Managing File-Based Write Filter Images on HP Thin Clients

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Introduction
This whitepaper describes the procedures needed to manage HP Thin Clients, which come with an option to enable the File-based Write Filter (FBWF), using HP Client Automation and Altiris Deployment Solutions.

Background
HP Thin Clients with the Windows Embedded Standard Operating systems ship with the Enhanced Write Filter (EWF) as the default write filter. These systems also have an option to use an FBWF instead. The majority of the steps for managing a thin client that is FBWF-capable, but is using EWF, is the same as for systems that use EWF and are not FBWF-capable. There are more differences when managing systems that have had the EWF disabled and the FBWF enabled. This whitepaper describes those changes for HP Client Automation and Altiris Deployment Solutions.
HP Client Automation

HP Client Automation Starter, Standard, or Enterprise version 7.5 or greater must be used on thin clients that use FBWF; however, if using version 7.5, the full management agent cannot be remotely pushed out to a system that supports FBWF. When using version 7.5, the agent must be manually installed using the following steps:

1. Pick a reference machine and prepare to capture that image for deployment. This machine comes with EWF enabled and FBWF disabled.
2. Log in as an Administrator on the thin client.
3. Do not enable FBWF. Rename the fbwfmgr.exe something else, such as fbwfmgr.bak.
   The default path to fbwfmgr.exe is c:\windows\system32.
4. Rename fbwflib.dll something else, such as fbwflib.bak.
5. Disable the firewall.
6. Commit the changes by choosing Commit from the Write Filter Status icon in the system tray.
7. Reboot the system.
8. Login as Administrator.
9. Copy the entire win32xpe folder from c:\program files\hewlett-packard\HPCA\managementPortal\media\default\ on the CA server to a USB flash drive.
10. Insert the USB flash driver into the thin client.
11. On the thin client, run HPCA-MgmtApps75.msi.

**Note**

You do not have to Commit the changes, as clicking on Finish will automatically Commit the changes to the EWF.

12. When the system reboots, the console shows that the agent is "Installed."
13. On the thin client, change the name of the fbwfmgr.bak to fbwfmgr.exe.
14. On the thin client, change the name of the fbwflib.bak dll.bak to fbwfmgr.exe.
15. Commit the changes by choosing Commit from Control Panel > HP Write Filter Configuration > EWF Main tab > Commit Data to Volume.
16. Reboot the system.
17. Capture the image.
18. Deploy this image to the remaining thin clients. The HP Client Automation agent is pre-installed and is now operational.

The above steps are all that is required to capture and deploy images using the Enhanced Write Filter with HP Client Automation. If you want to capture and deploy images using the File-based Write Filter, some additional steps are required.
Capturing and Deploying Images with FBWF Support Enabled

1. Manually convert a system to use the FBWF using an image created from step 17 above.
2. Log on as Administrator.
3. Create an empty folder called sysprep at the root c:/.
   a. Disable the EWF filter, Commit the change, and reboot the system.
   b. When the system comes back up, enable the FBWF and reboot.
4. Go to Control Panel > HP Write Filter Configuration > Exclusion List tab and then ADD the folder c:\sysprep. Close the window after adding the folder.
5. Reboot the unit and sysprep has a green check mark in the FBWF Exclusion List.
6. Copy etprep.exe to c:\windows and fbreseal.exe to c:\windows\fba.
7. Execute the capturing process by running prepwiz.exe for win32 from the Capture CD.
   You can then deploy the image to the remaining systems that you want to use the FBWF.

Known Issues:

- The Agent Status on the console for systems using the FBWF image may indicate “Not Installed,” even though the device is in fact manageable.

  Note
  This does not occur with version 7.9.

- Linux Service Boots to a FBWF image is not currently supported. Use PXE- or CD-based captures.

- You may receive the following error message when manually deploying the agent. There are no known problems related to this error message.

  Note
  This does not occur with version 7.9.
Altiris Deployment Solution

Note
Although the Altiris Client agent is preinstalled, a free license will no longer be included on the t574x and all new platforms going forward. To purchase a license, contact Altiris at http://www.altiris.com.

Deployment Solution 6.9 Service Pack 3 must be used if you will enable the FBWF. Older versions of Deployment Solutions can be used if you will just use the default EWF write filter.

No special steps are required to manage systems that use either FBWF or EWF. For managing the FBWF, Deployment Solutions 6.9 SP3 has a new feature that lets the administrator know which write filter is in use. This is useful, as HP does not support having both the EWF and FBWF enabled. To use this feature:

1. Right-click on the thin client being managed and choose properties. Alternatively, you can double-click on the thin client from the Computers section of the Deployment Solution console.

2. The write filter that is currently being used on the thin client will be shown.

Known Issues:

- Some configuration information, such as the computer name, cannot be changed when using the FBWF. The workaround is to insure that the EWF filter is in use before changing the computer name.

- If an image using FBWB and the default User account is then captured and deployed, you may see an error message when you access the desktop of the deployed image. As a workaround, capture and deploy the image using EWF, then convert the thin client to FBWF after the image is deployed.