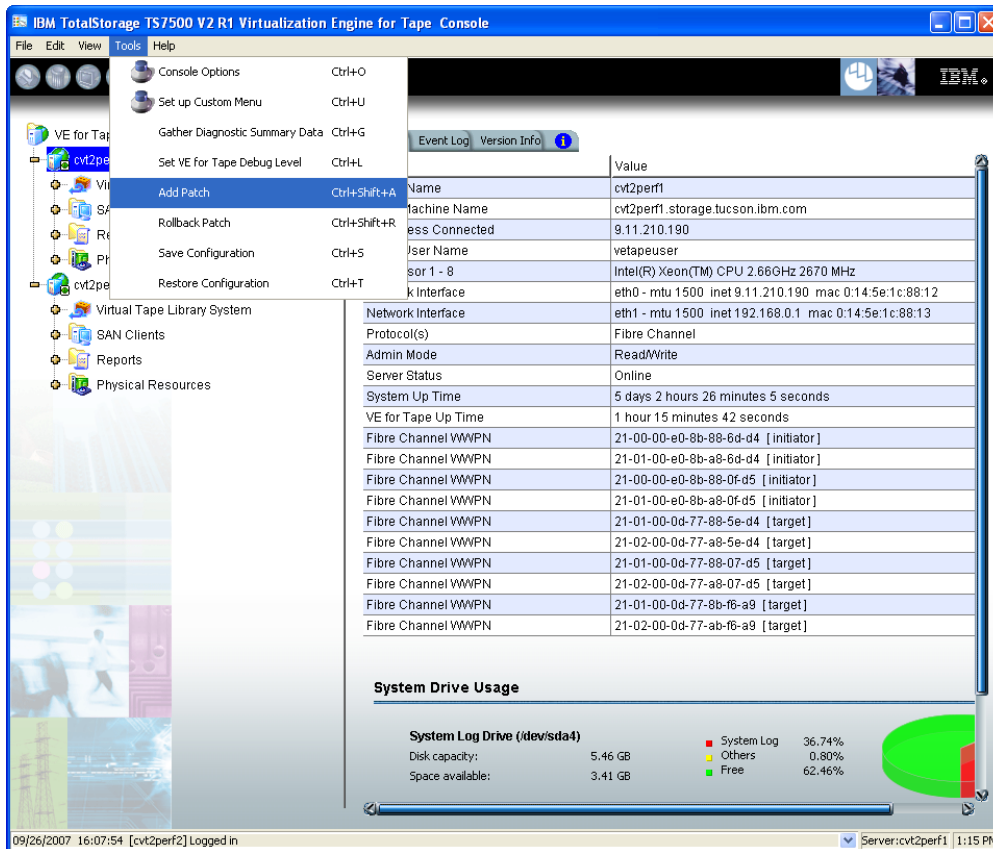


Figure-9

4. Select “OK” when presented with the following Warning Message (Figure-7).

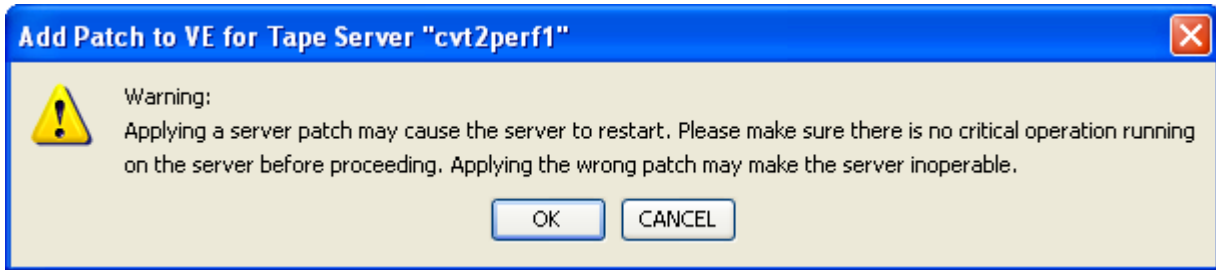


Figure-10

5. When presented with the Select Patch File window (Figure-8), index to the VE Console workstation directory where you unzipped the *update-ve1382upto21-SP02* patch file and select the file.

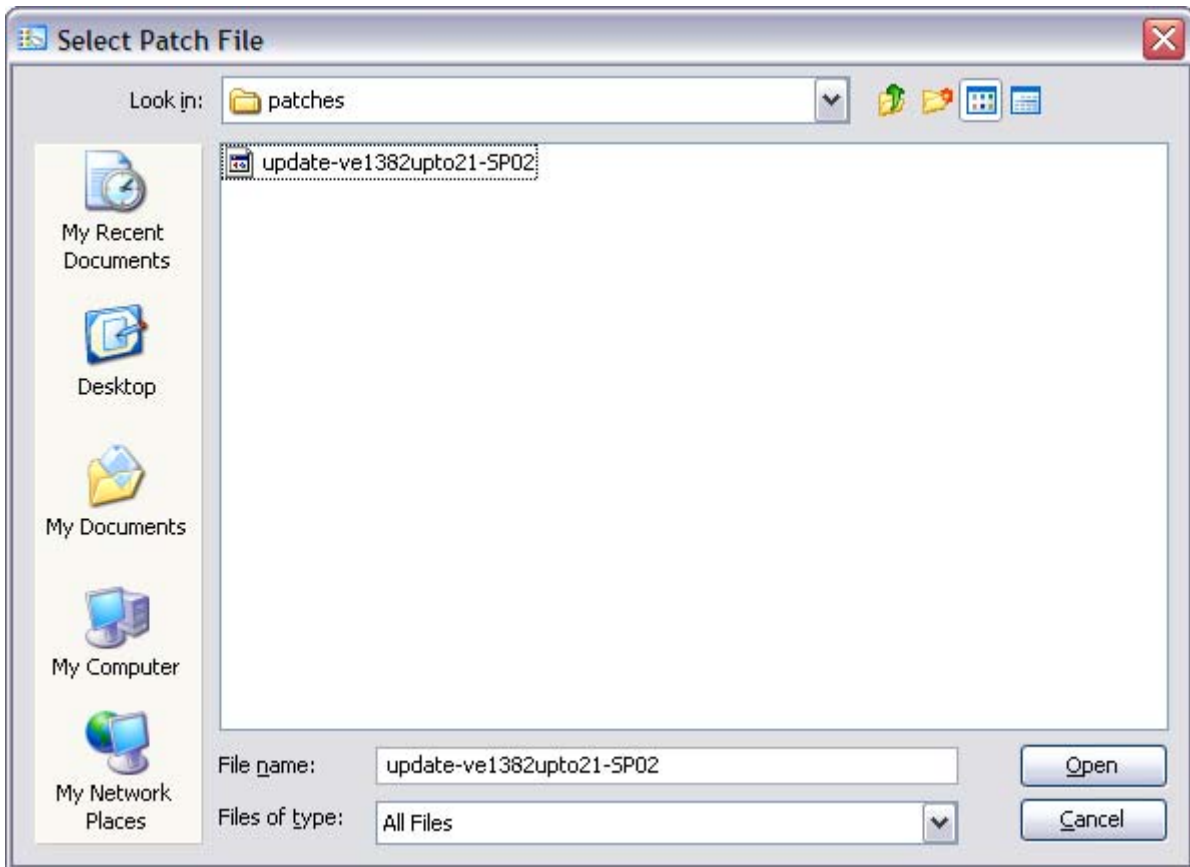


Figure-11

6. When presented with the confirmation window, type “YES” to confirm (Figure-9)

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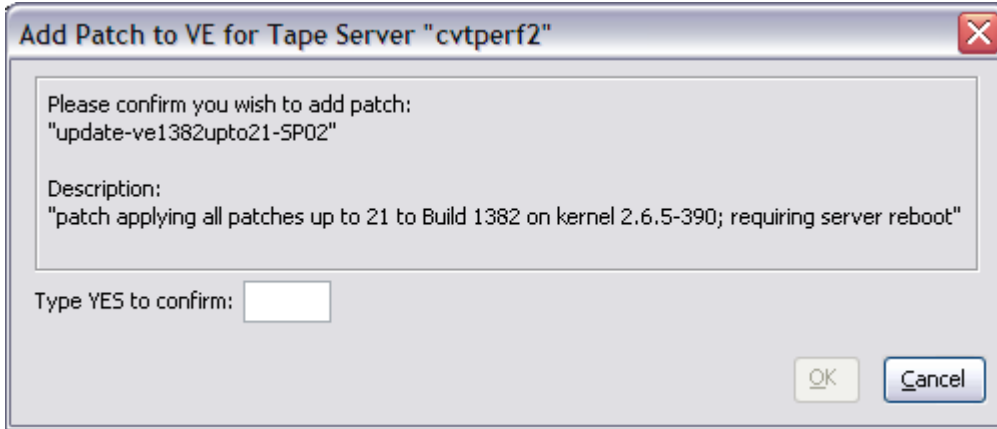


Figure-12

- If the “Add Patch to VE for tape Server” window appears, click OK. Figure-10

Note: The server software will shutdown and restart.

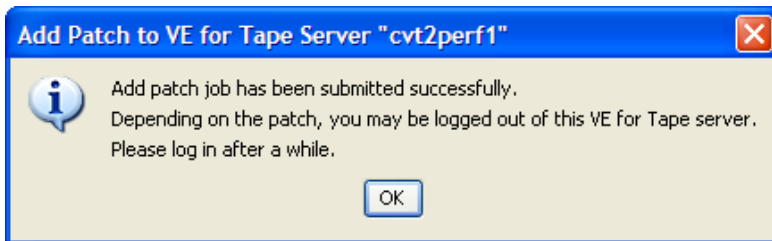


Figure-13

- The **VE for Tape Console** application will be disconnected from the VE for Tape server (Figure-11).

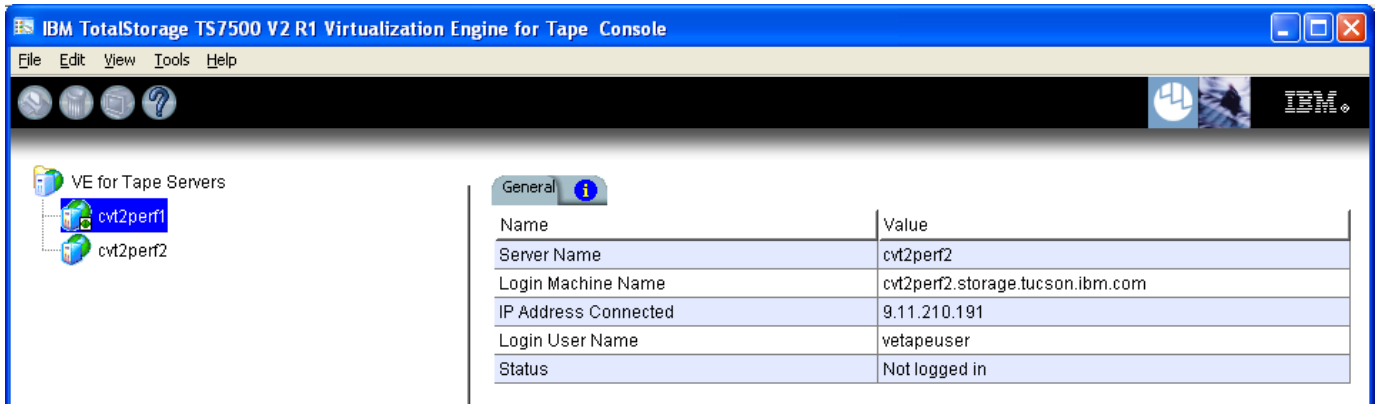


Figure-14

- Once the server software has completed the restart (approximately 2 to 5 minutes) you will be able connect to the VE for Tape server from the **VE for Tape Console** application (Figure-12).

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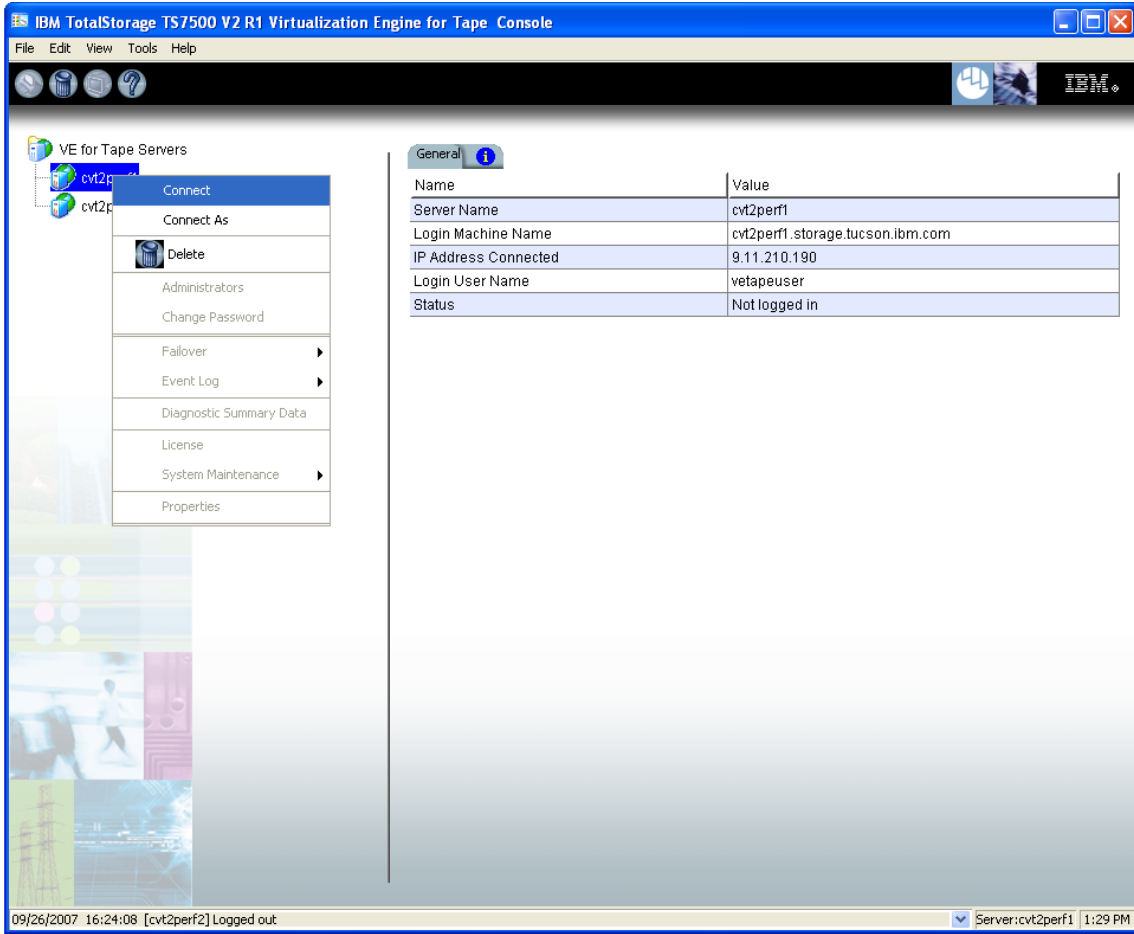


Figure-15

10. Check the TS7520 Version Information of each server, using the **VE for Tape Console** application *Version Info* tab, to confirm the successful installation of the patch (refer to Figure-13). There should be a Version Info entry stating “Completed installation of update-ve1382upto21-SP02, patch applying all fixes up to 21a to Build 1382 on kernel 2.6.5-390; requiring server reboot”.

Note: You may have to scroll to the bottom of the window to find this entry depending on the configuration of your TS7520.

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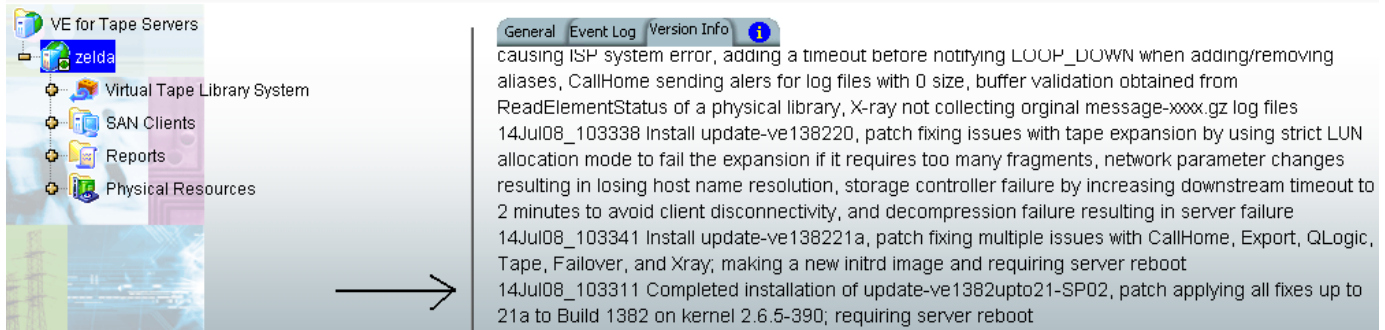


Figure-16

11. After patch installation has been verified, the server must be rebooted. Reboot the server by running the following command at the command prompt (refer to section 2.1 for details on using PuTTY to access the server):


```
sudo shutdown -r now
```
12. After the server reboots in 5-10 minutes, continue to section 6.2 – VE Console Patch Installation. Contact IBM support for assistance if the patch installation did not complete successfully.

6.2 VE Console Patch Installation

Perform the following steps on the VE console workstation if you need to install the Console Patch.

Note:

- Do not perform the following steps if the VE console is not at the required level. Refer to section 2.2 - TS7520 CVT Console Installation Disk v2.2.3 1382-06.
- If the **VE for Tape Console** application is open, please close the application prior to performing these steps.

1. Perform the following steps to backup the IPStorConsole.jar file:
 - a. Navigate to the C:\Program Files\IBM\VE for Tape\Console\Bin\ directory and locate your **IPStorConsole.jar** file.

Note: This directory may vary if you did not choose the default install location in Section 2.2.

- b. Right click on the **IPStorConsole.jar** file and select **rename** from the pop up window. Rename this file to IPStorConsole.old.
 - c. Select **Yes** on the pop up confirmation window, if displayed.
2. Use a zip utility program to extract the contents of CVT2.2-Console-1382-04.zip to the C:\Program Files\IBM\VE for Tape\Console\Bin\ directory. The zip file includes a new version of **IPStorConsole.jar**.

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- a. Navigate to the C:\Program Files\IBM\VE for Tape\Console\Bin directory and locate the file **CVT2.2-Console-1382-04.jar**.
 - b. Right click on the file **CVT2.2-Console-1382-04.jar** and select **rename** from the pop up window. Rename this file to **IPStorConsole.jar**.
3. If prompted whether or not you wish to replace the destination files, choose **yes**.
 4. You can verify that the patch was properly installed by starting the **VE for Tape Console** application and selecting the **Help → About** menu. If you are at Version 2.00 (Build 1382-04 Update 2) Build Date: “Jun 26, 2008”, refer to the figure below, then you have successfully applied VE console portion of this patch.

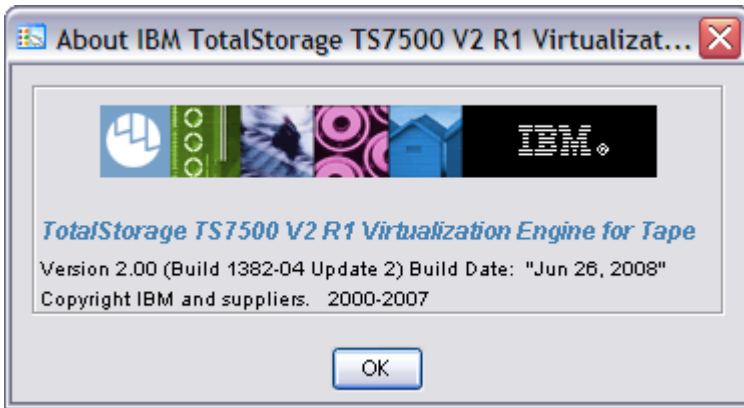


Figure-19

6.3 Resume Failover (Only for systems with Failover configured)

Attention:

Only perform this step if step 6.1 has been successfully performed on both the upper and lower servers in the failover pair. If you have not already done so, perform step 6.1 on the other member of the failover pair.

For HA configurations (FC-7420 Failover/Failback Enable), use the **VE for Tape Console** application to Resume Failover on both 3954-CV6 servers. Refer to Figure-3 and the following procedure to Resume Failover **on each server present (both the upper and lower server if in an HA environment)**.

1. If necessary, repeat steps 1 through 4 in section 1.0 to start the **VE for Tape Console** application and login to the VE for Tape server (Figure-3), or highlight the VE for Tape server if already connected, using the following userid and password:

Userid: **vetapeuser**
 Password: **veuserpassword**

2. From the VE console, right-click the TS7520 Server.
3. Click **Failover** → **Resume Failover**.



7.0 Rolling Back Patches

Warning: Patch rollback should be done only as per recommendation of your Technical Support Representative. Improper rollback of a patch may cause damage to your system. Contact IBM support for assistance if you need to rollback **update-ve1382upto21-SP02**.

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