

SMB (Server Message Block) Issues

SMB is the network protocol used for file sharing between Windows and IBM i. This protocol allows RVI users to access the IMAGE and OPTICAL directories from Windows which allows our customers to view and upload documents using TCP-UNC mapping.

Changes related to SMB support for Windows (**Versions 7 – 10**) and IBM i O/S **V7R3** have adversely affected RVI customers using TCP-UNC mapping.

- **Windows (v. 7 – 10) SMB Changes**

The latest updates and releases of Windows do not enable SMB 1.0.

NOTE: Upgrading to Windows 10 from an older operating system allows SMB 1.0 to remain enabled. However, if a clean installation of Windows 10 is used, SMB 1.0 will not be enabled. Microsoft Windows updates to Windows 7 – 10 have also been found to disable SMB 1.0.

- **IBMi V7R3 SMB Changes**

IBM i NetServer was enhanced in V7R3 to include SMB 2.0.

NOTE: SMB2 is the default used with IBM i NetServer clients in V7R3.

Commonly reported issues related to SMB support changes are:

1. Error 'File Not Found'
2. Access blocked to TCP-UNC path ([\\systemname\IMAGE](#))
3. Repetitively viewing the same image
4. Error (384) Failed To Initialize System Profiles

To resolve the SMB issues:

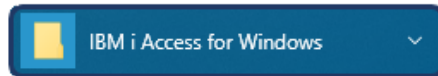
1. **Disable SMB2 on IBMi**
<http://www-01.ibm.com/support/docview.wss?uid=nas8N1021710>
2. **Disable opportunistic locking** (*See instructions below*)
3. **Enable SMB 1.0 on PC** (*See instructions below*)
4. **Update Windows Registry** (*See instructions below*)

NOTE: By setting all users/devices to use the FTP mapping protocol (*See instructions below*), you can avoid all SMB issues and bypass the need to disable SMB2 and disable opportunistic locking.

Disable Opportunistic Locking

If after upgrading to V7R3, users on TCP-UNC mapping are getting the same image over and over when viewing, disable **Allow Opportunistic Locking** through IBM System i Navigator. (*System i Navigator must be installed on the pc to access this option.*)

1. Select

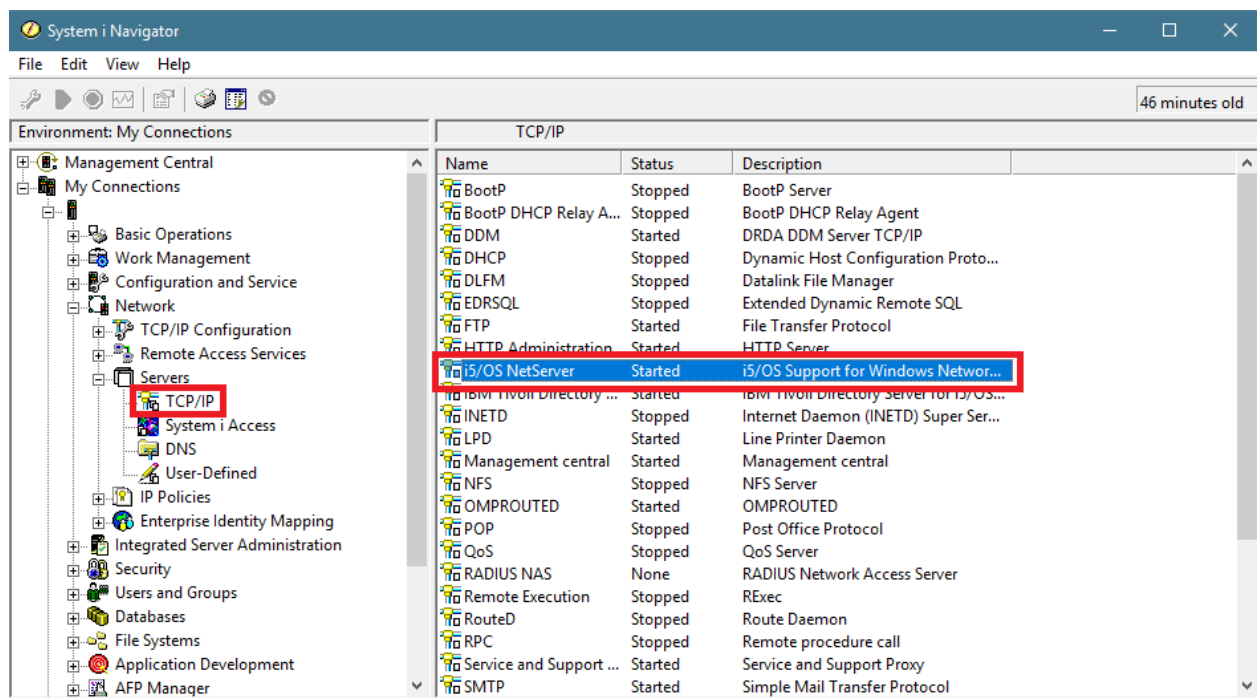


2. Select

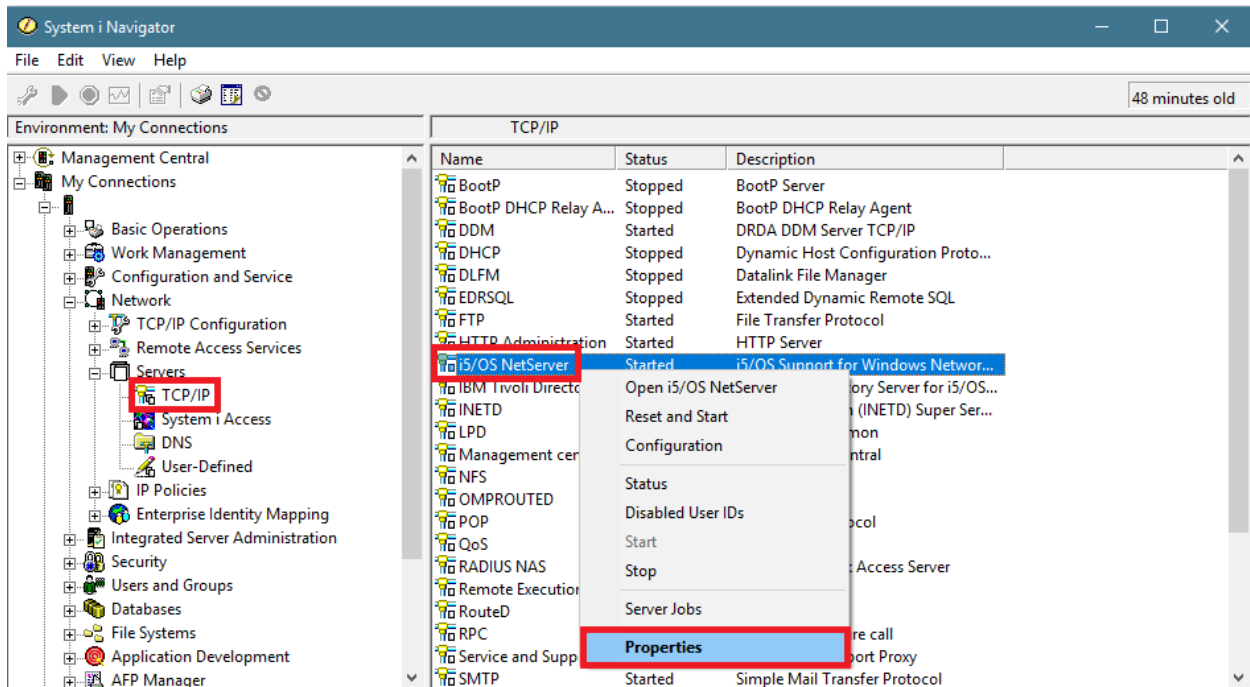


3. When System i Navigator opens

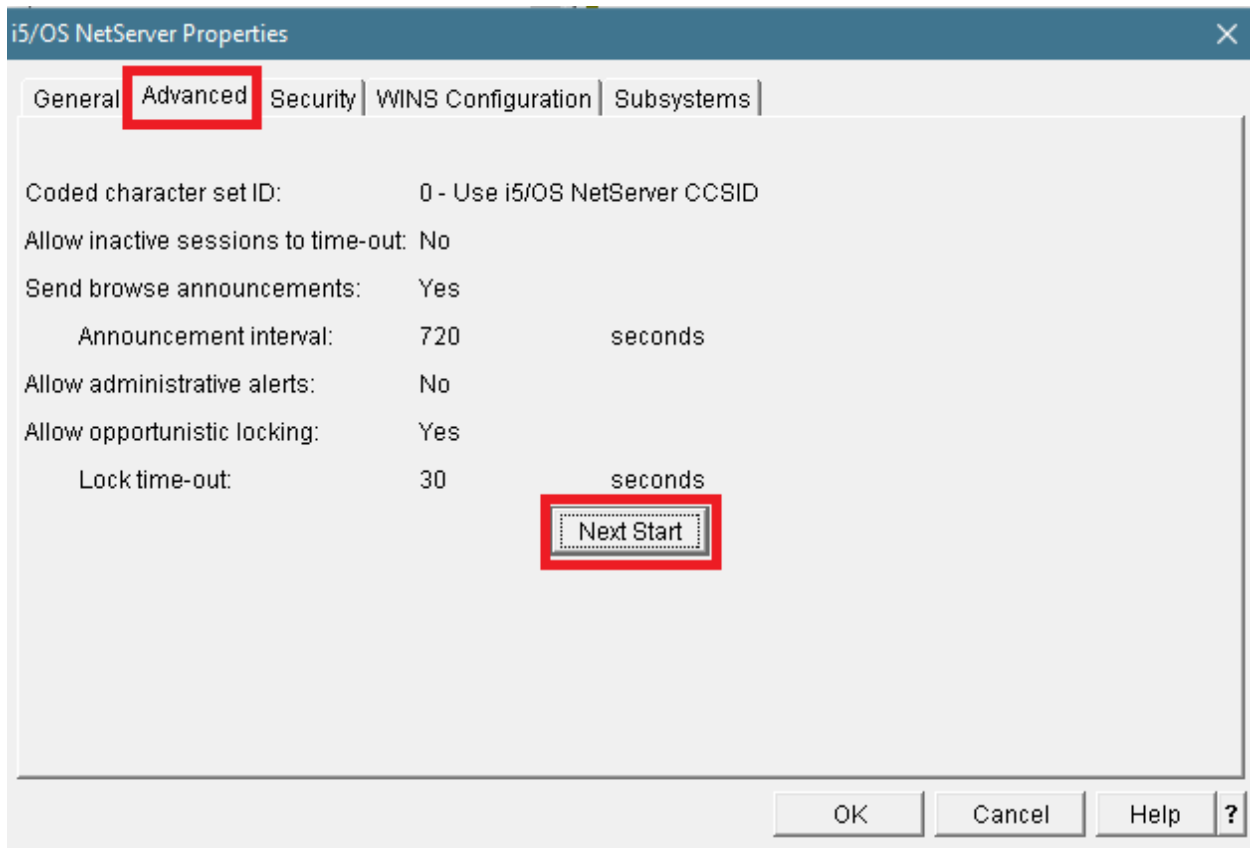
- a. Expand 'My Connections'
- b. Select your iSeries/IP Address
- c. Expand 'Network'
- d. Expand 'Servers'
- e. Select 'TCP/IP'
- f. Right-mouse click 'Netserver'



g. Select 'Properties'

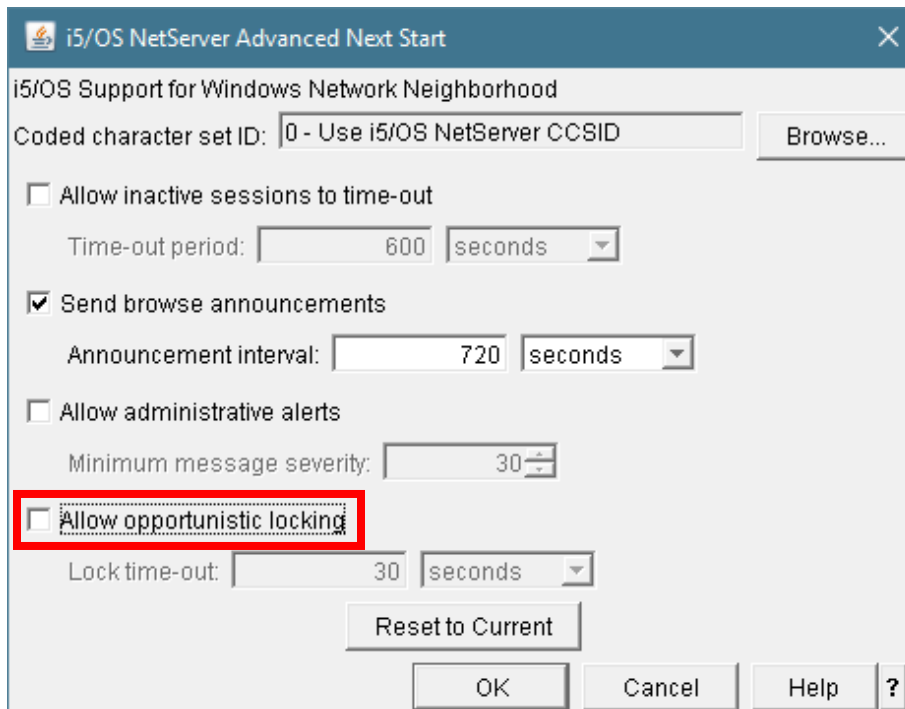


- h. Select 'Advanced' tab
- i. Press 'Next Start' button



- j. Uncheck 'Allow opportunistic locking'

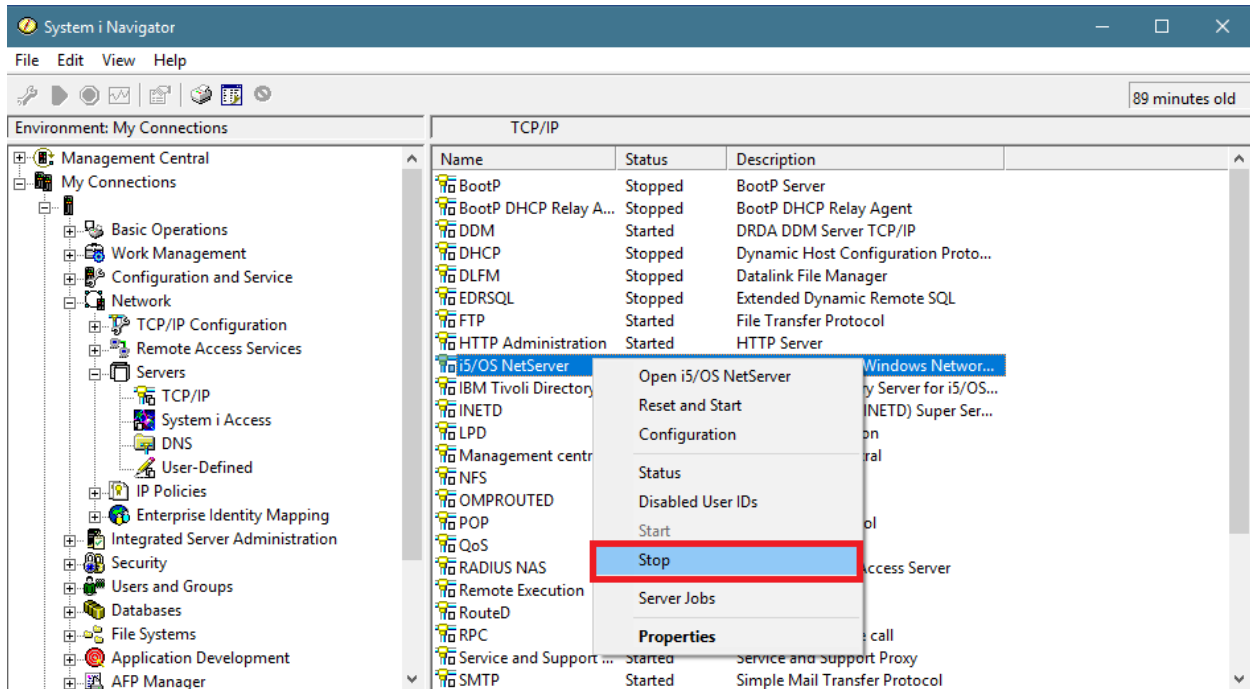
k. Press 'OK' button



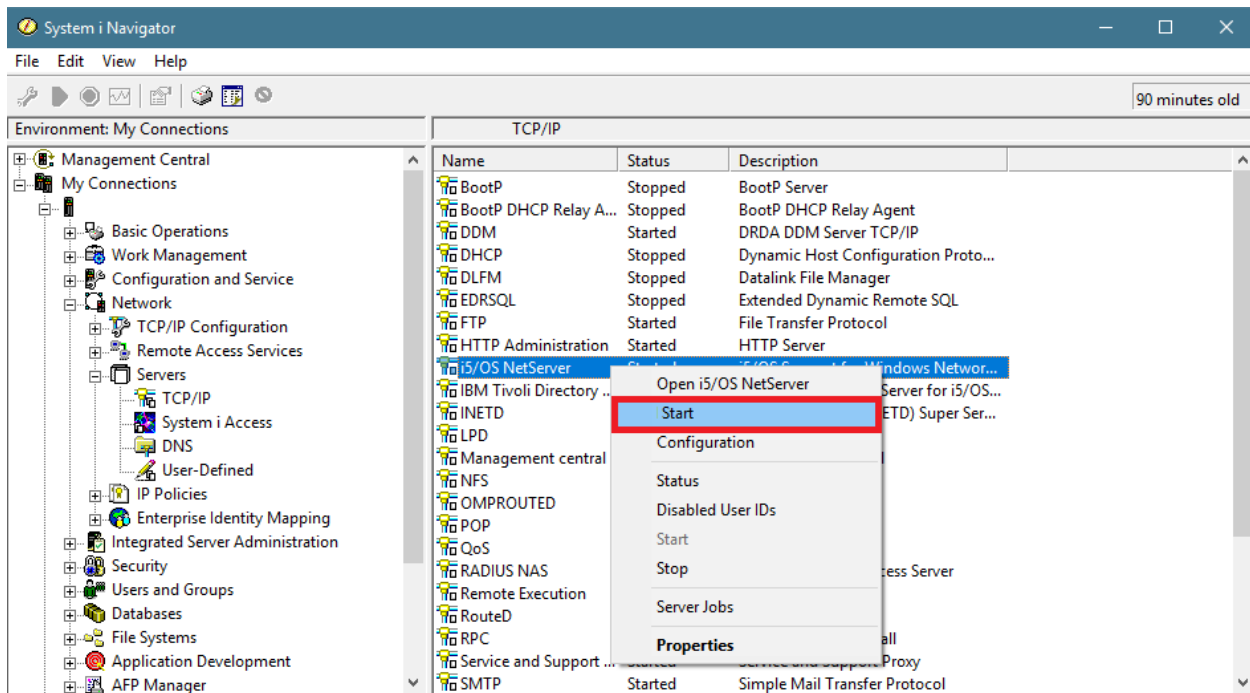
Allow opportunistic locking

Specifies that if no other users are accessing a file on the server, then an exclusive lock is placed on the file. This enhances performance by allowing a client to cache updates to the locked file until it closes the file, when the cached updates are written to the file. If another user tries to access the file, the client with the lock is notified and performs a write operation of the cached updates before the new user is granted access to the file

4. Once the change is made, restart the Netserver.
 - a. Right-mouse click '**Netserver**'
 - b. Select '**Stop**'

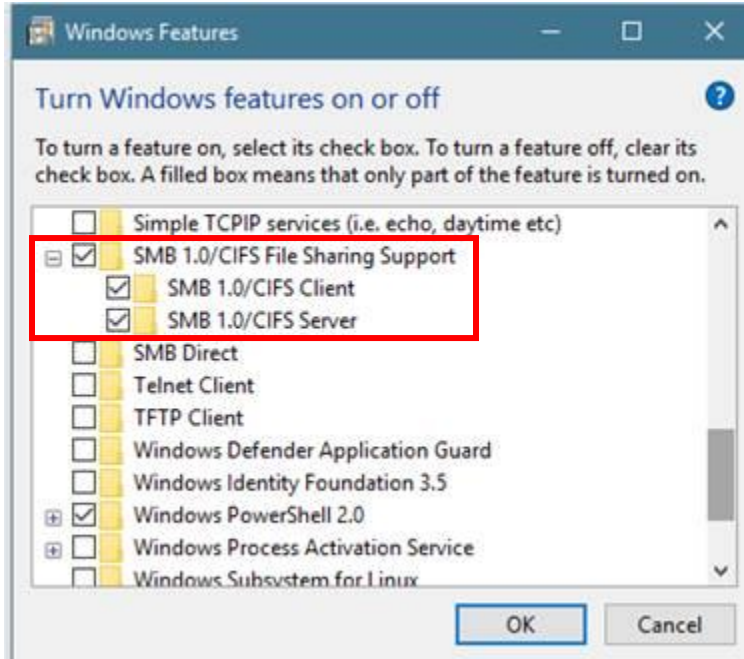


- c. Right-mouse click 'Netserver'
- d. Select 'Start'



Enable SMB 1.0 *(must be done on each pc)*

1. Go to Control Panel > Programs and Features > Turn Windows features on or off
2. Check SMB 1.0/CIFS File Sharing Support as well as all the boxes underneath it



3. Reboot

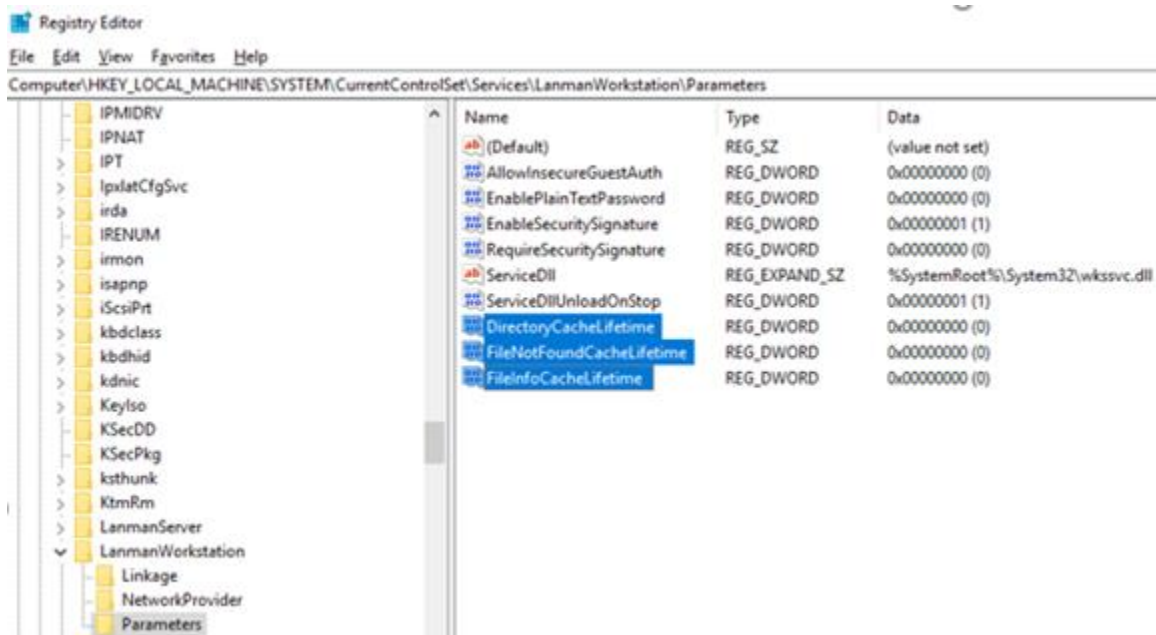
Windows Registry Update *(must be done on each pc)*

Disable the caches in the following order to determine which of these caches is affecting the application.

1. Directory cache, by setting **DirectoryCacheLifetime** to ZERO.
2. File Not Found cache, by setting **FileNotFoundCacheLifetime** to ZERO.
3. File information cache, by setting **FileInfoCacheLifetime** to ZERO.

Example of the registry settings are shown below:

Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Parameters



Warning: *Disabling the File information Cache can have significant effect on client performance and show an increase in the number of metadata requests that are sent to the server.*

Additional Information from a google search of SMB2 Client Cache

1. <https://bogner.sh/2014/10/how-to-disable-smb-client-side-caching/>
2. [https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-7/ff686200\(v=ws.10\)](https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-7/ff686200(v=ws.10))

Setup FTP Mapping

1. At an IBMi command line, type **GO IMAGE**. (*This will take you to the RVI Main menu.*)
2. Option 8 Maintenance Menu
3. Option 7 Maintain PC workstation configuration
4. F10 'Add A Record' to add a new entry (*If an entry exist for this user/device, place an 'X' next to it.*)
5. Set the mapping type to 'F' for FTP
6. Press Enter then F3 to SAVE the changes
7. From the RVI viewer, click Image, Preferences, FTP Support
 - a. Input a valid IBMi user id and password
8. From the RVI viewer, click Host, Profile Directory
 - a. Input a valid FTP path to your IBMi image directory (Example: *ftp://ipaddress/IMAGE*)