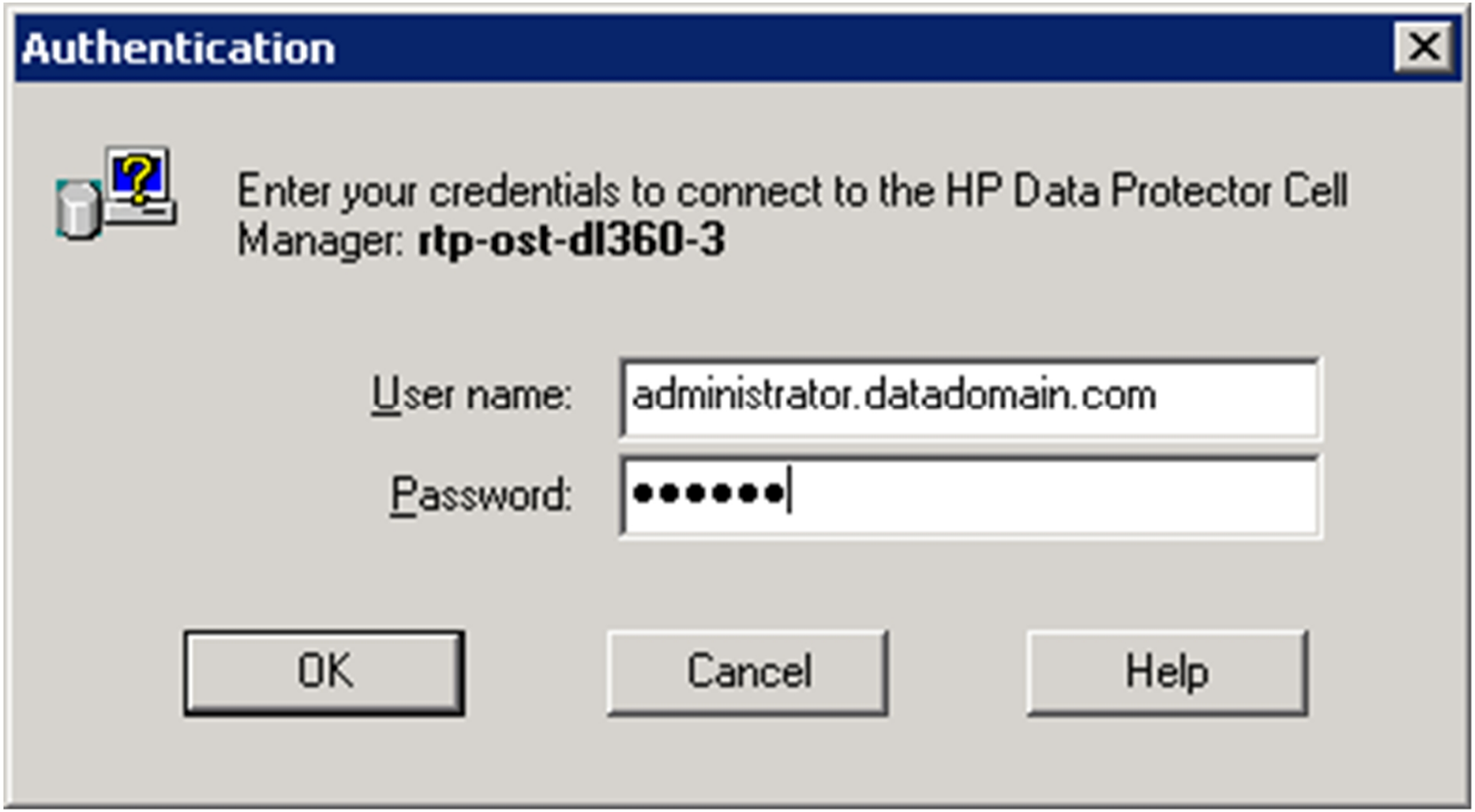
HP Data Protector / DDBoost Integration

This document provides instructions for how to operate the HP DataProtector application integrated with DD Boost. It is intended to serve as a Transfer of Information (TOI) document. It is based on using HPDP version A.08.10 integrated with the DDBoost Plugin SDK version 2.6.0.2-365315, and DDOS version 5.2.4.2-404896.

HP Data Protector / DDBoost Integration
Topics covered

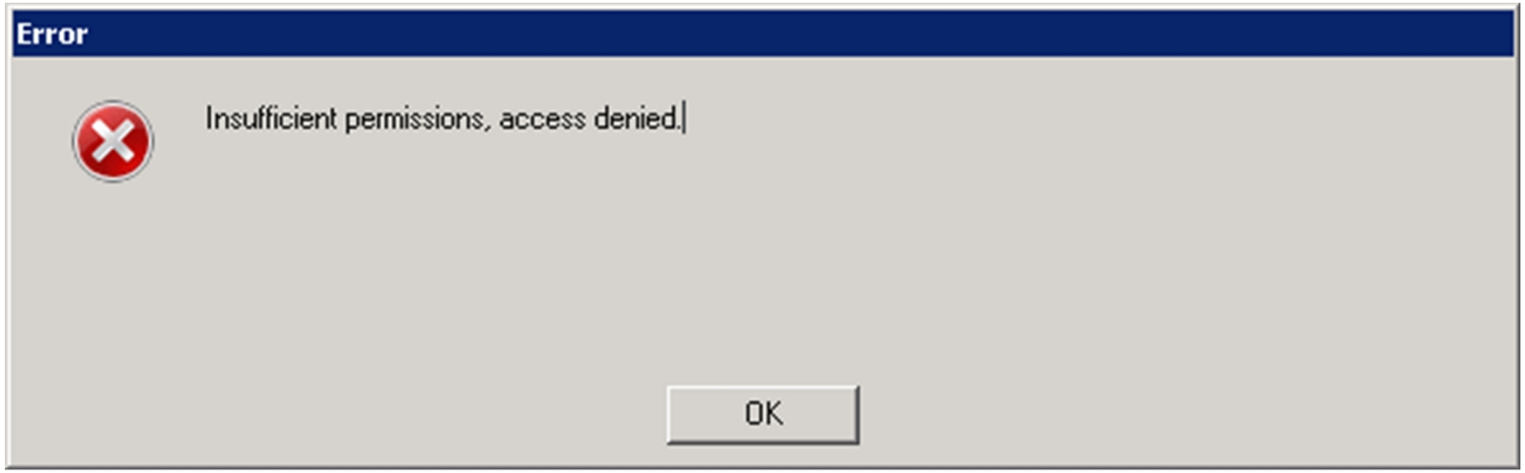
Start HP DataProtector Manager

1) Select from the Windows Start menu: Data Protector Manager
2) Provide credentials:



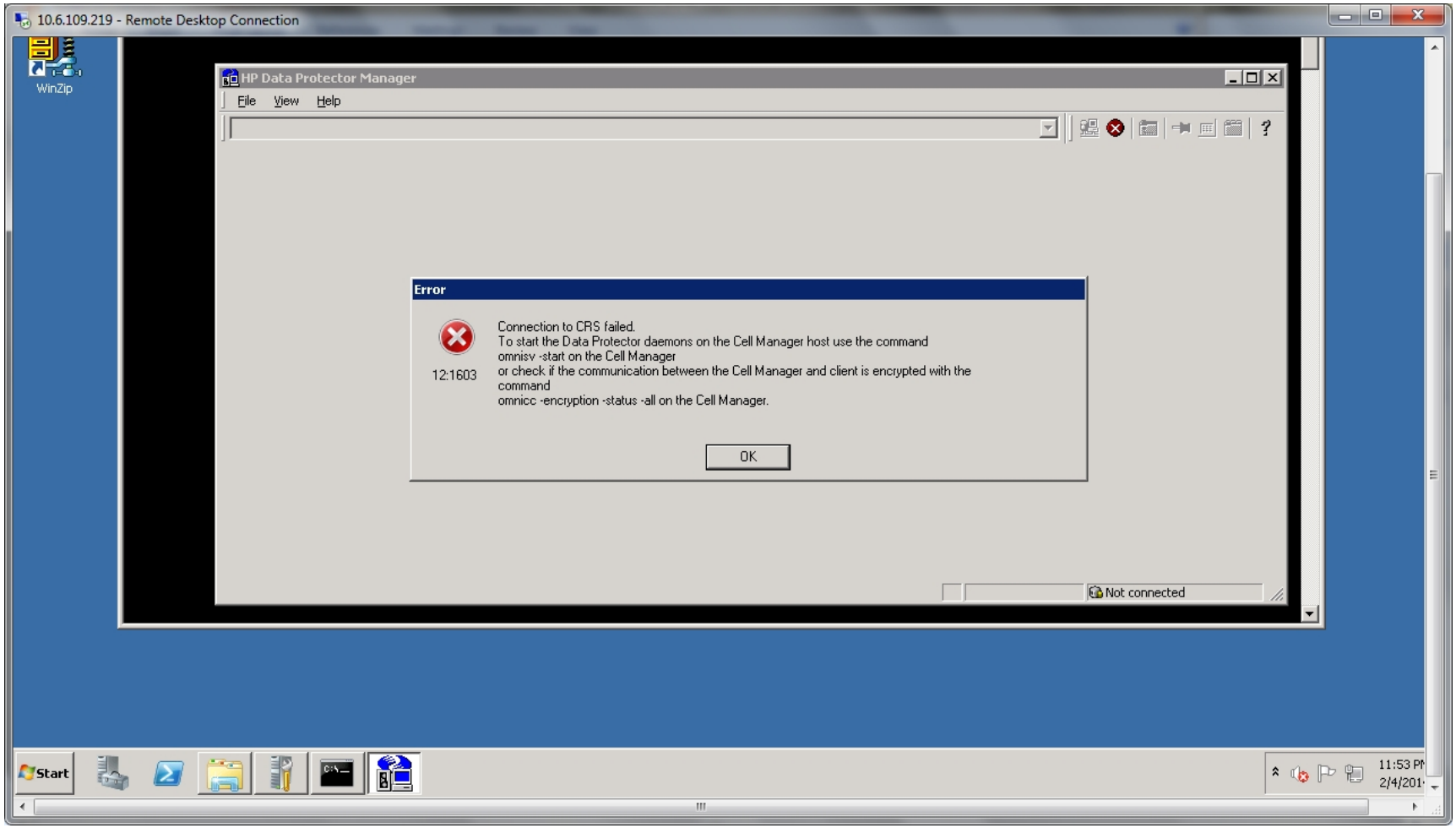
Start HP DataProtector Manager (2)

Acknowledge OK if this appears,



Start HP DataProtector Manager (3)

This guidance could appear:



The next slide explains what this means.

Start HP DataProtector Manager (4)

Connection to CRS failed:

To start the Data Protector daemons on the Cell Manager host use the command

omnisv –start on the Cell Manager

or check if the communication between the Cell Manager and client is encrypted with the command

onmicc –encryption –status –all on the Cell Manager

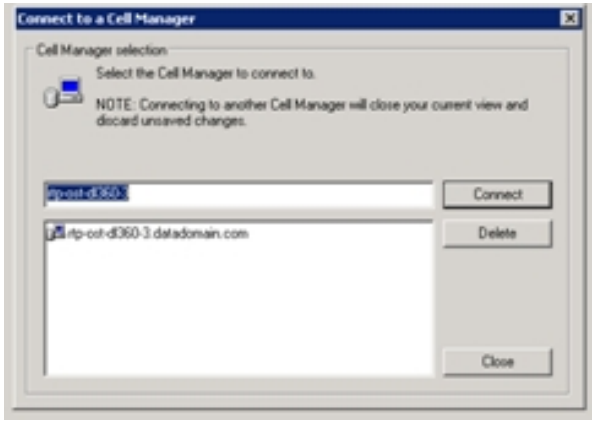
The command and response are:

C:\Users\Administrator>omnisv -start

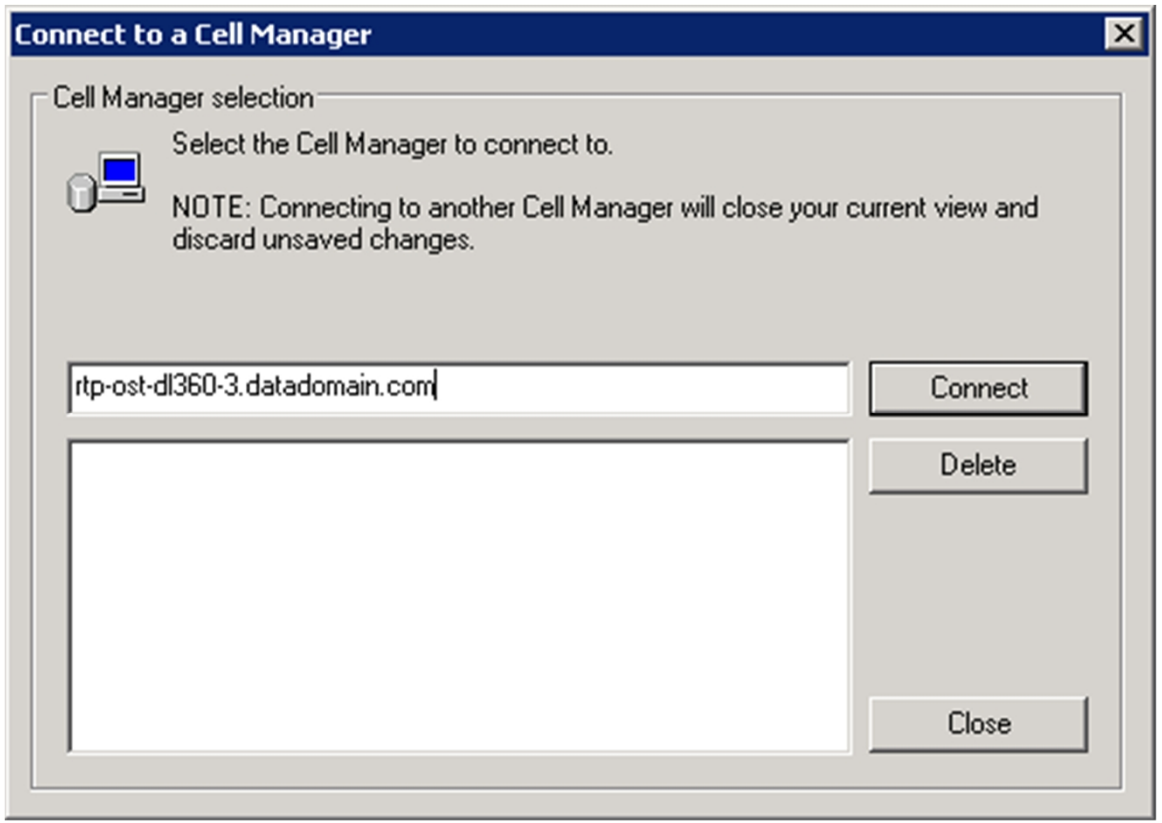
HP Data Protector services successfully started.

Start HP DataProtector Manager (5)

3) In the next window "connect to a cell manager", delete the host name in the lower box, then enter Connect.

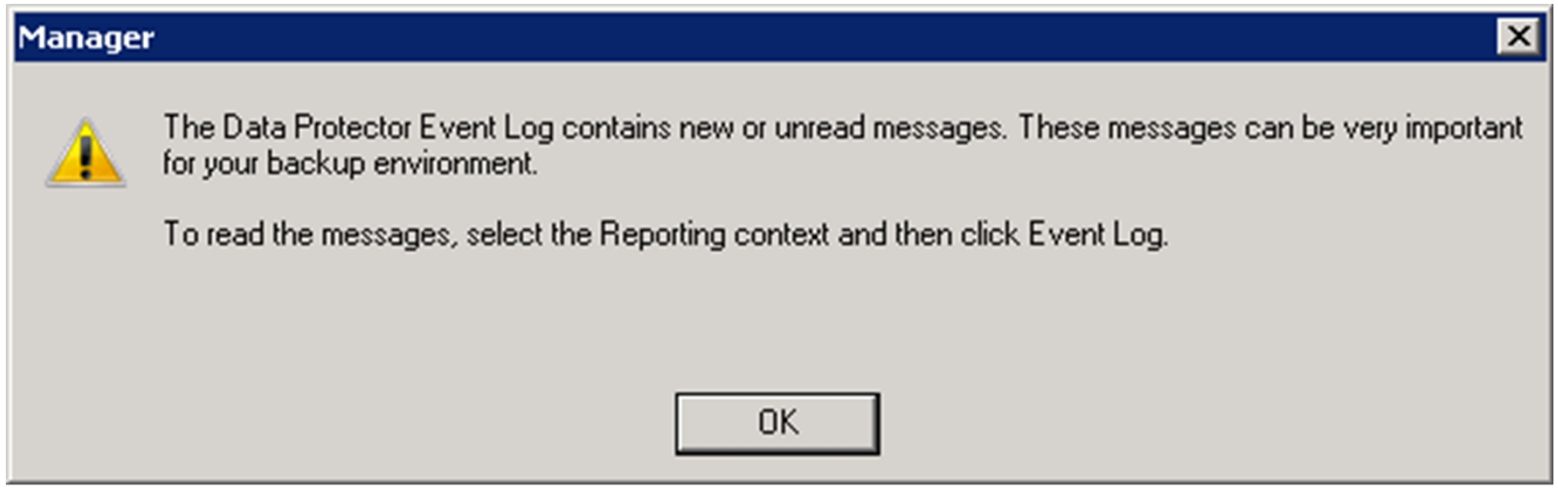


➔



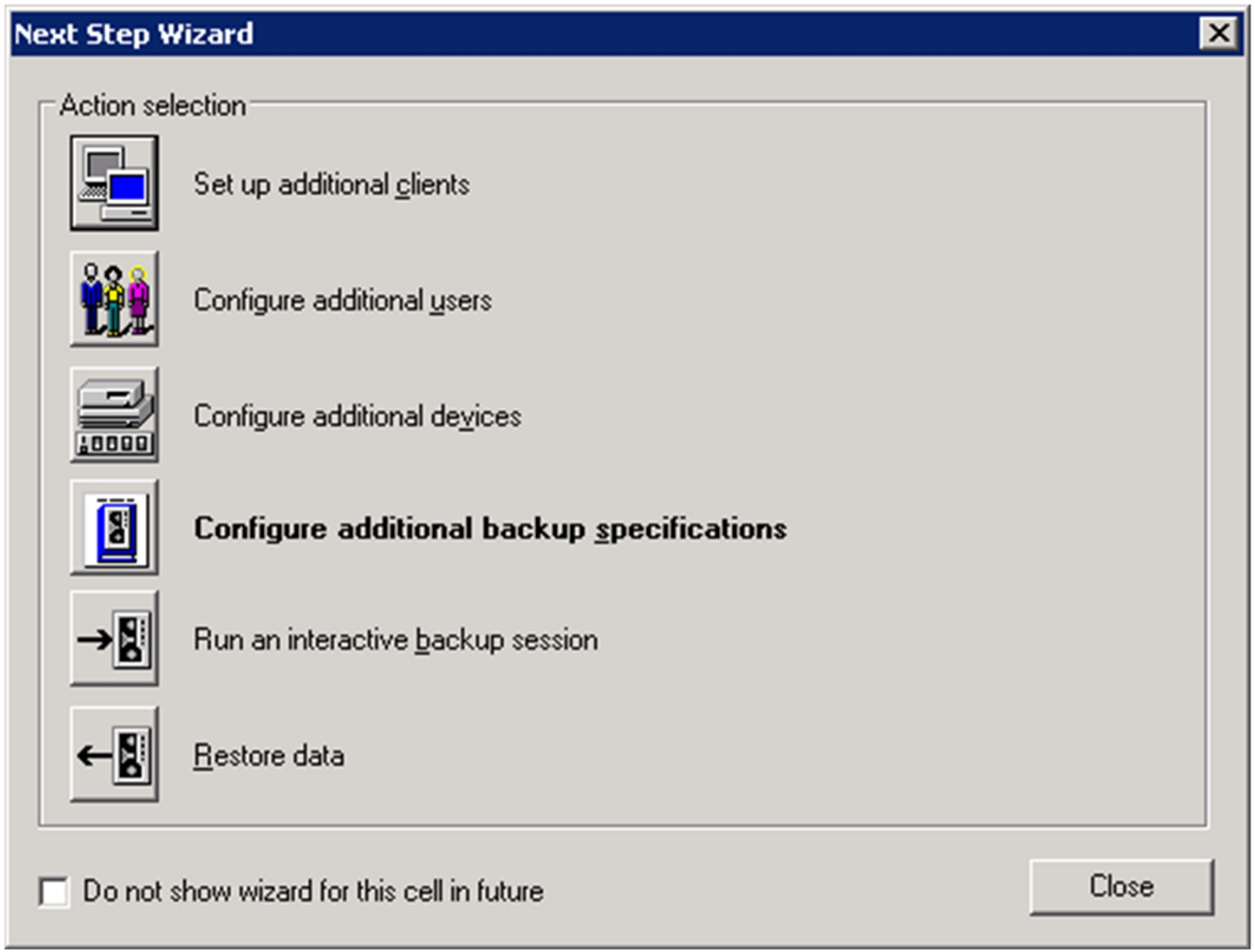
Start HP DataProtector Manager (6)

4) Acknowledge this message with OK:



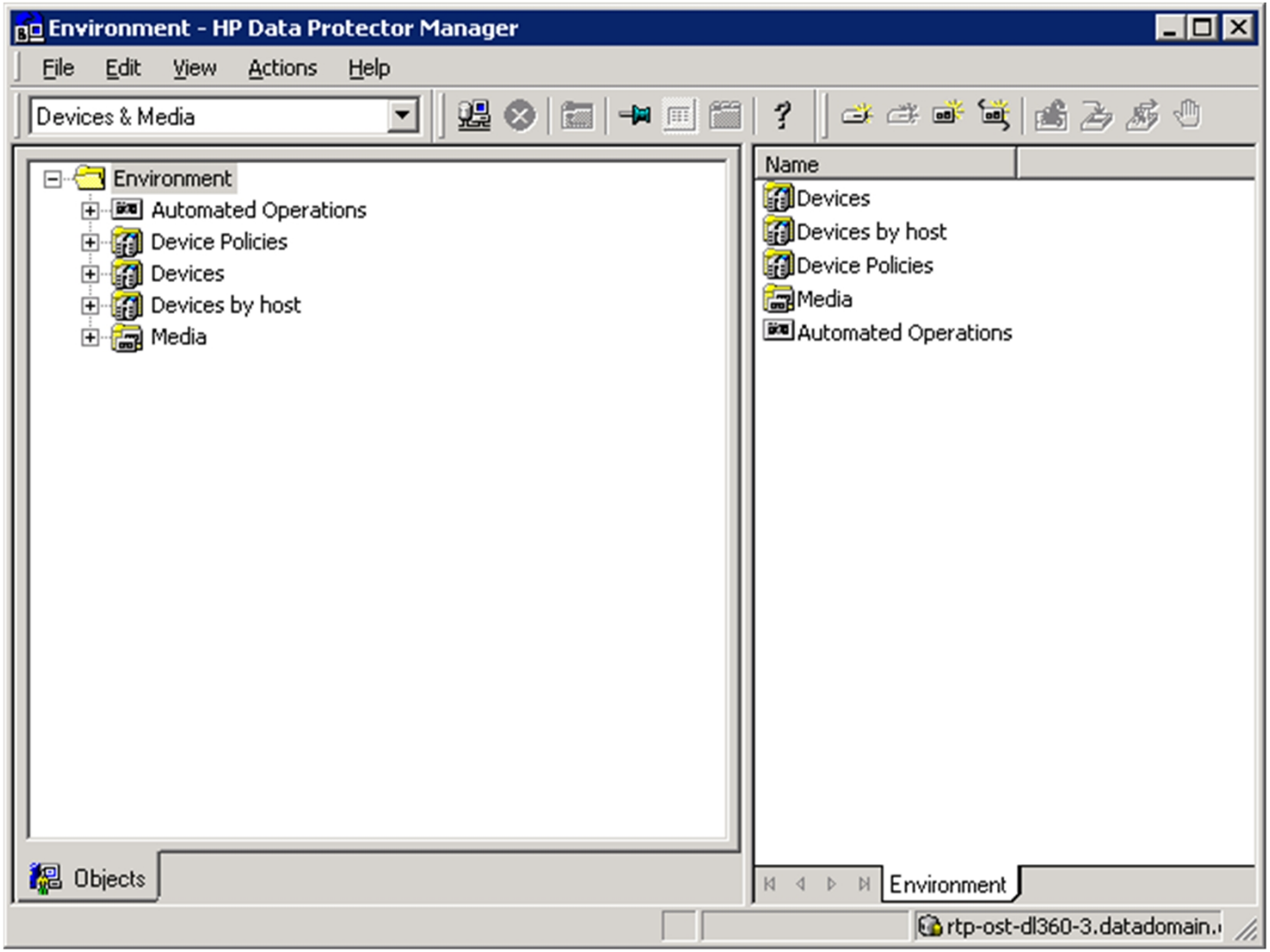
Start HP DataProtector Manager (7)

5) When the Next Step Wizard pop-up appears, select Close:



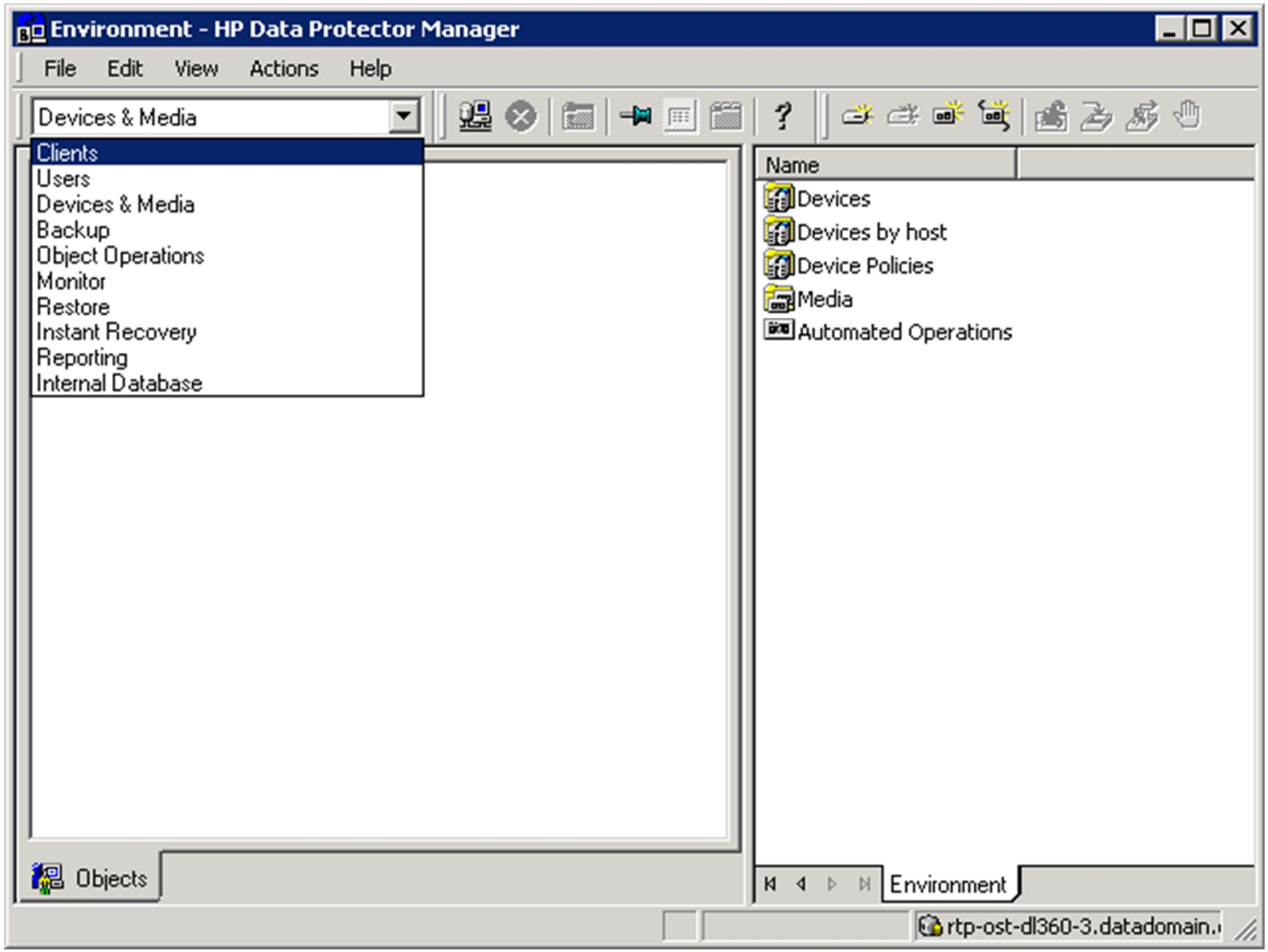
Start HP DataProtector Manager (8)

6) The HP Data Protector Manager should now be operating with this window:



Basic Operations Supported

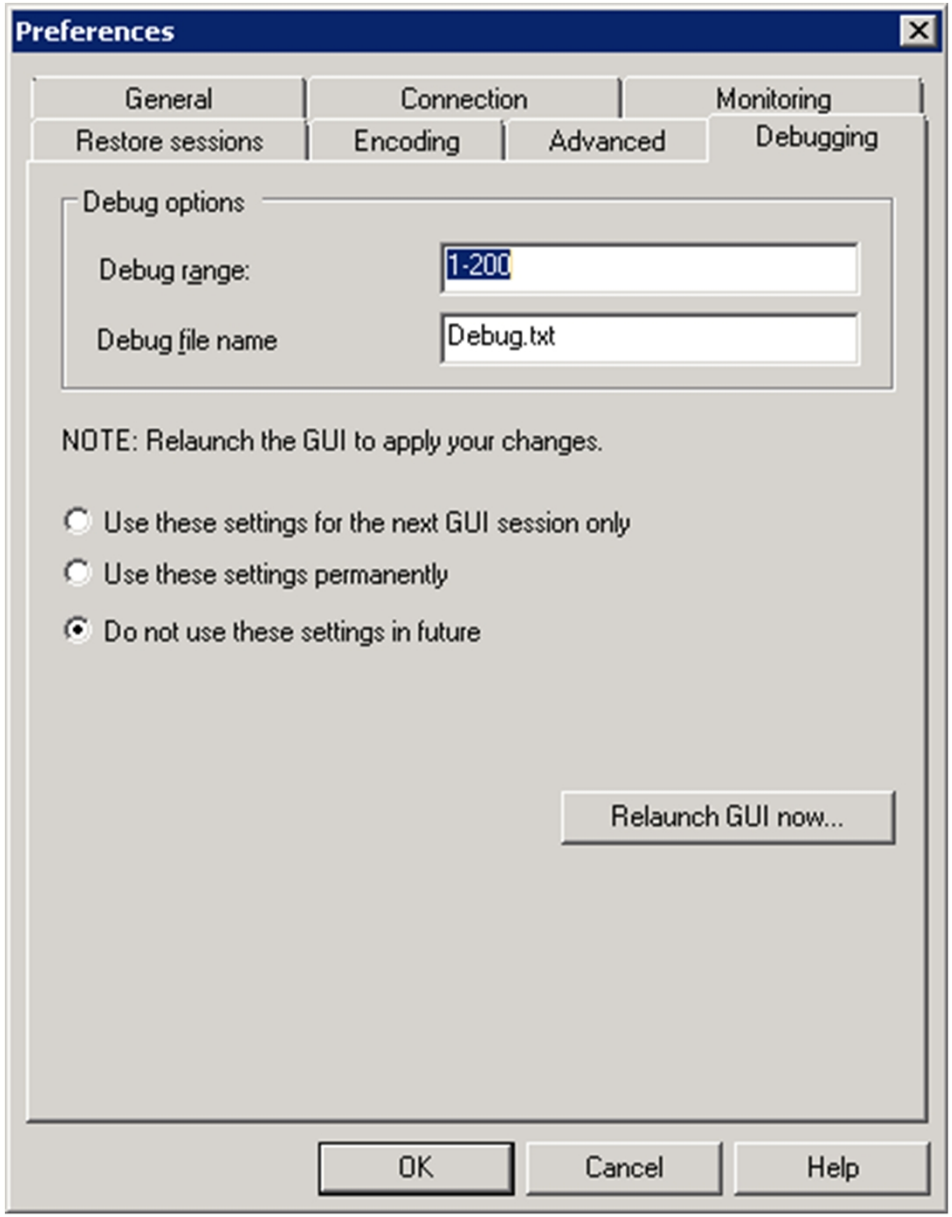
by HP Data Protector Manager are listed in the drop down selection box beneath the File button:



Enable DDBoost Plugin application call back message logging

1) From the previous HP Data Protector Manager window, select File/Preferences/Debugging.

This popup window should Appear ➔



Enable DDBoost Plugin application call back message logging (2)

2) There are three options.

The first will capture the DDBoost Application call back messages for the current session only.

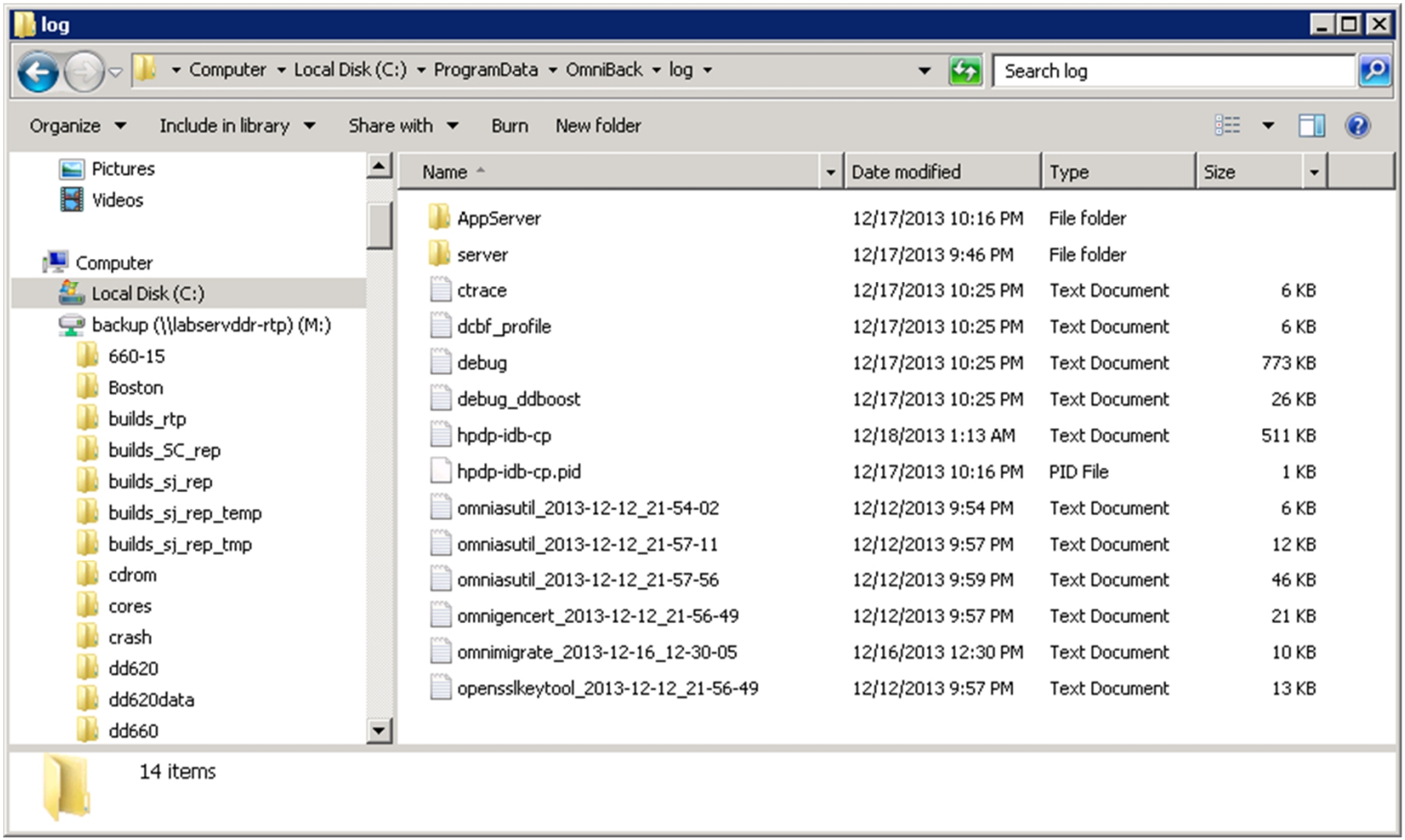
The second will capture the DDBoost Application call back messages as a **permanent behavior**, and over time could **fill up** storage on the client with log file information.

The third will disable logging of the DDBoost Application call back messages.

3) After making a selection, you must perform "Relaunch GUI now..." any time the preferences are changed.

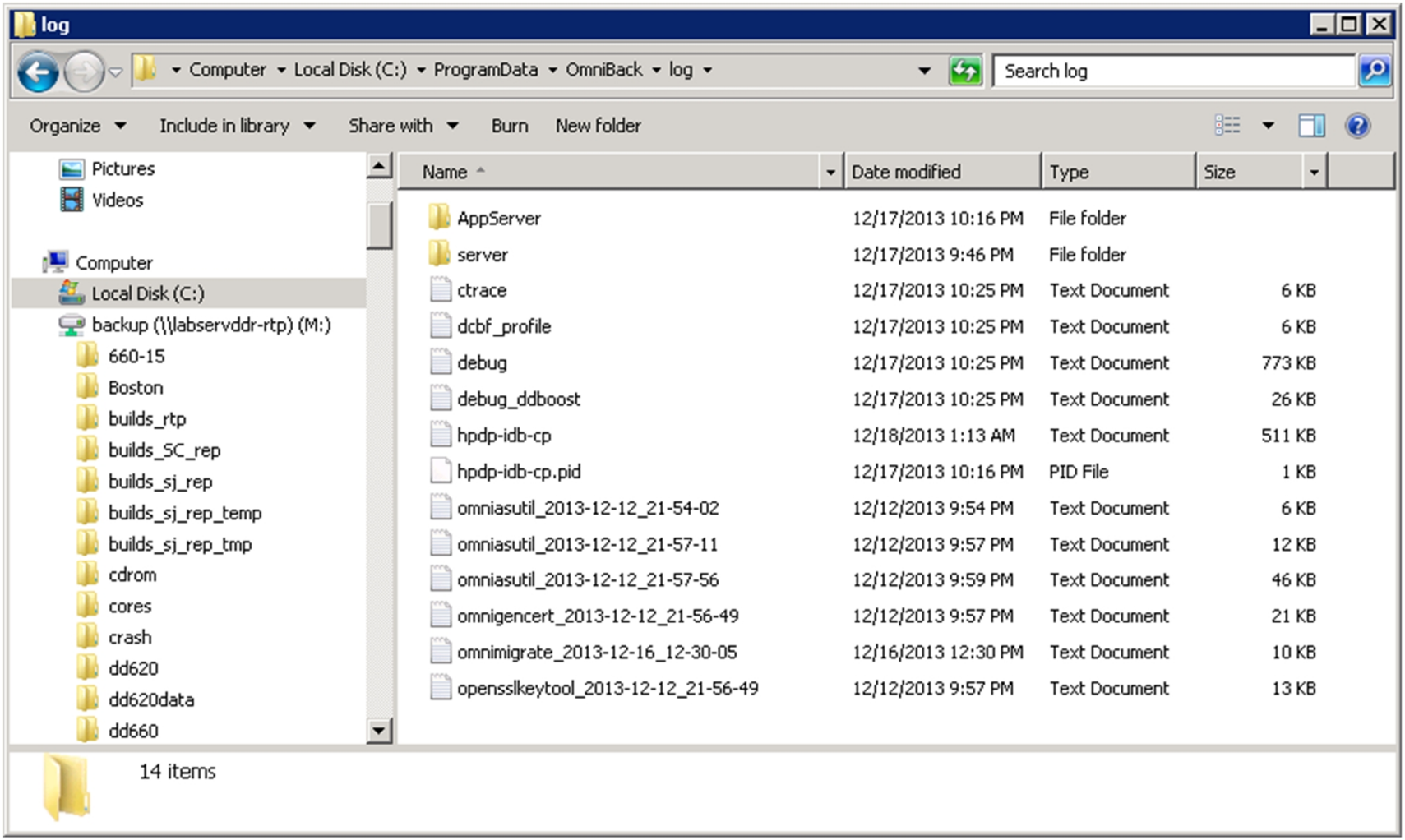
Enable DDBoost Plugin application call back message logging (3)

The DDBoost Application call back message log will be placed in directory path: c:\\ProgramData\OmniBack\log\debug_ddboost:



Enable DDBoost Plugin application call back message logging (4)

The DDBoost Application call back message log will be placed in directory path: c:\\ProgramData\OmniBack\log\debug_ddboost:



Enable DDBoost Plugin application call back message logging (5)

Regarding debug severities

For DDBoost HPDP has 2 severity options:

1) Log errors is on at all times

2) Log all callbacks and debug information is on when DP debugging is enabled regardless of the DP debugging severity

For DP debugging:

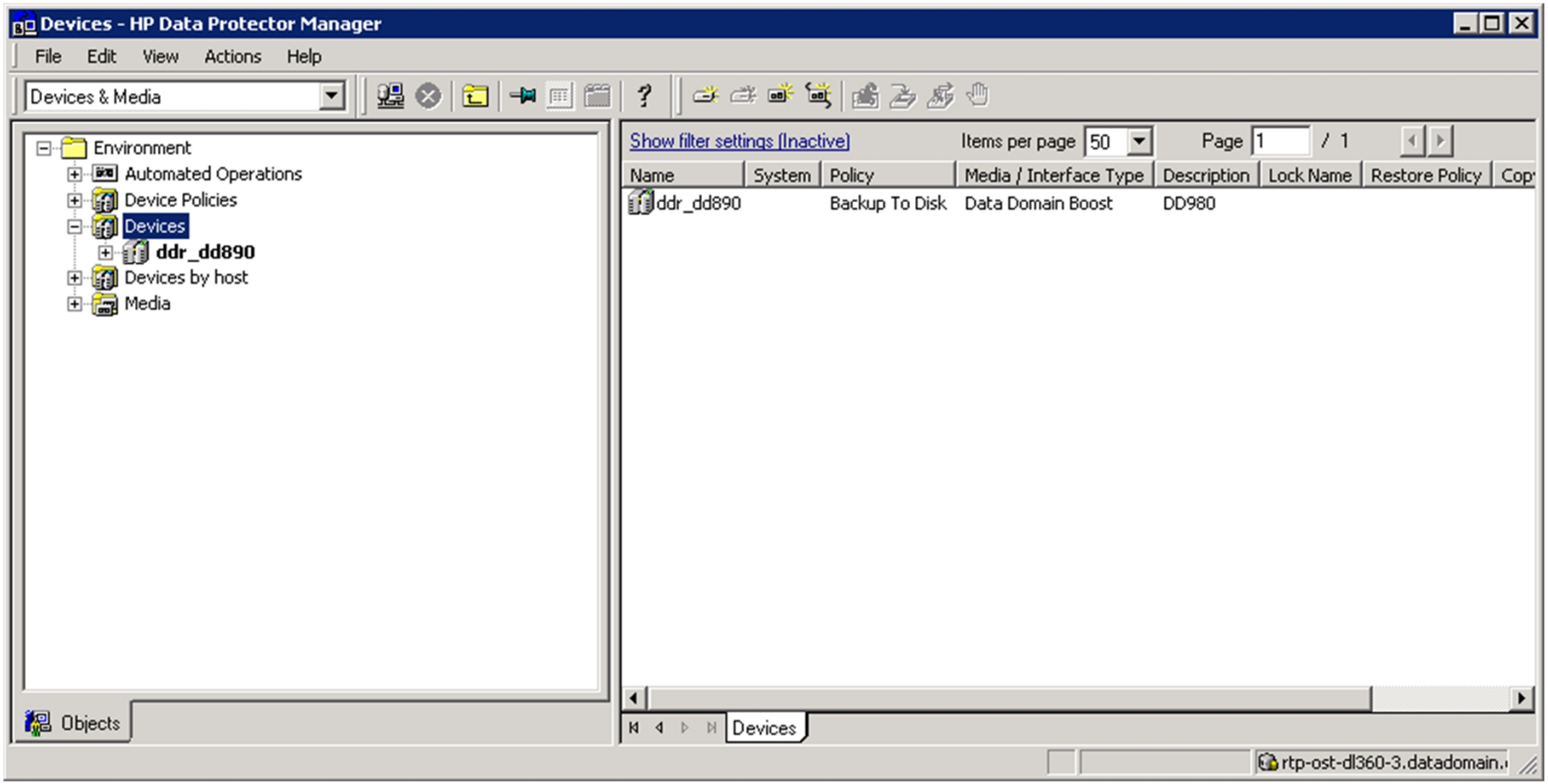
- choose either option:
  use these options for the next GUI session only or
  use these setting permanently
  and then re-launch the DP GUI.

- Set the HPDP internal severity option level for debug as range 1-200, 1-300 or 1-400 to control the detail of logging in debug files that are saved in folder:
  ProgramData/OmniBack/tmp

  This does not influence the debug_ddbost.log file present in folder:
  ProgramData/OmniBack/log folder.

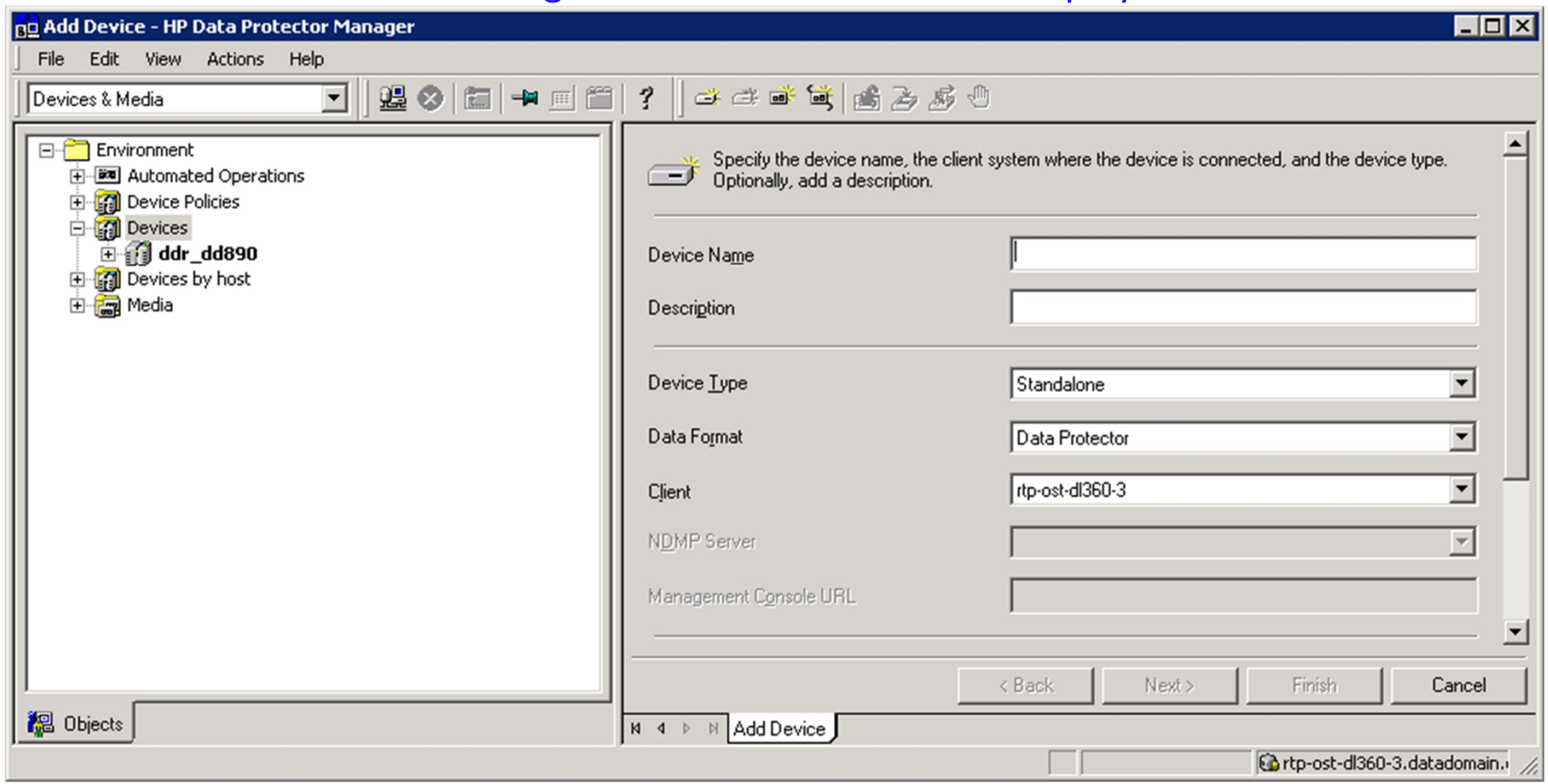
Add Data Domain Storage Device

To add a DataDomain storage device, select the operation "Devices & Media", then select Devices and perform a right click, to access the operation: "Add Device ..."



Add Data Domain Storage Device (2)

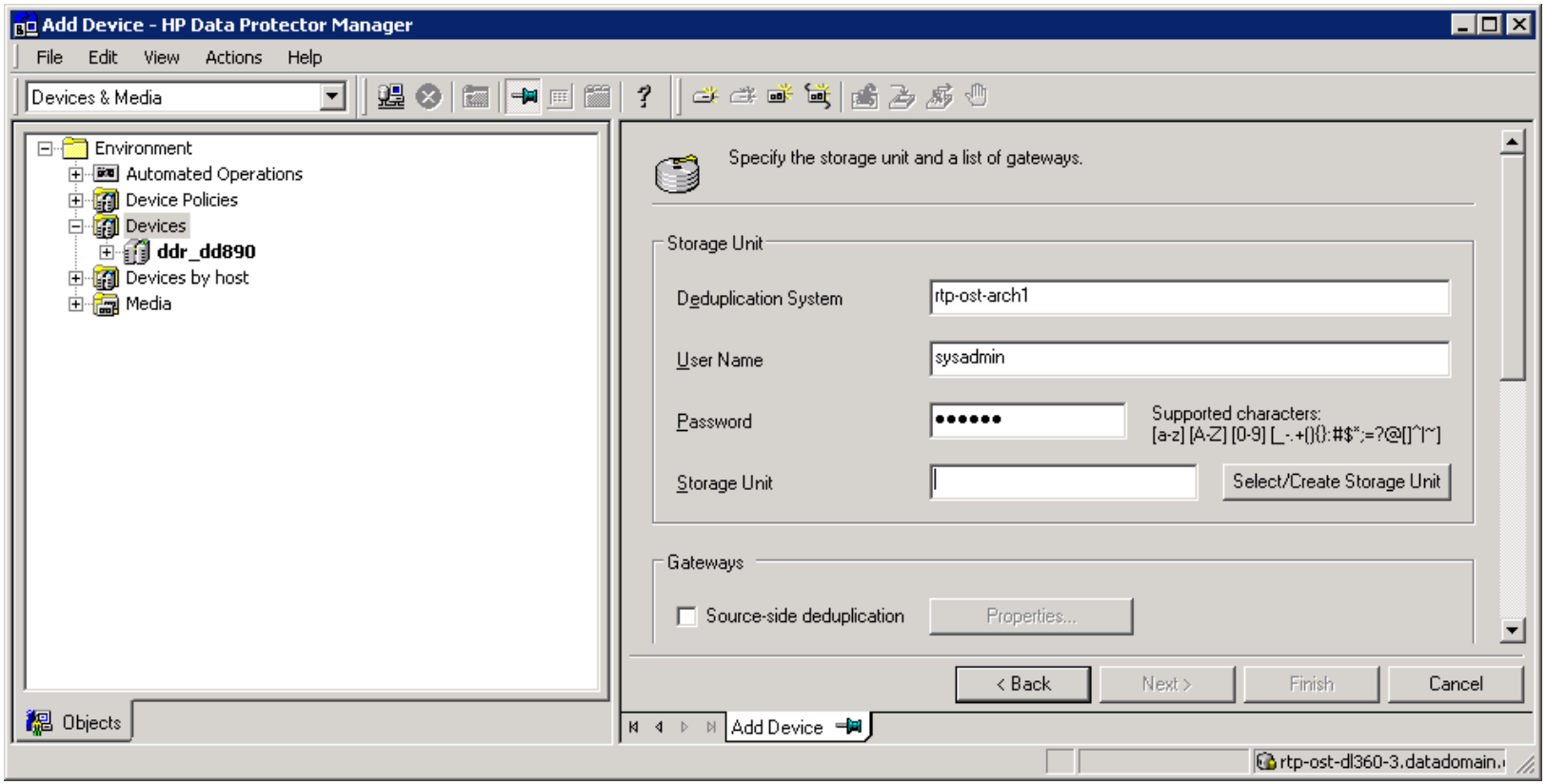
The right side of the window will display:



Enter the DataDomain storage device name in the Device Name box. You may enter an optional description in the Description box. This is a wizard that walks through the actions needed to add a DataDomain storage device to the client.

Add Data Domain Storage Device (3)

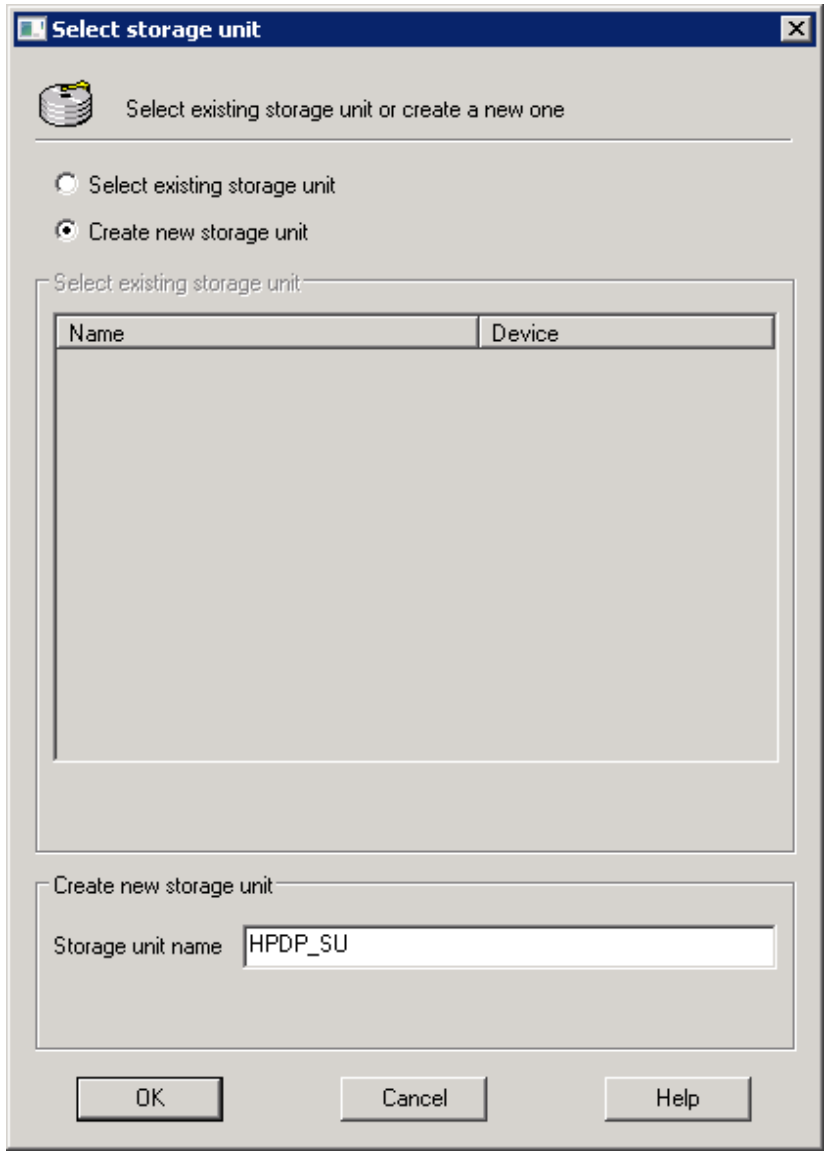
The selection of Interface Type “Data Domain Boost” causes the DDBoost Plugin library to be loaded. According to HPDP engineering, when the DDBoost Plugin library is loaded, the HP plugin is **NOT** loaded.



On the next page, enter the host name of the DataDomain storage device in the "Deduplication System" box and also provide the "User Name" and "Password". The Storage Unit name must also be provided. This is the name of the Storage Unit HPDP will use on the DDR.

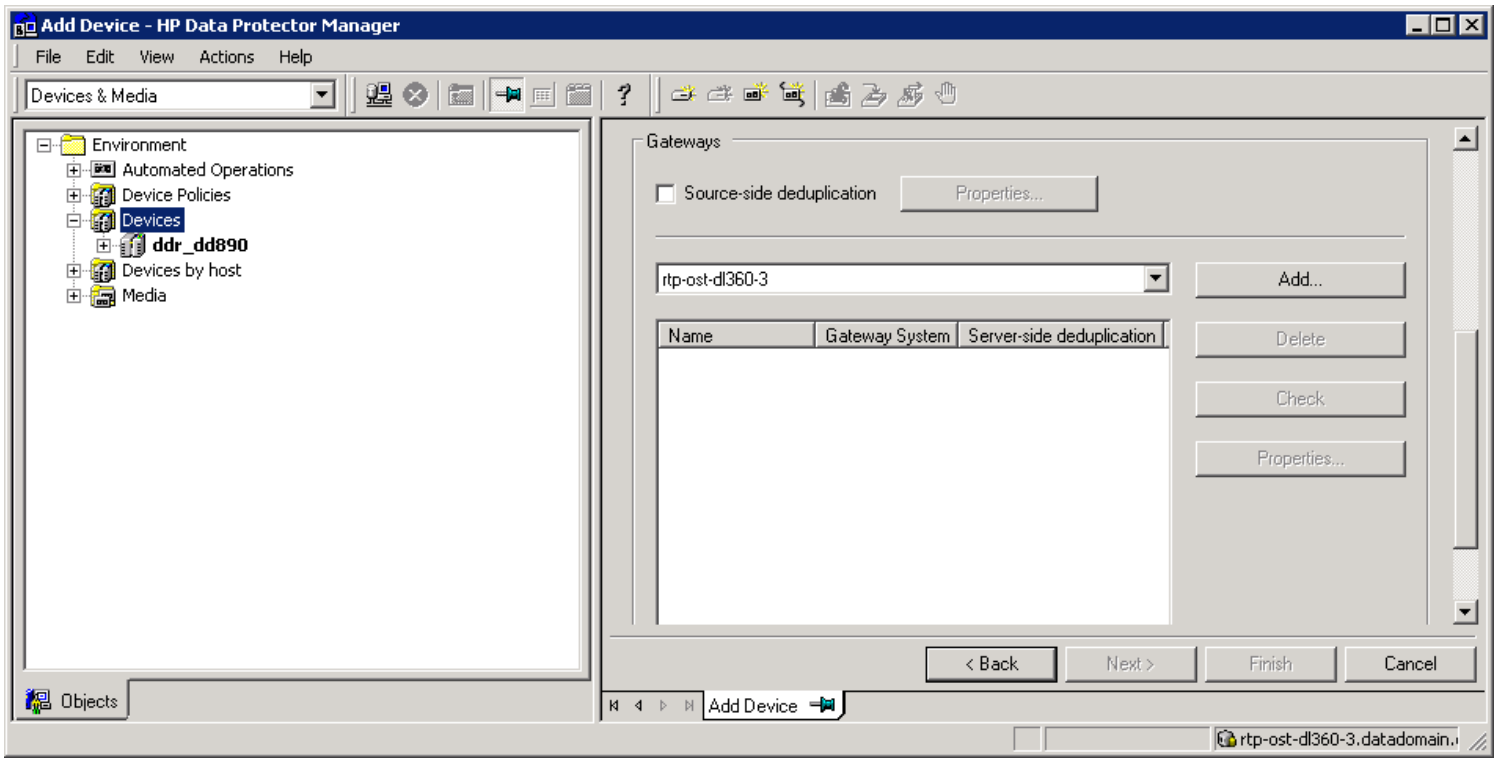
Add Data Domain Storage Device (4)

Pressing "Select/Create Storage Unit" should cause this window to appear if the credentials and access rights to the DataDomain storage device are valid ➔



Add Data Domain Storage Device (5)

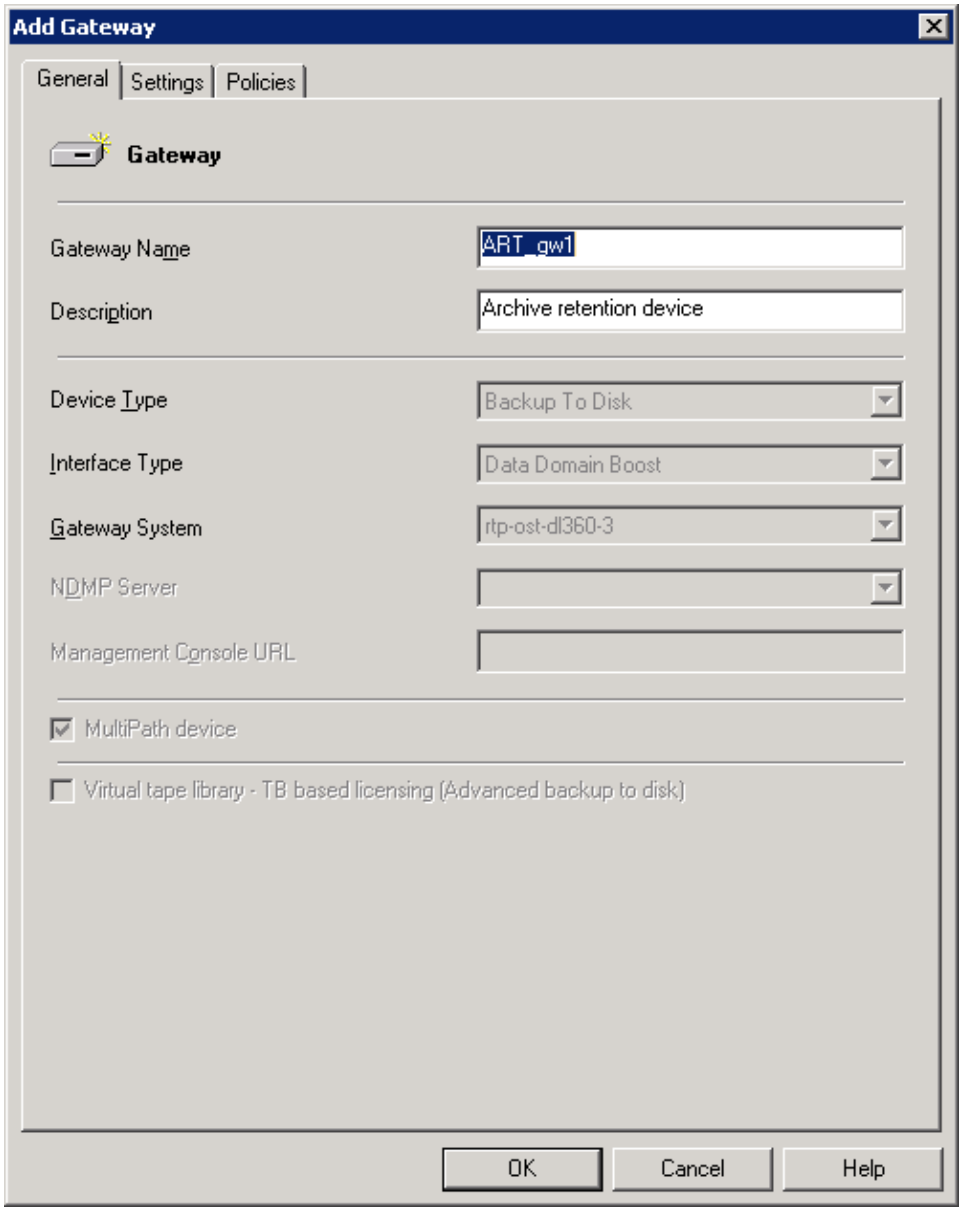
After creating the storage unit, we are back on the previous window, and it has been scrolled down to reveal additional specification fields. Note that HPDP supports its own deduplication that is **NOT** DDBoost deduplication; however, because a DataDomain storage device is selected, the HPDP plugin is **not loaded** and selection of Source-side deduplication (the HPDP algorithm) should have no effect.



NOTE: This is important, you must scroll down to make the  Add button to appear.
To cause the Add Device Storage Unit to be created, click on Add.

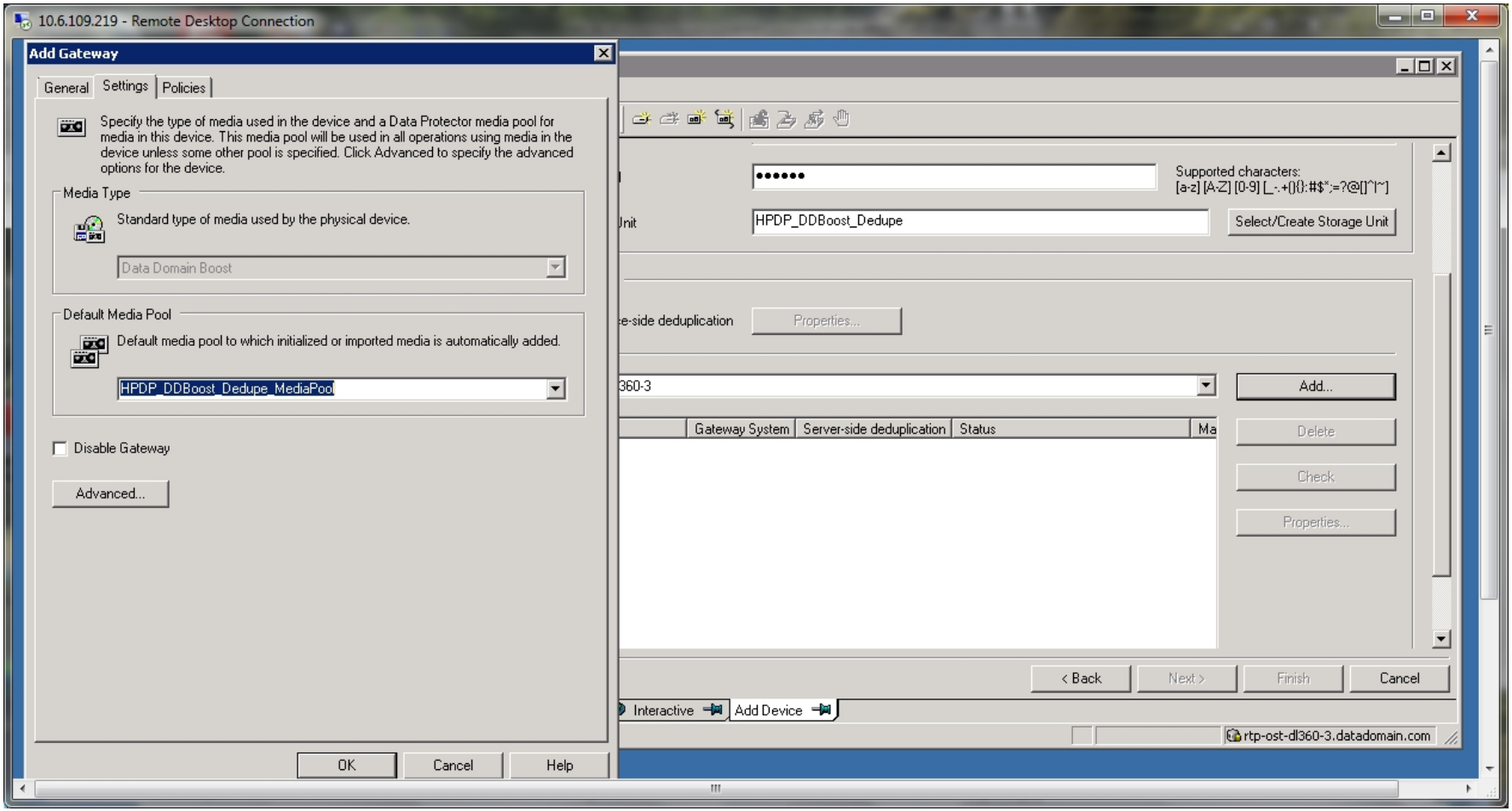
Add Data Domain Storage Device (6)

Note that when HPDP creates the gateway, it appends "_gw1" to the device name we provided earlier, to form the gateway name.



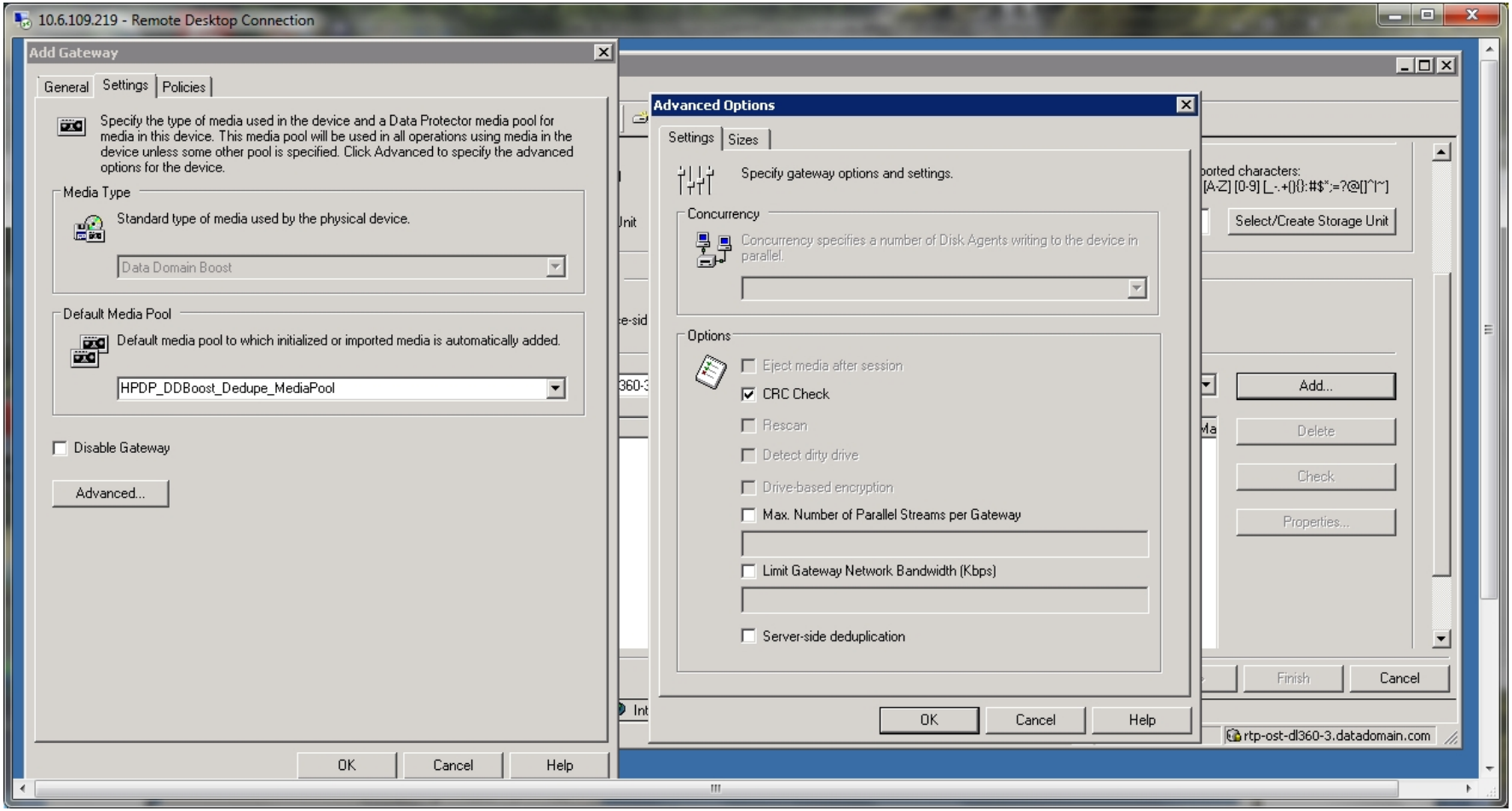
Add Data Domain Storage Device (7)

The interface shows it has a way to select DDBoost Deduplication; however, this has no affect and **should be ignored**. It was intended to work by clicking on the "Settings" tab, the Add Gateway window should change to look like this:



Add Data Domain Storage Device (8)

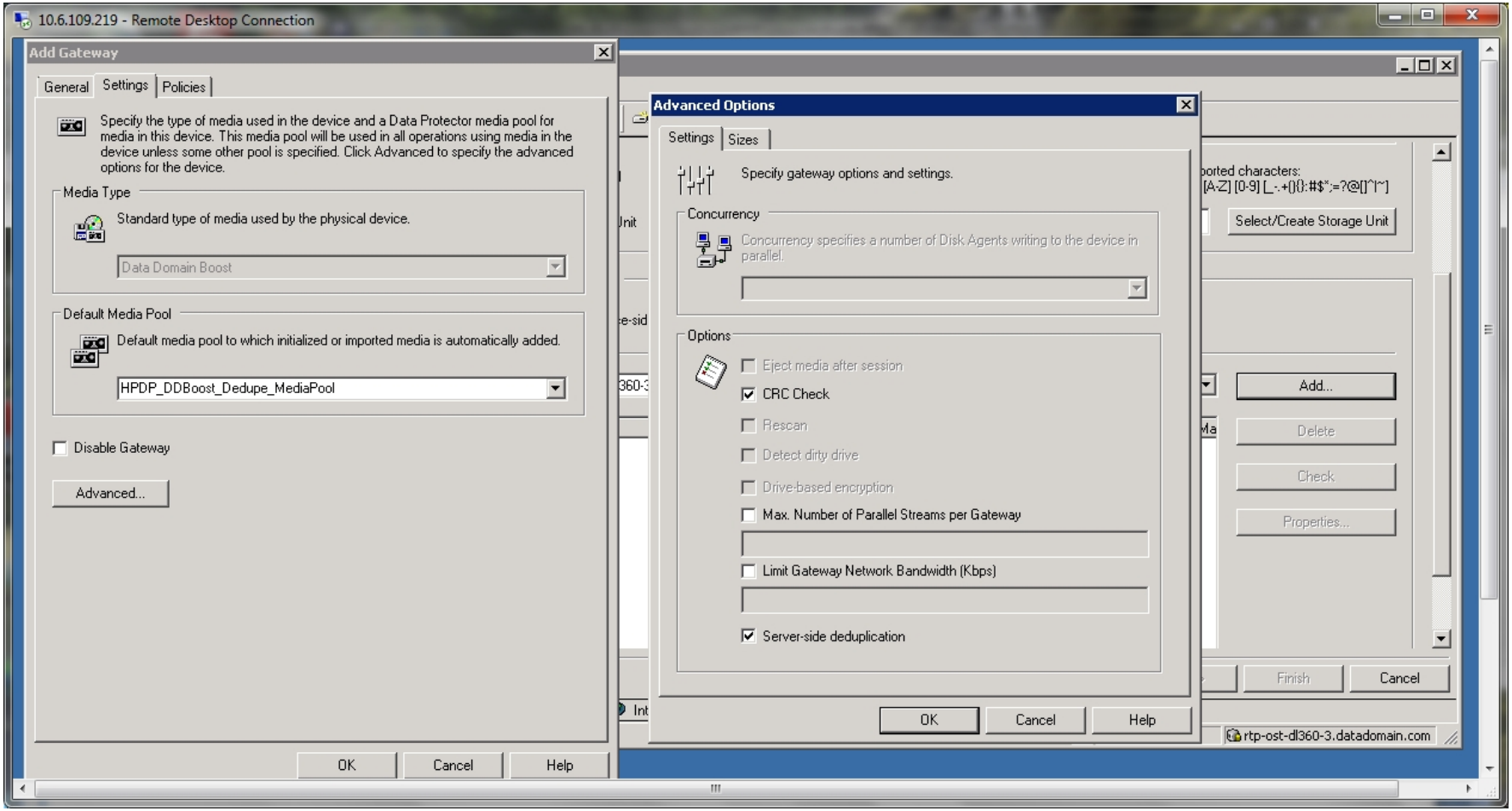
Then click on the “Advanced…” button and another window should appear:



From this new window, the user would select “Server-side deduplication”

Add Data Domain Storage Device (9)

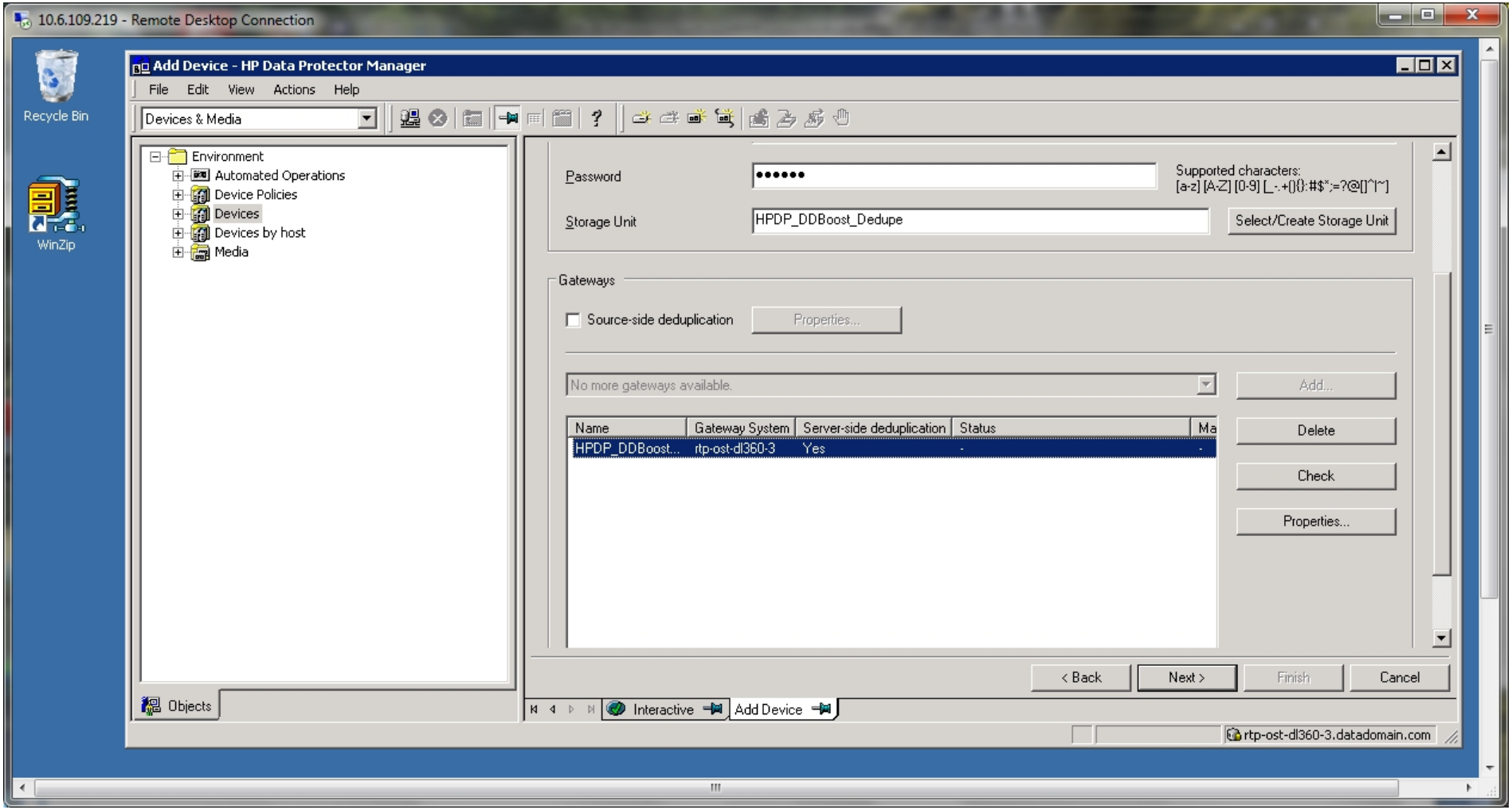
From this new window, the user would select “Server-side deduplication”



And click OK on the two popup windows that were presented, to cause the original Add Device window to be revealed.

Add Data Domain Storage Device (10)

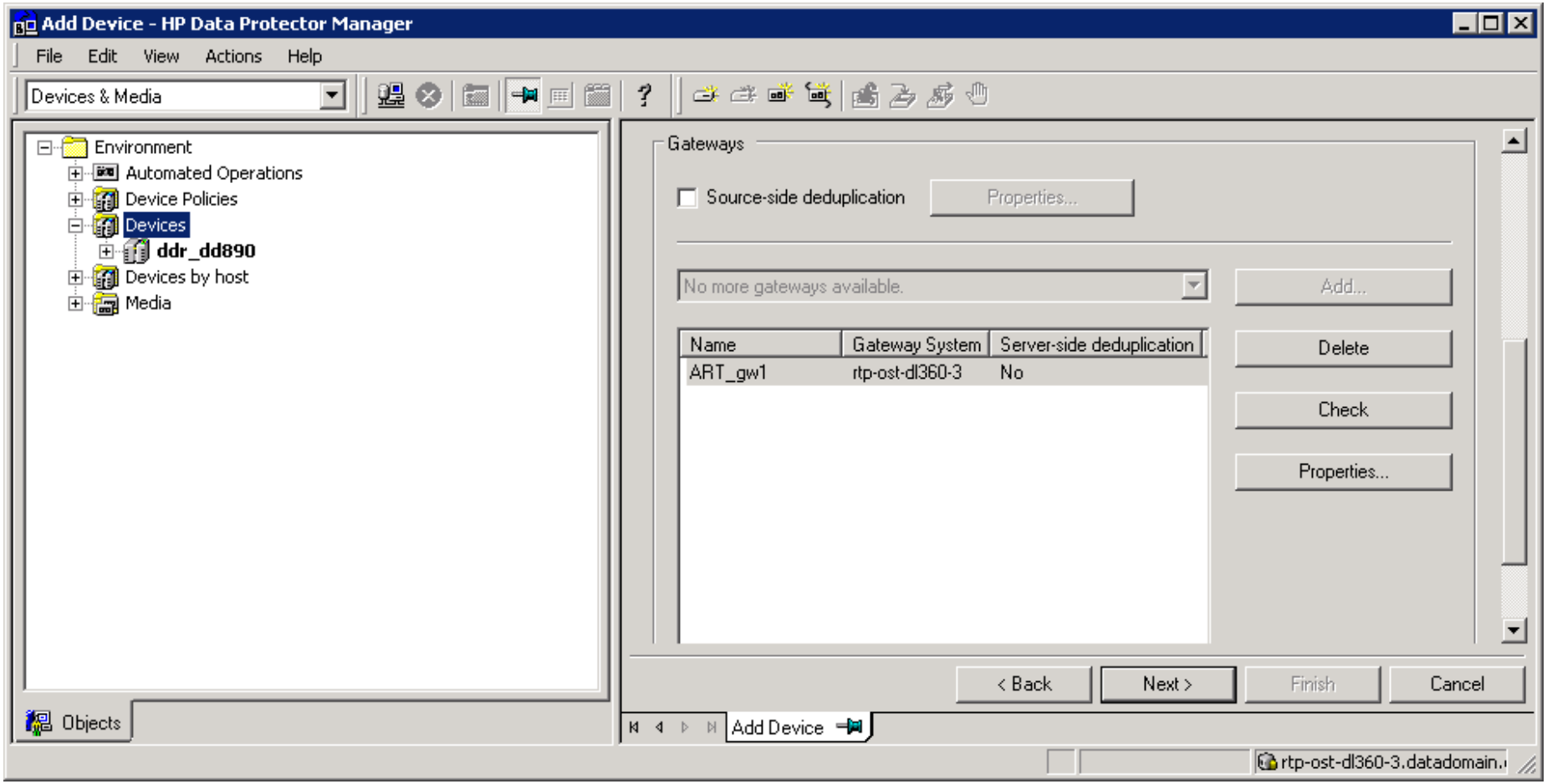
Under the Server-Side Deduplication column, a “Yes” should appear.



Again: This has no affect and should be ignored.

Add Data Domain Storage Device (11)

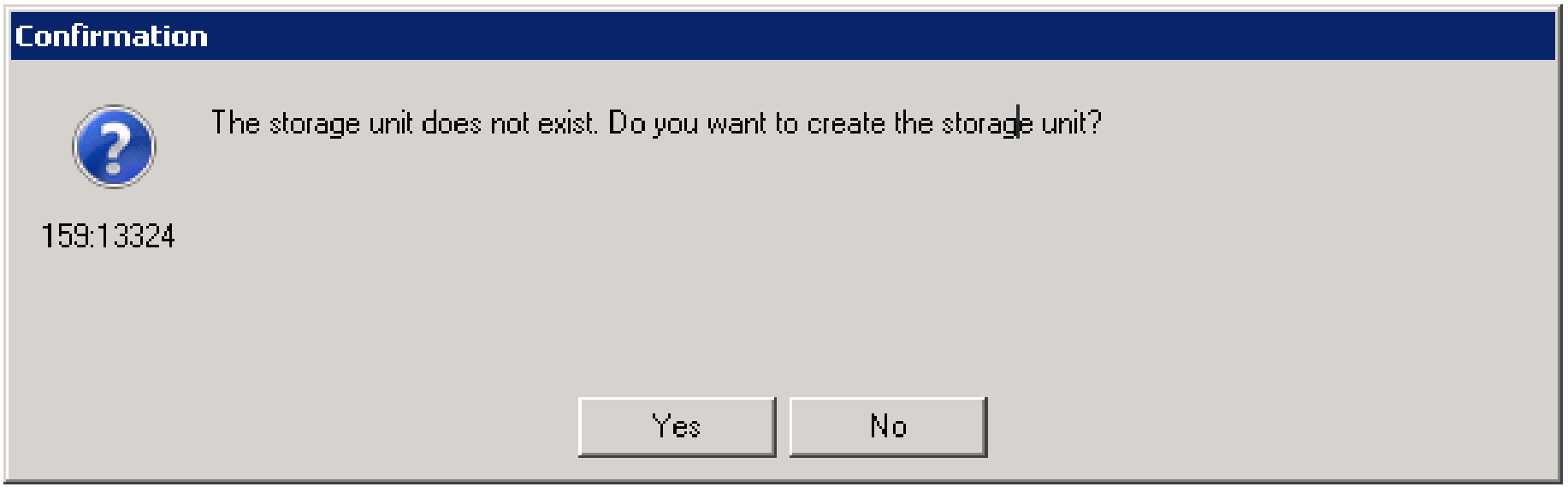
Click "Next" on the Add Device - HP Data Protector Manager window.



In the above example, DDBoost Deduplication is **not** selected

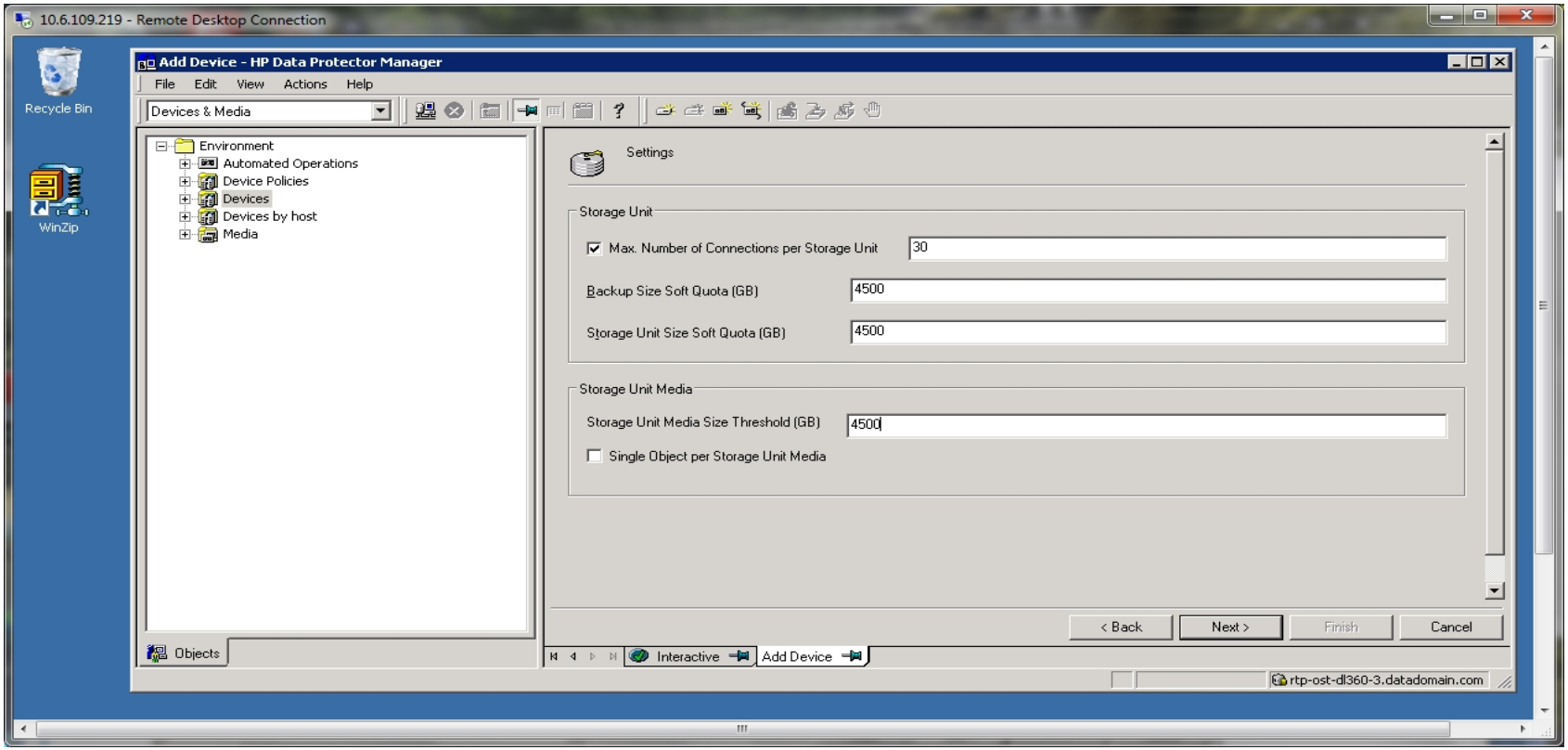
Add Data Domain Storage Device (12)

If a new storage unit must be created, this message will appear:



Add Data Domain Storage Device (13)

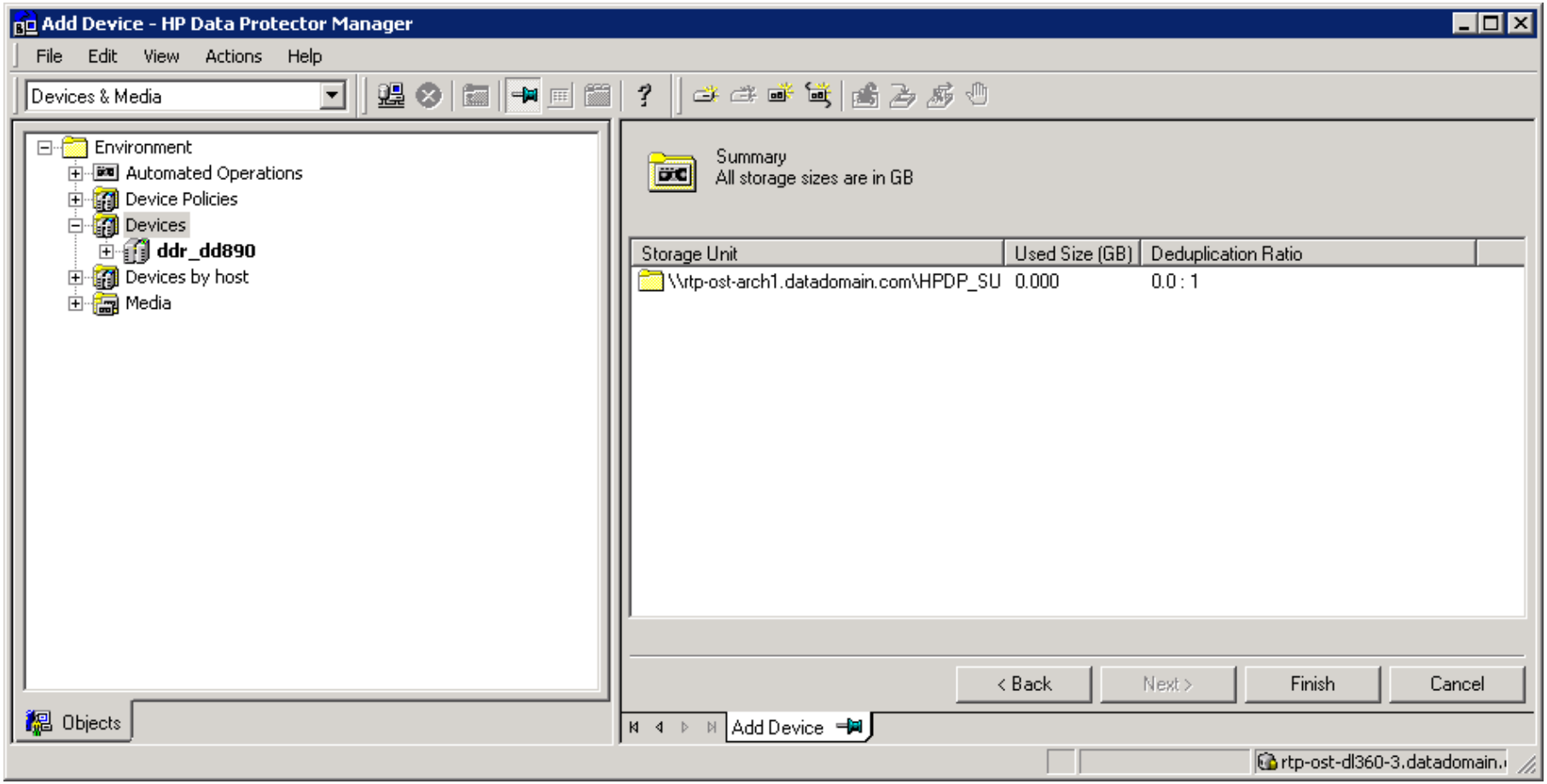
After selecting "Yes", and then pressing "Next" this window will appear:



Here we can set a limit to the number of connections allowed per storage device, and storage device size quota limit values can be set. For the above example some arbitrary values for a 4.5 Tbyte capacity storage unit have been provided. NOTE: In the case of DDBoost, Soft Quota setting are set for the whole DDR and not for a single storage unit.

Add Data Domain Storage Device (14)

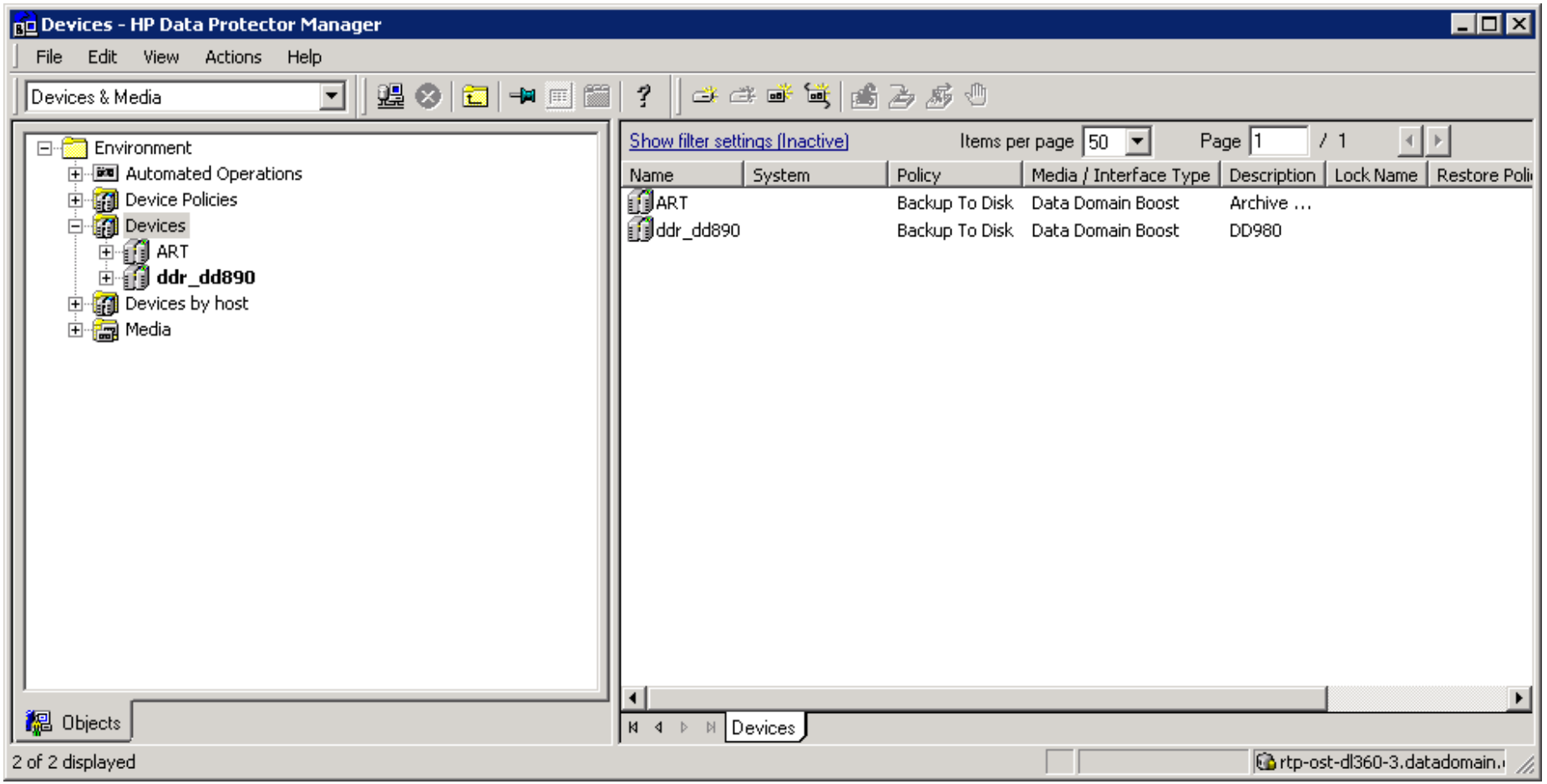
After clicking "Next", this window should appear:



The final step is to press the Finish button

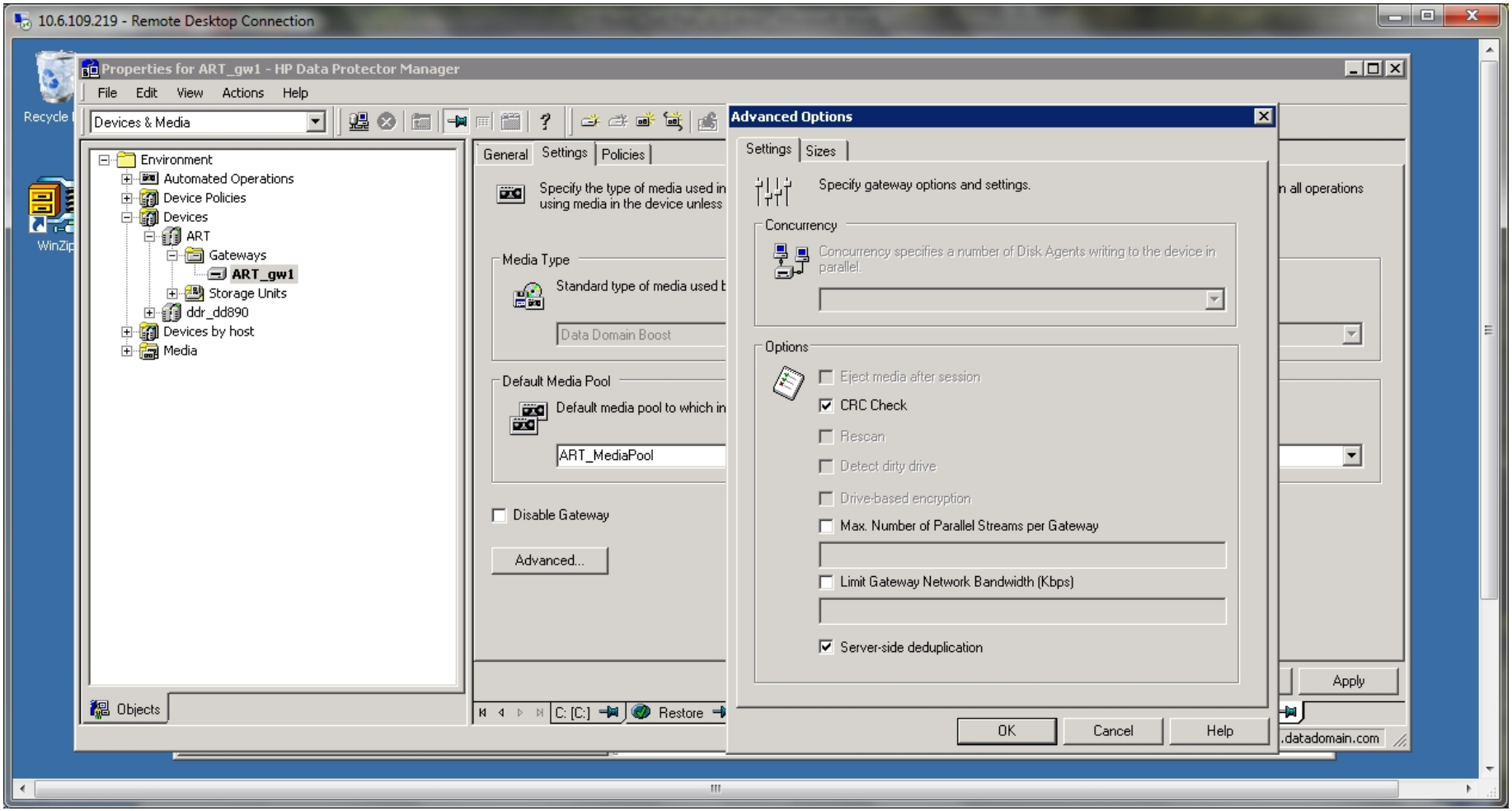
Add Data Domain Storage Device (15)

When the "Finish" button is pressed, the new device name will appear in the left hand and right hand side of the window:



Add Data Domain Storage Device (16)

You can check the status of a DataDomain Device from the HPDP Manager, through this set of windows: Devices & Media / Settings / Advanced Options



Add Data Domain Storage Device (17)

Special Notes about Deduplication

In the HPDP GUI DDBoost Deduplication is called "**Server**-side deduplication".

Note 1) HPDP deduplication is called "**Source**-side deduplication". If a DataDomain storage device is selected, the Plugin library that services HPDP deduplication is not loaded and selecting this algorithm has no affect.

If DSP (Distributed Segment Processing) is set as "enabled" on DDR, "Source-side deduplication" works, if it is turned on in this section.

Note 2) If a DataDomain storage device is selected, the DDBoost Plugin library is loaded. The "Server-side deduplication" field has no effect, whether it is set to "Yes" or "No" within the HPDP GUI to cause Data Domain Deduplication to occur.

But if DSP is set as "enabled" on DDR, "Server-side deduplication" is on by default.

Note 3) For DDBoost deduplication to work, on the Data Domain Restorer, the dd shell command "ddboost status" must say "DD Boost status: enabled".

To turn DSP on/off, run the command "ddboost distribted-segment-processing enabled/disabled".

Add Data Domain Storage Device (18)

You can get on the DDR and use the ddboost shell command (ddsh –a) to examine the storage units:

```
ddboost storage-unit show
```

The new storage unit should be listed:

```
Name          Pre-Comp (GiB)    Status
----------    --------------    ------
ART_LSU1                 0.0    RW
ART_LSU10                0.0    RW
HPDP_SU                  0.0    RW
SN_LSU1                 10.0    RW
SN_LSU2                 10.0    RW
SN_LSU3                 11.0    RW
```

To examine the ddboost status use command:

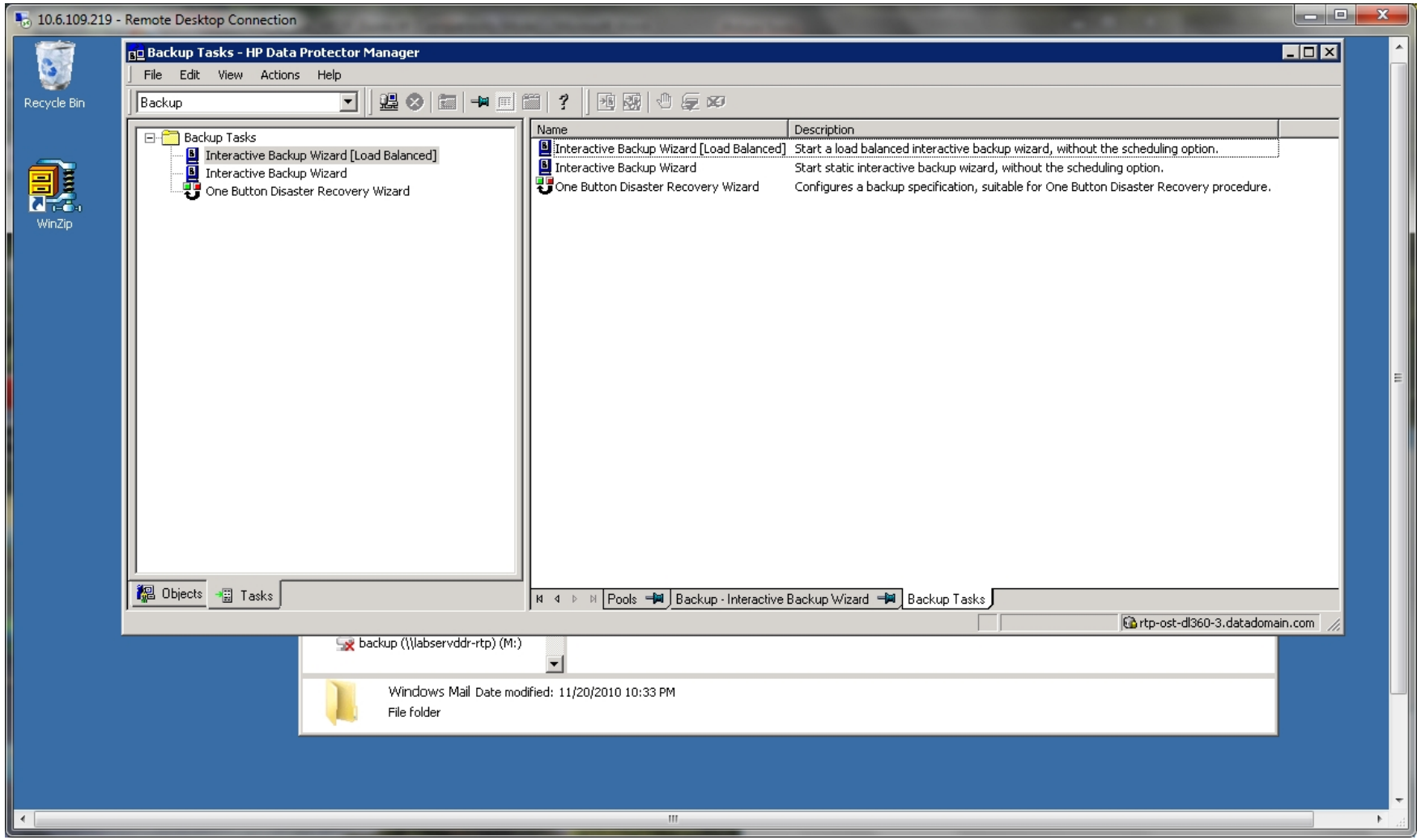
```
ddboost status
DD Boost status: enabled
```

The command to enable DDBoost is:

```
ddboost enable
DD Boost enabled.
```

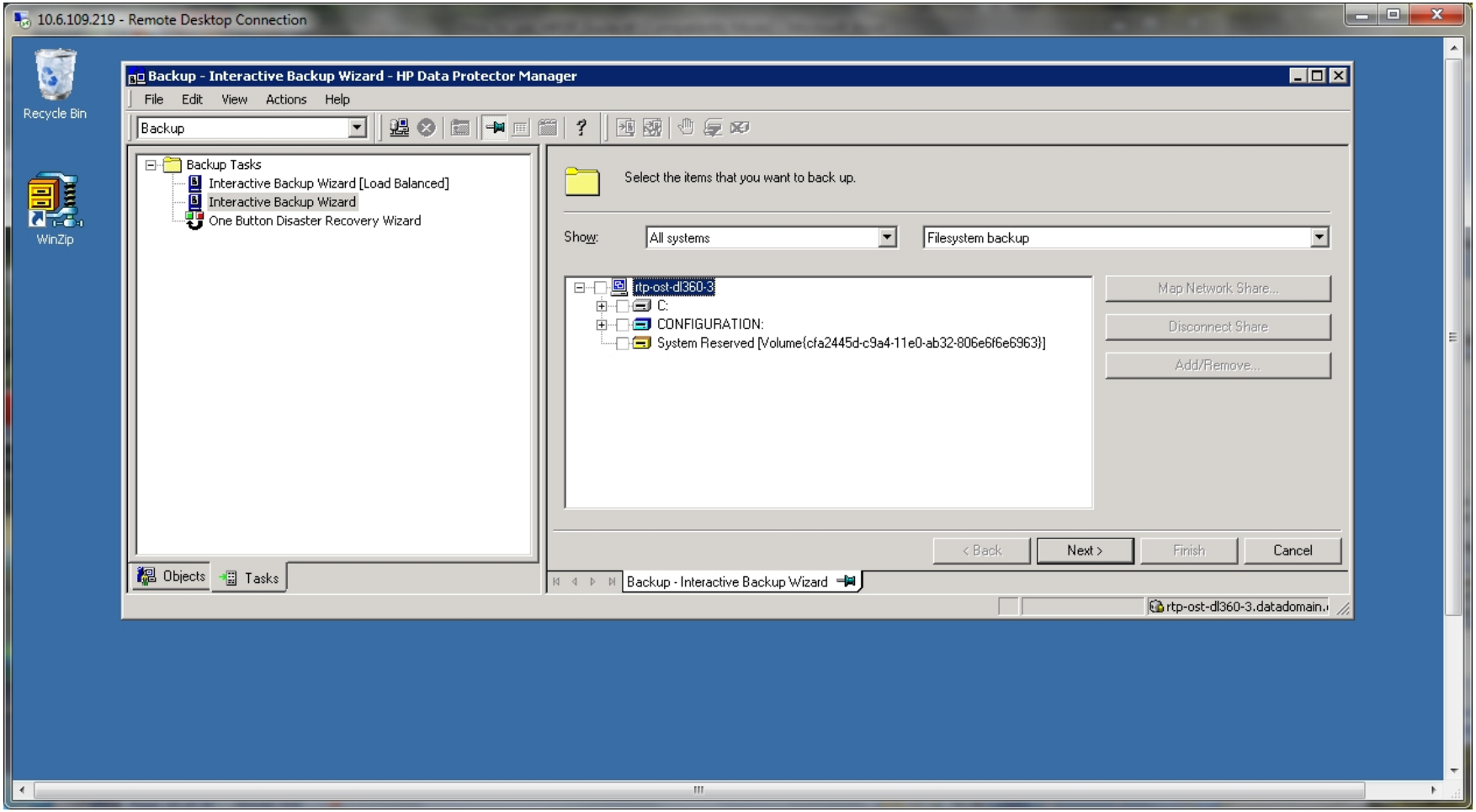
Backup

To define a backup job, from the HP Data Protector Manager, select the **Tasks** tab from the lower border.



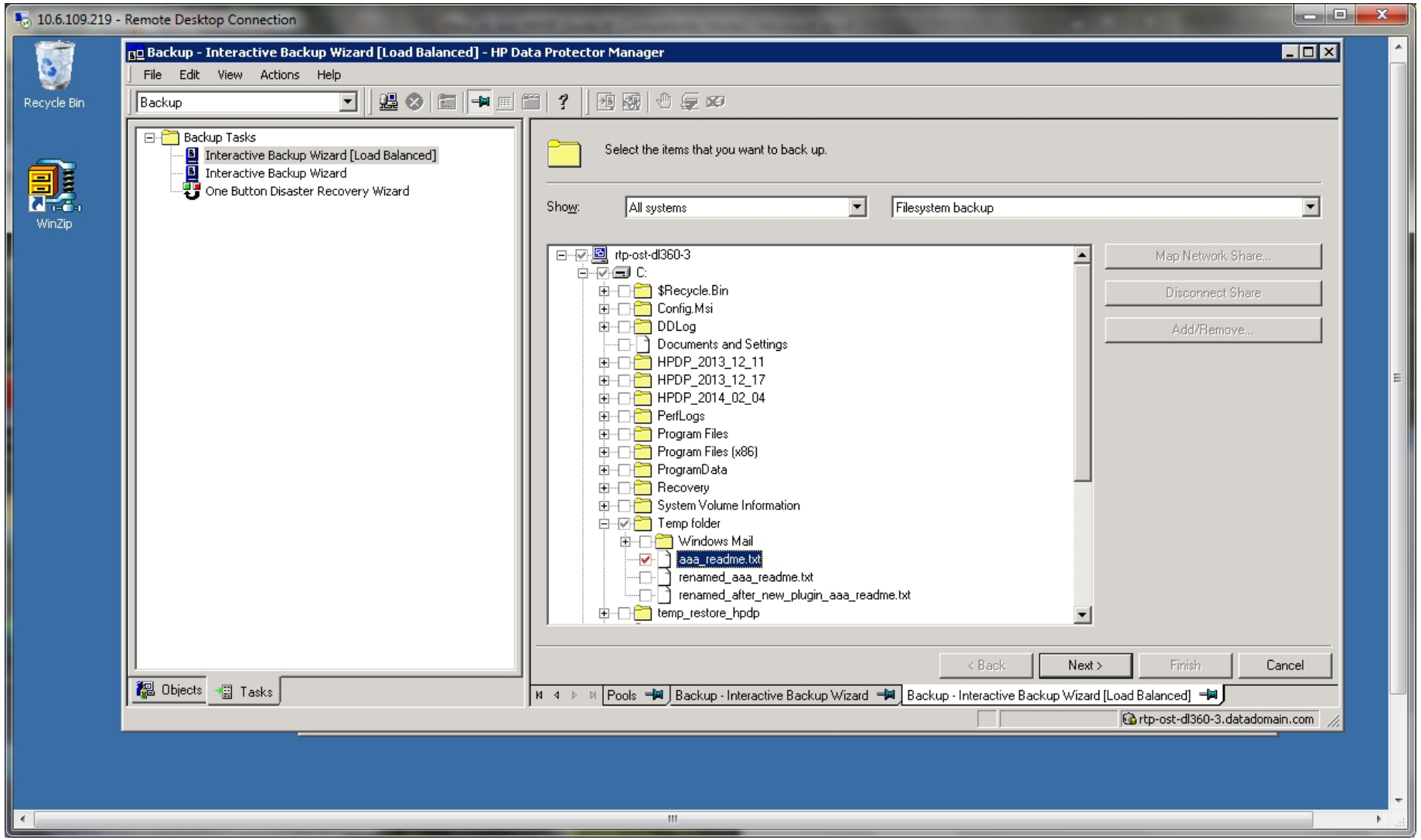
Backup (2)

Then from the right panel, select Interactive Backup Wizard [Load Balanced], and double-click. The next view will tell you to "Select the items that you want to back up". This should present a display similar to the Windows Explorer file manager. The devices mapped to this client should be visible. Click on the directory structure to open a folder.



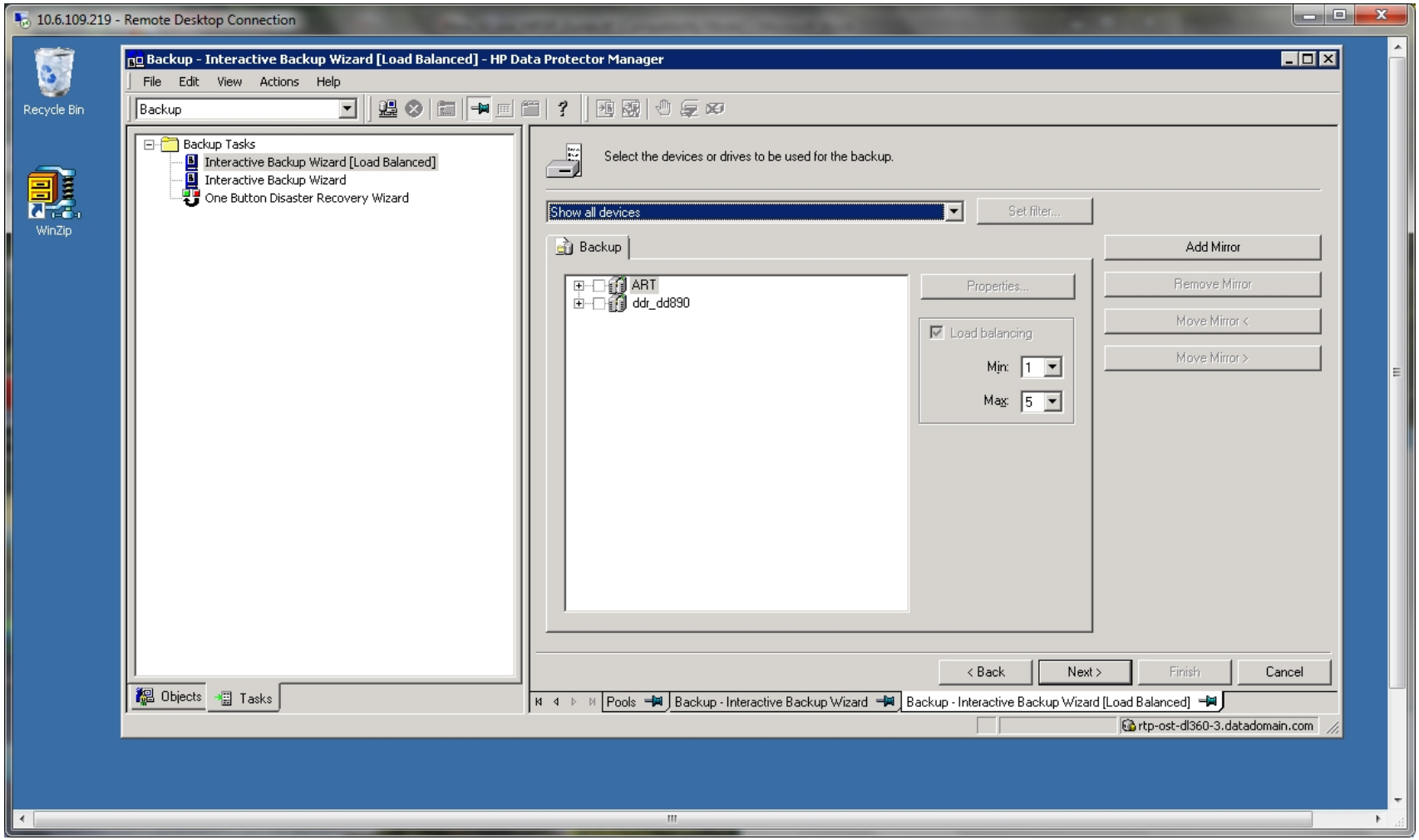
Backup (3)

For this example, Temp folder file aaa_readme.txt has been selected.



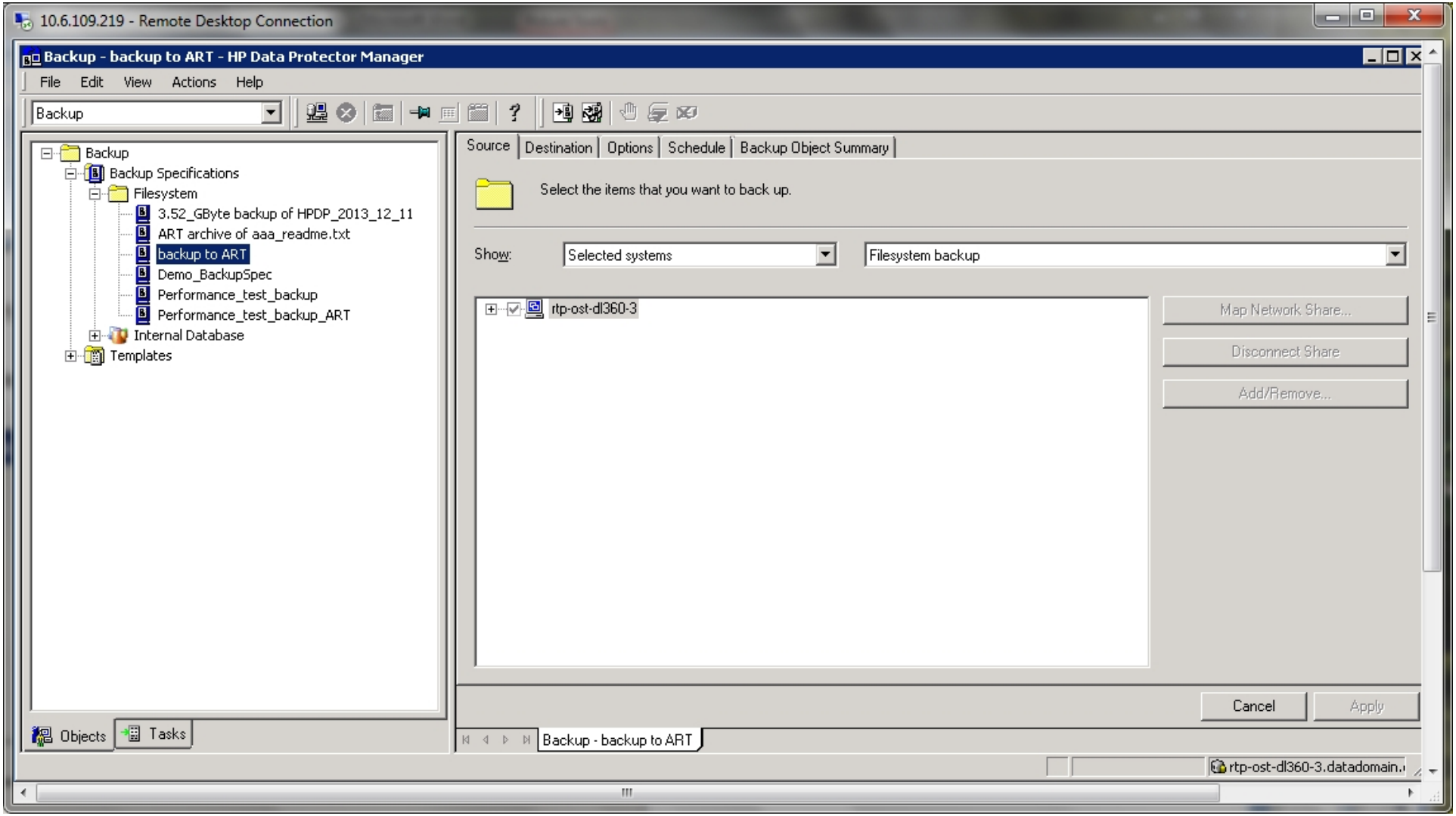
Backup (4)

The selected file is a 159 byte text file that describes HPDP trouble messages. After selecting the pathname to backup, click on **Next**. The available devices that can be used as the backup appliance should appear in the next window:



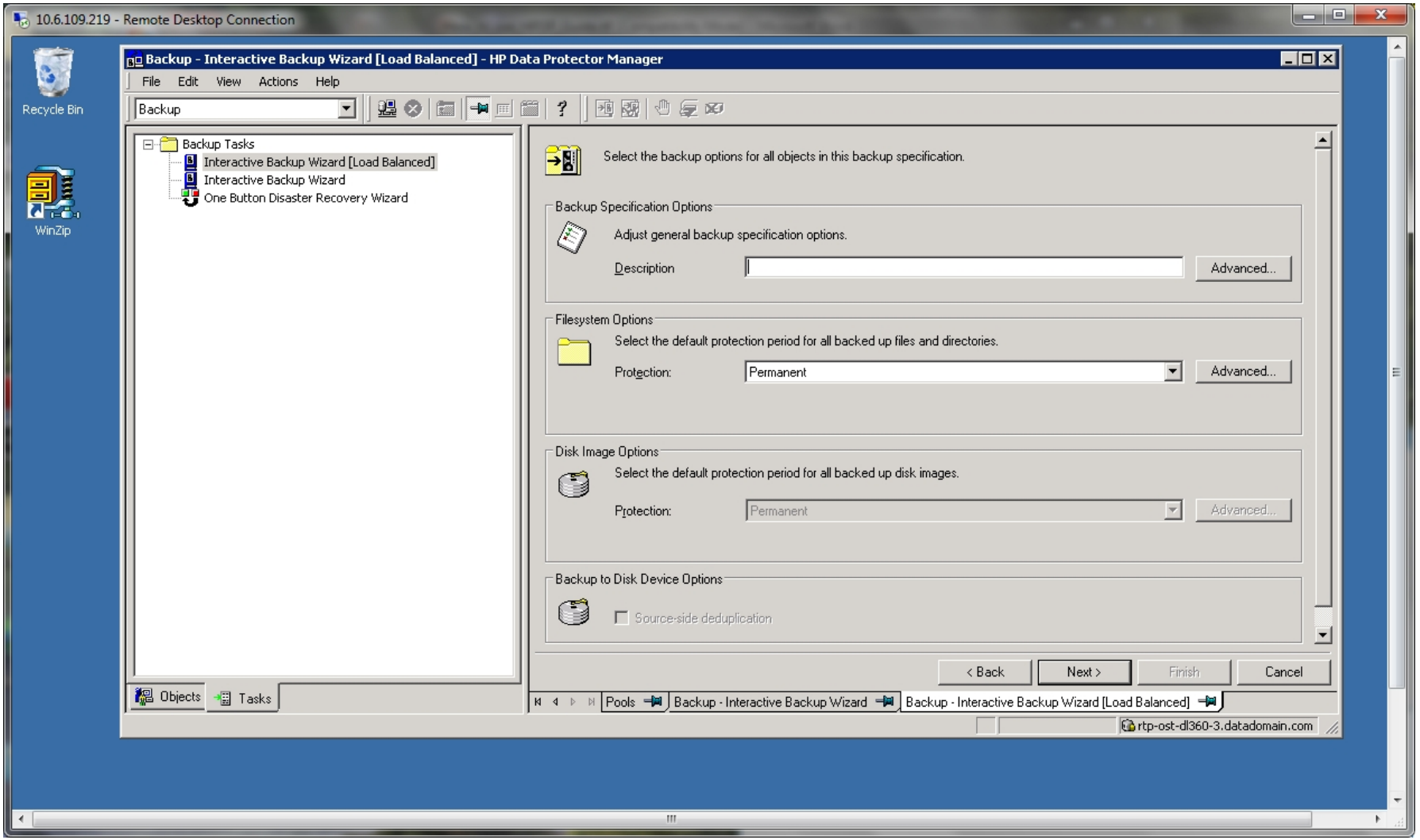
Backup (5)

The checked box indicates the long term retention device, ART has been selected as the backup device



Backup (6)

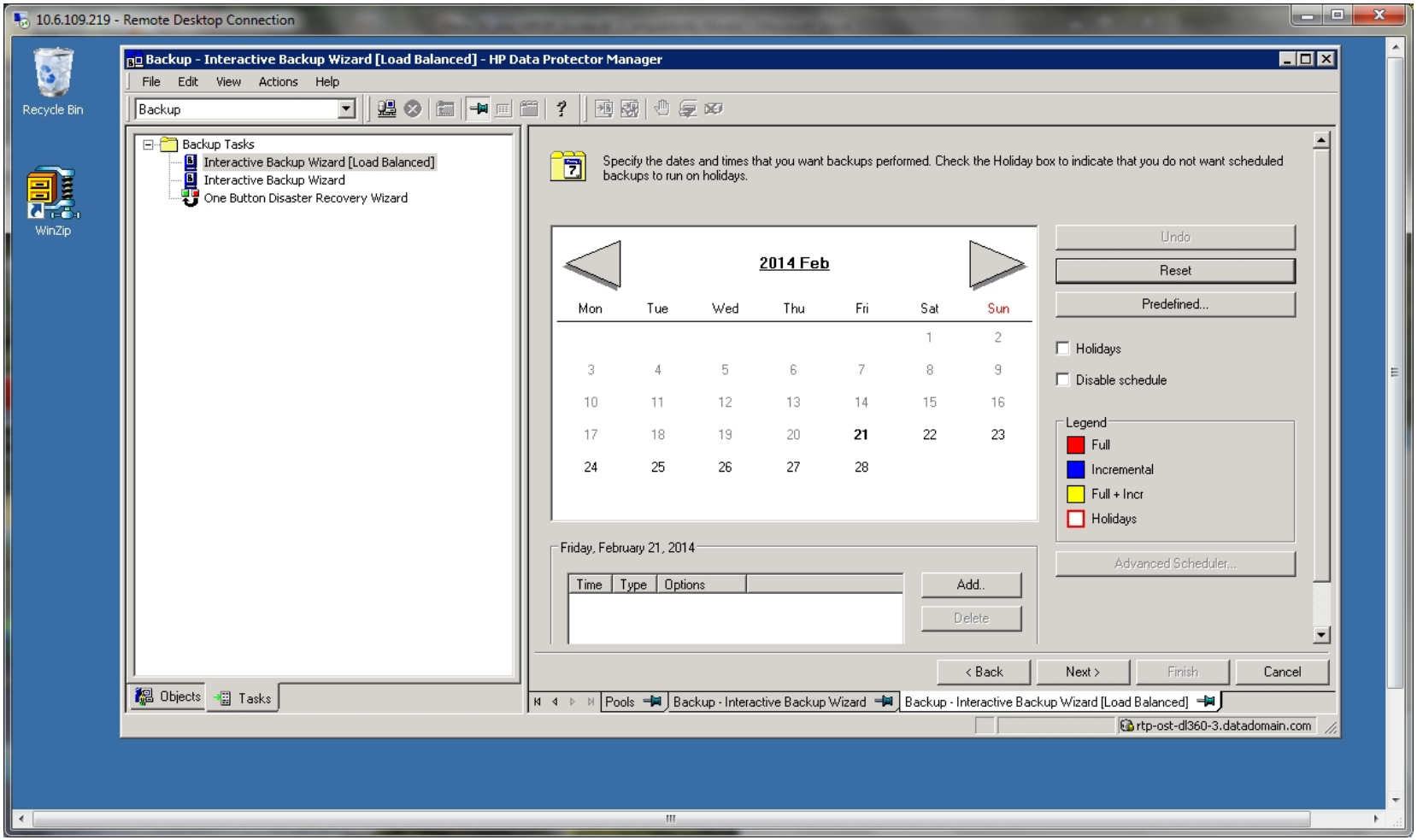
Expand on ART to select the ART gateway:



In the Description field this text was entered: “Small 159 byte file aaa_readme.txt”. Then click next to proceed.

Backup (7)

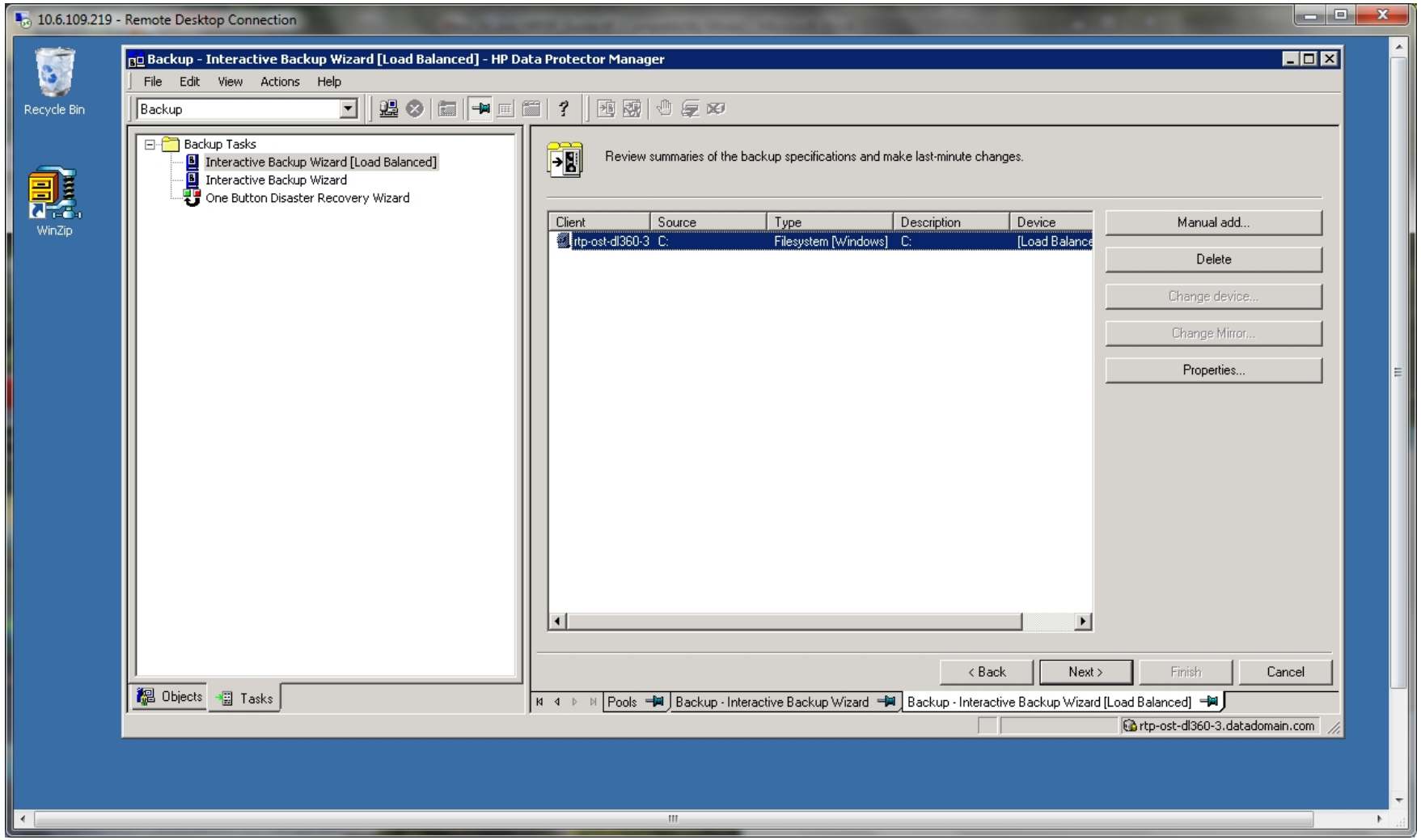
Then **Next >** was selected and a calendar page appeared:



Note: If the calendar automatically schedules the job to run the next day, it could be because of a time-zone difference between the laptop and the client running HPDP Manager.

Backup (8)

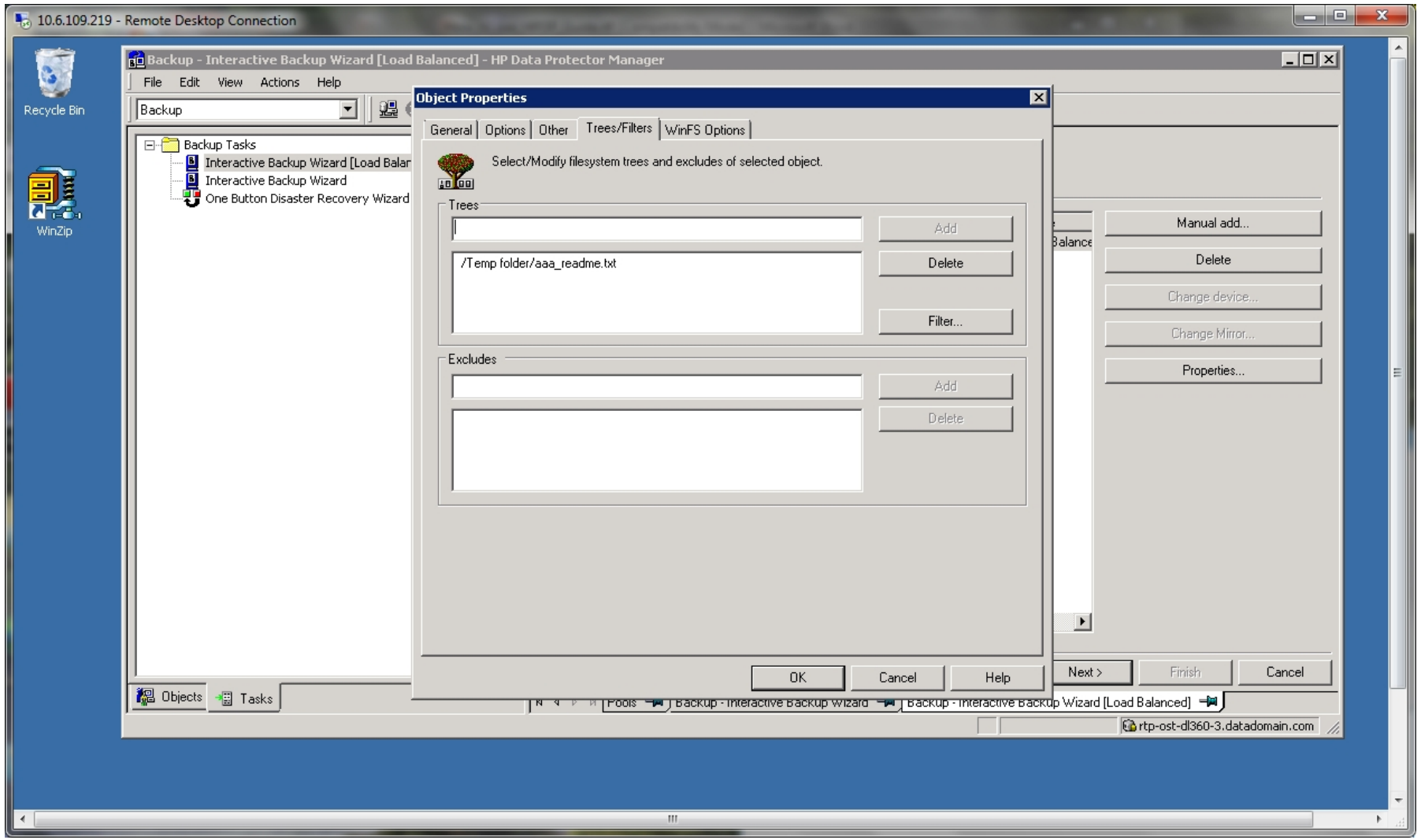
After selecting **Next >** the **Review summaries** page appeared:



In the Description field this text was entered: “Small 159 byte file aaa_readme.txt”. Then click next to proceed.

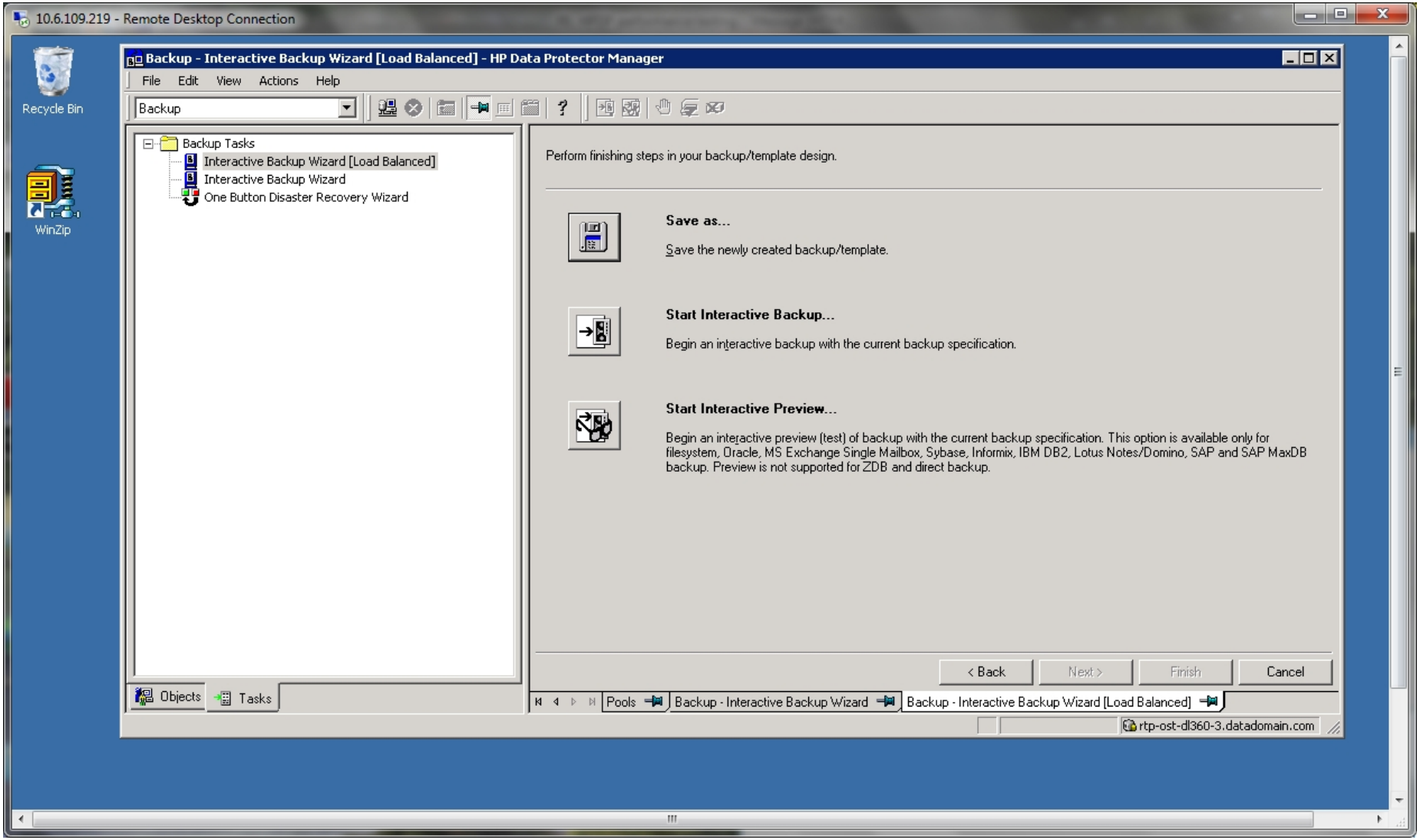
Backup (9)

Selection of the **Properties** button caused an **Object Properties** pop-up window to appear, and the **Trees/Filters** tab listed the pathname of the file that the backup job is supposed to write to the storage device:



Backup (10)

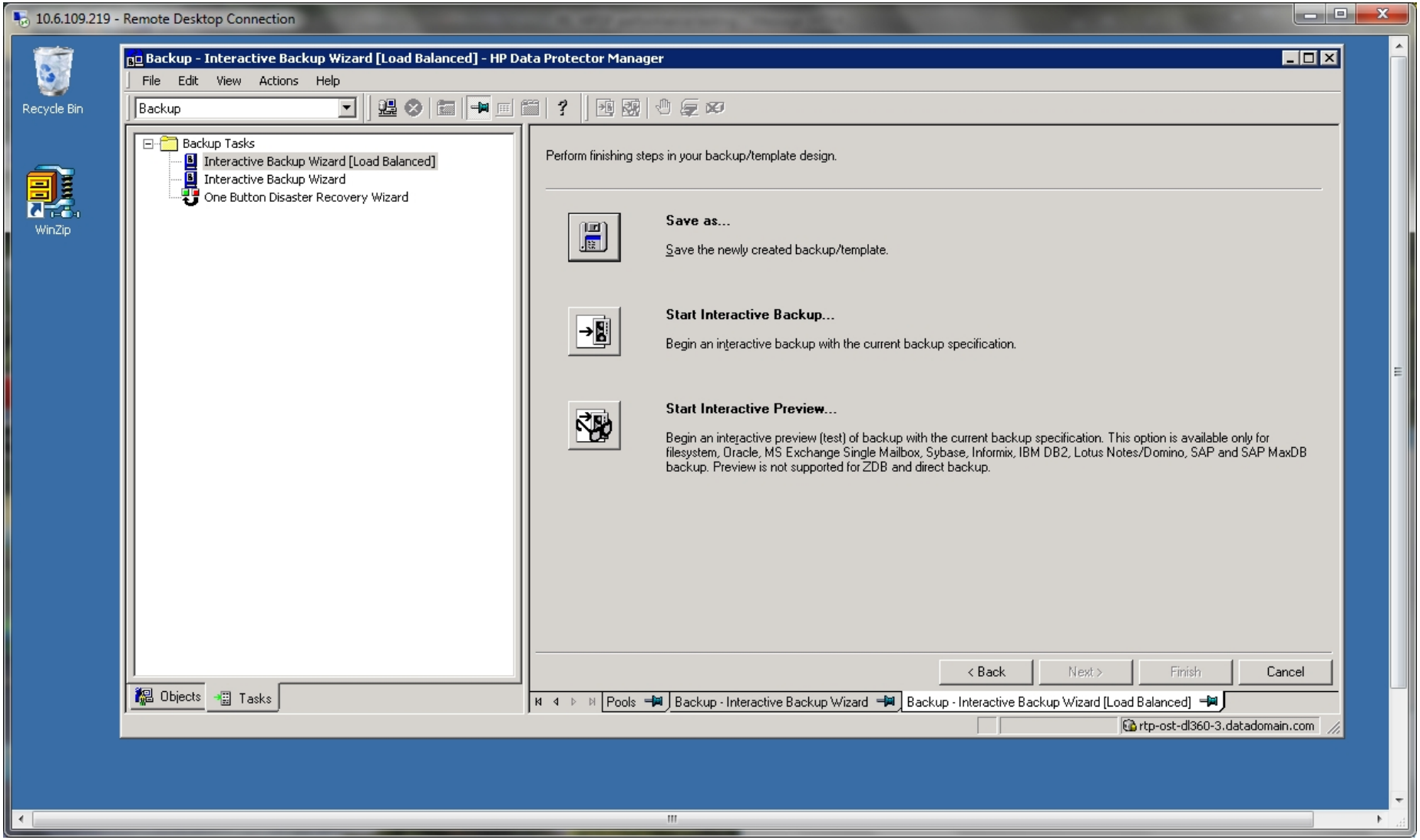
After selecting **OK** to make the **Object Properties** page disappear, and **Next >** on the **Review summaries** page, this final page is displayed:



Backup (11)

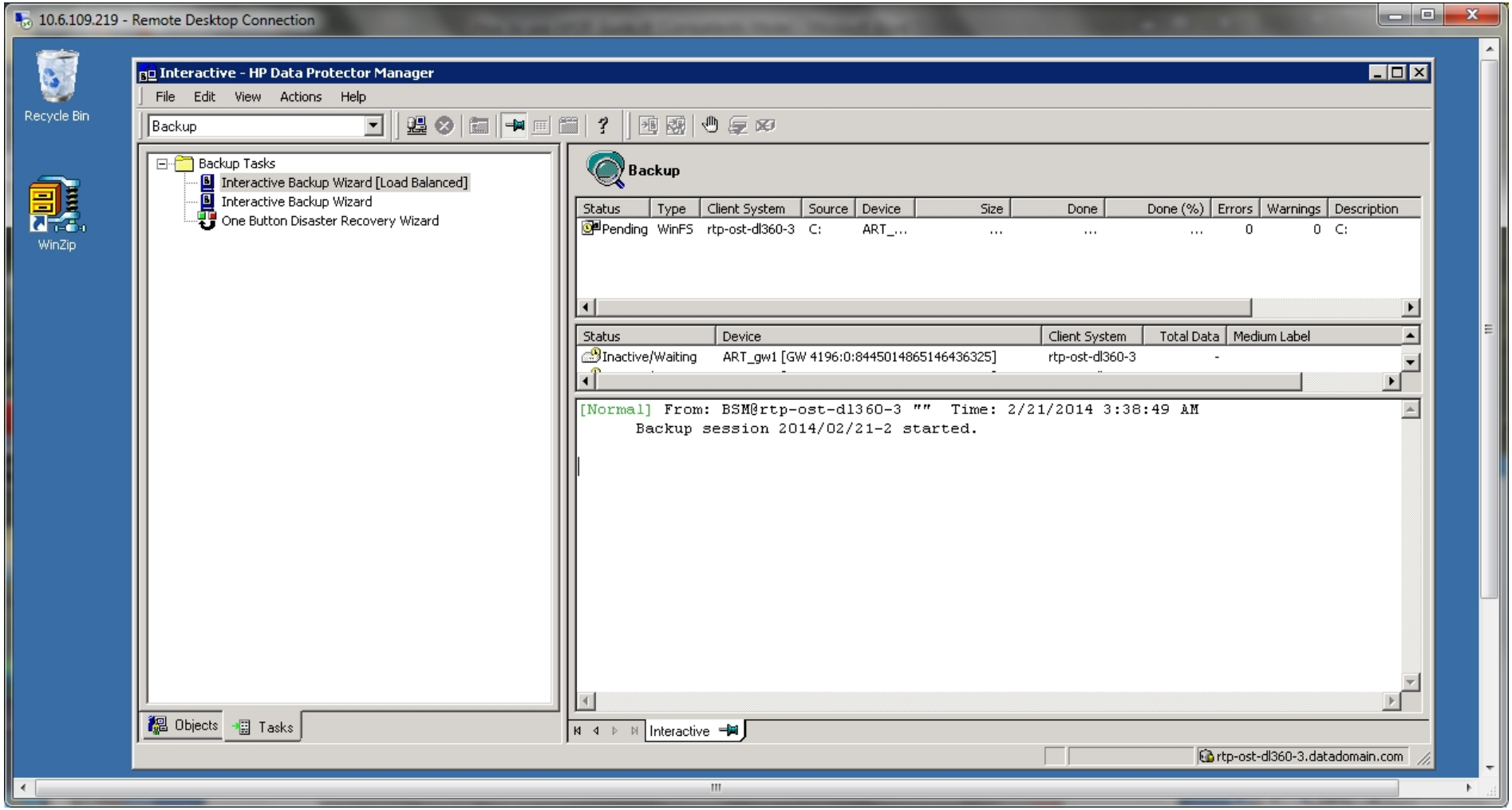
Select **Save as**, and name the job Backup to something of your choice (for example "ART"). Then select **Start Interactive Backup** and respond to the pop-up with **OK**.

The initial backup should be a Full backup:



Observe Backup Job In Progress

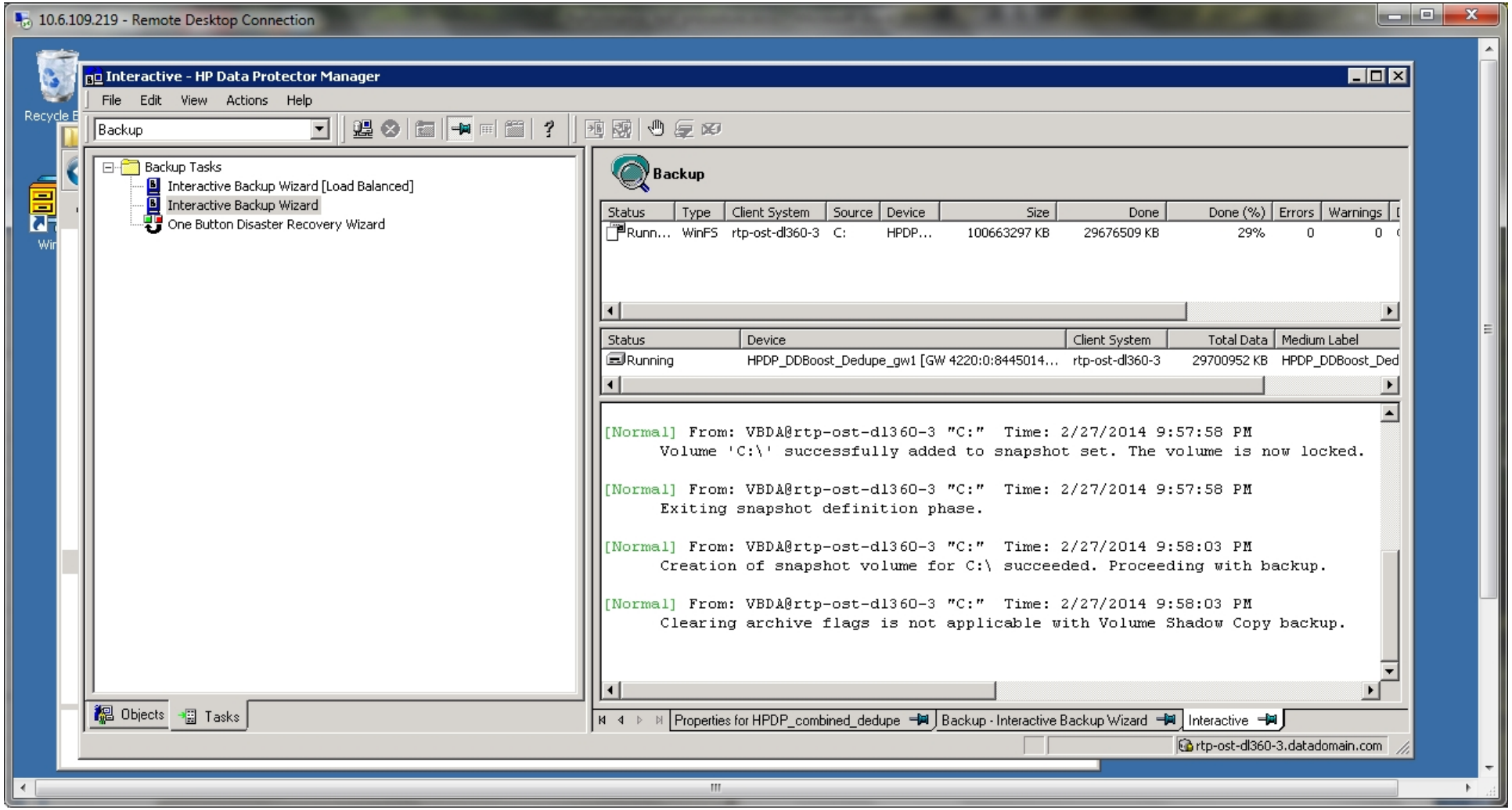
When the backup job starts, the Status display should look like this:



Observe Backup Job In Progress (2)

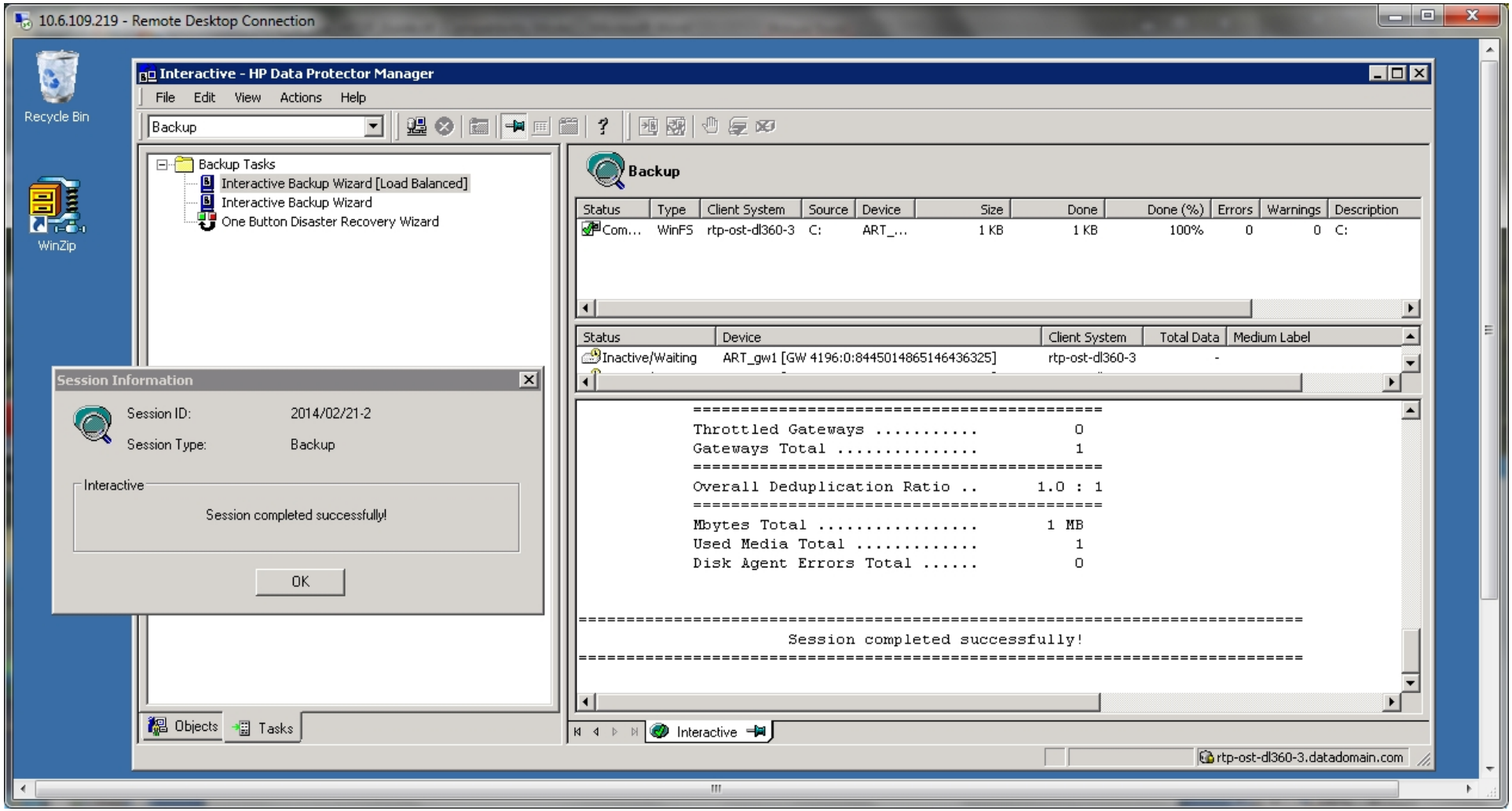
As the job progresses, additional status message will appear.

This is the interim job status for a 100 Gbyte backup while in progress:



Observe Backup Job In Progress (3)

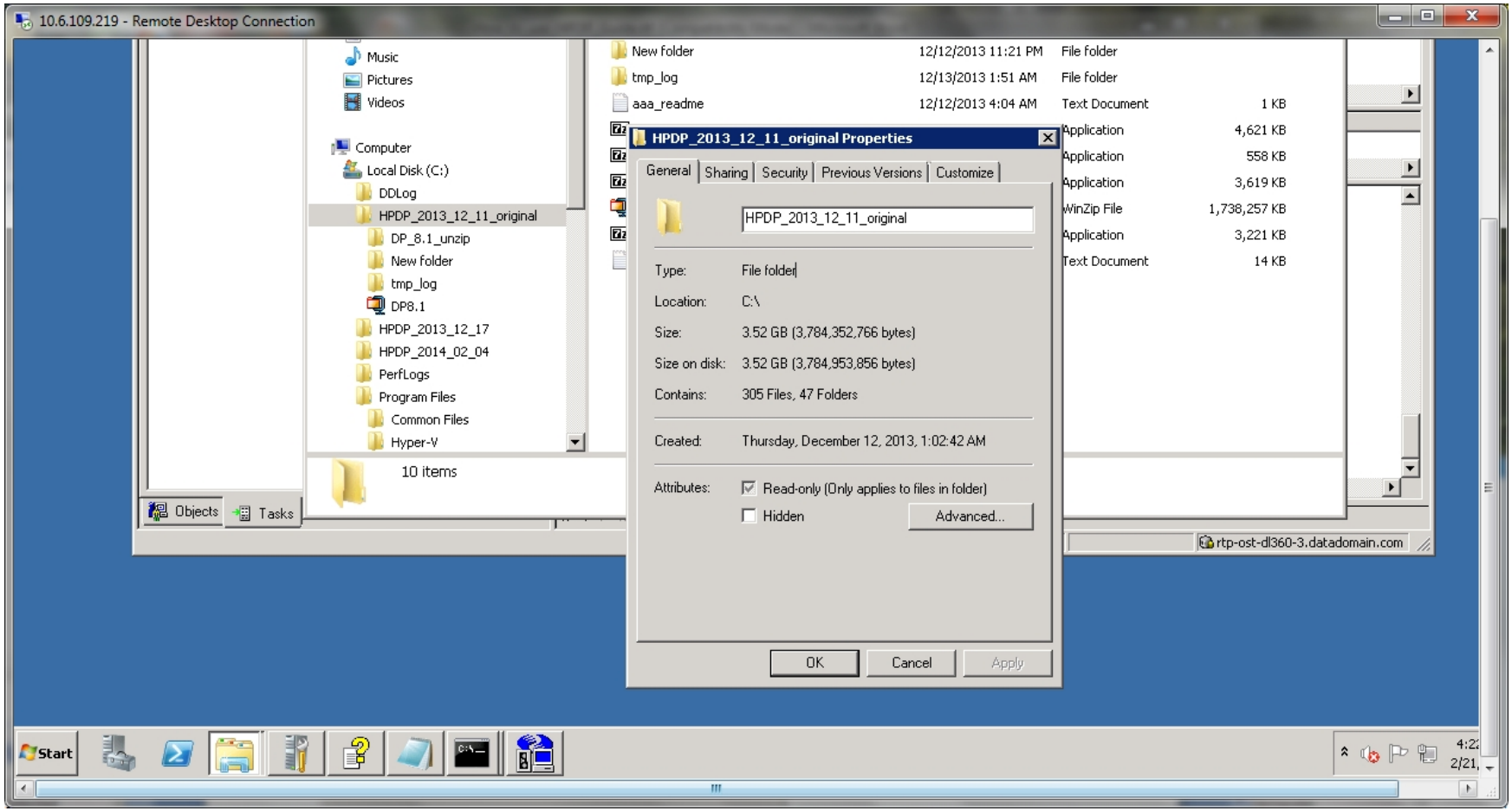
This is shown for the job completion status:



It says "**Session completed successfully!**"

Restore

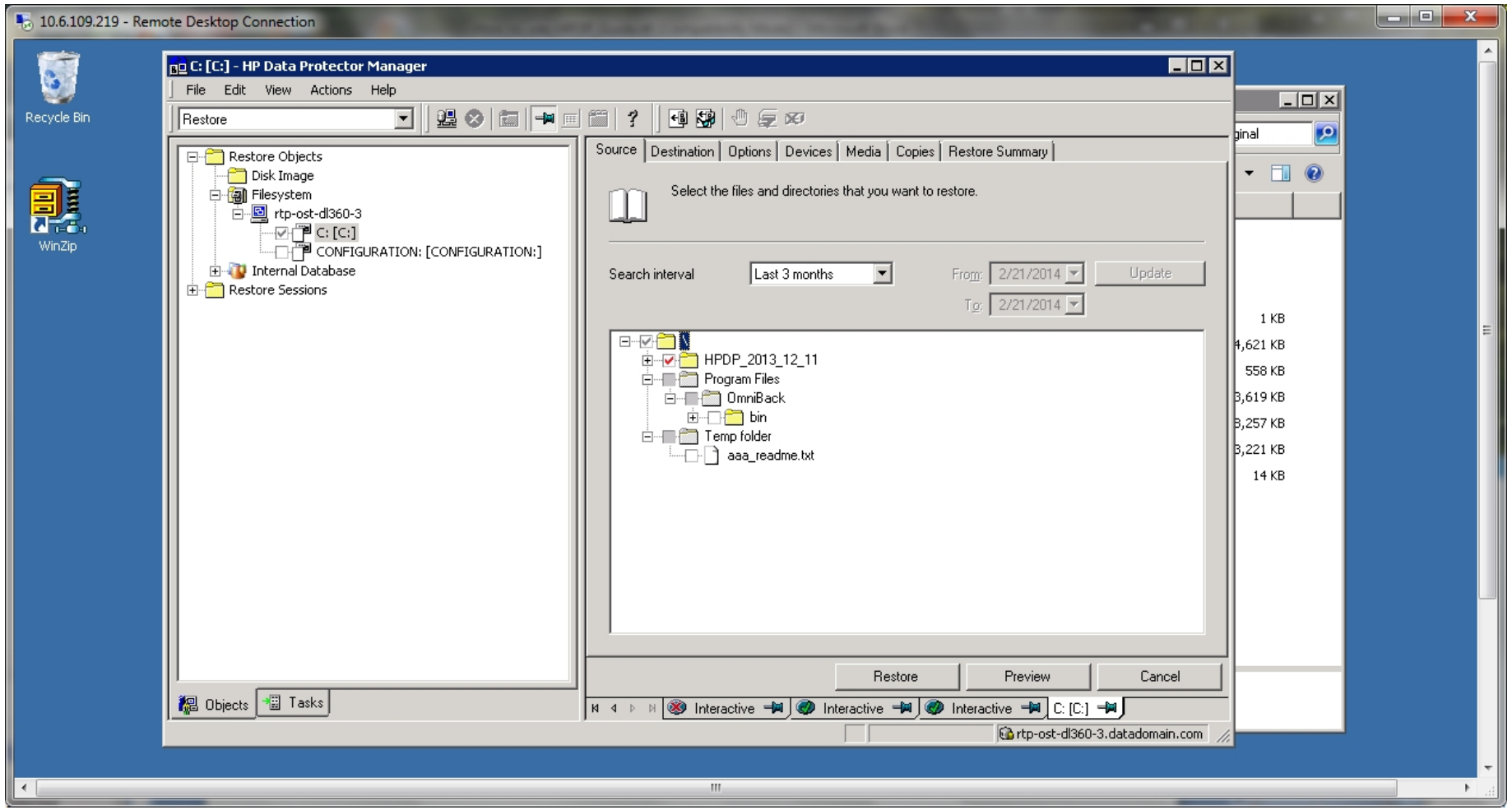
A backup of the folder containing the original HPDP release of 12_11_2013 was made.



The folder was renamed to HPDP_2011_12_11_original, and then restored. These steps describe the restore process.

Restore (2)

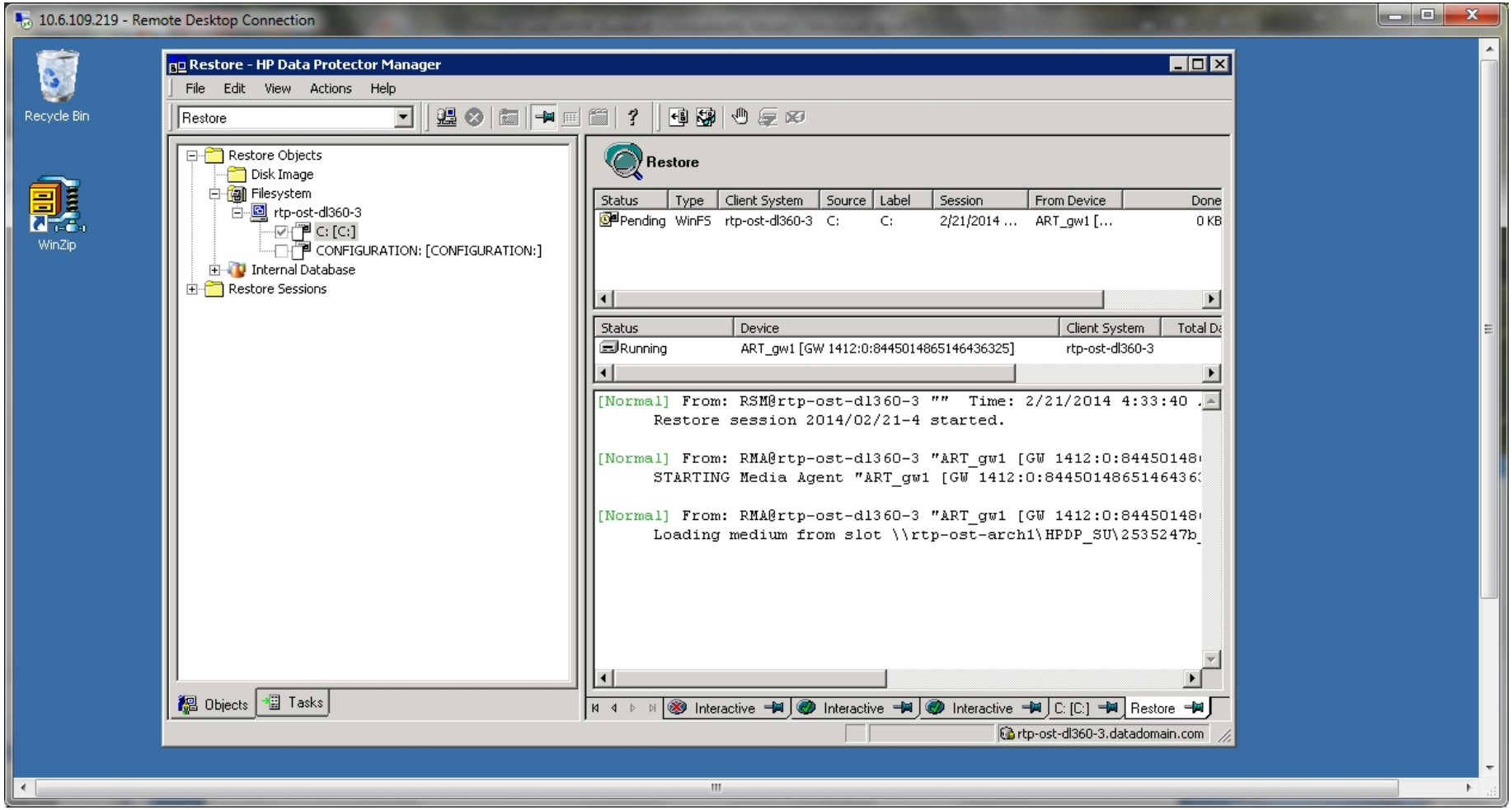
From the pull down menu, select **Restore**. Then select the directory folder to restore:



It says "**Session completed successfully!**"

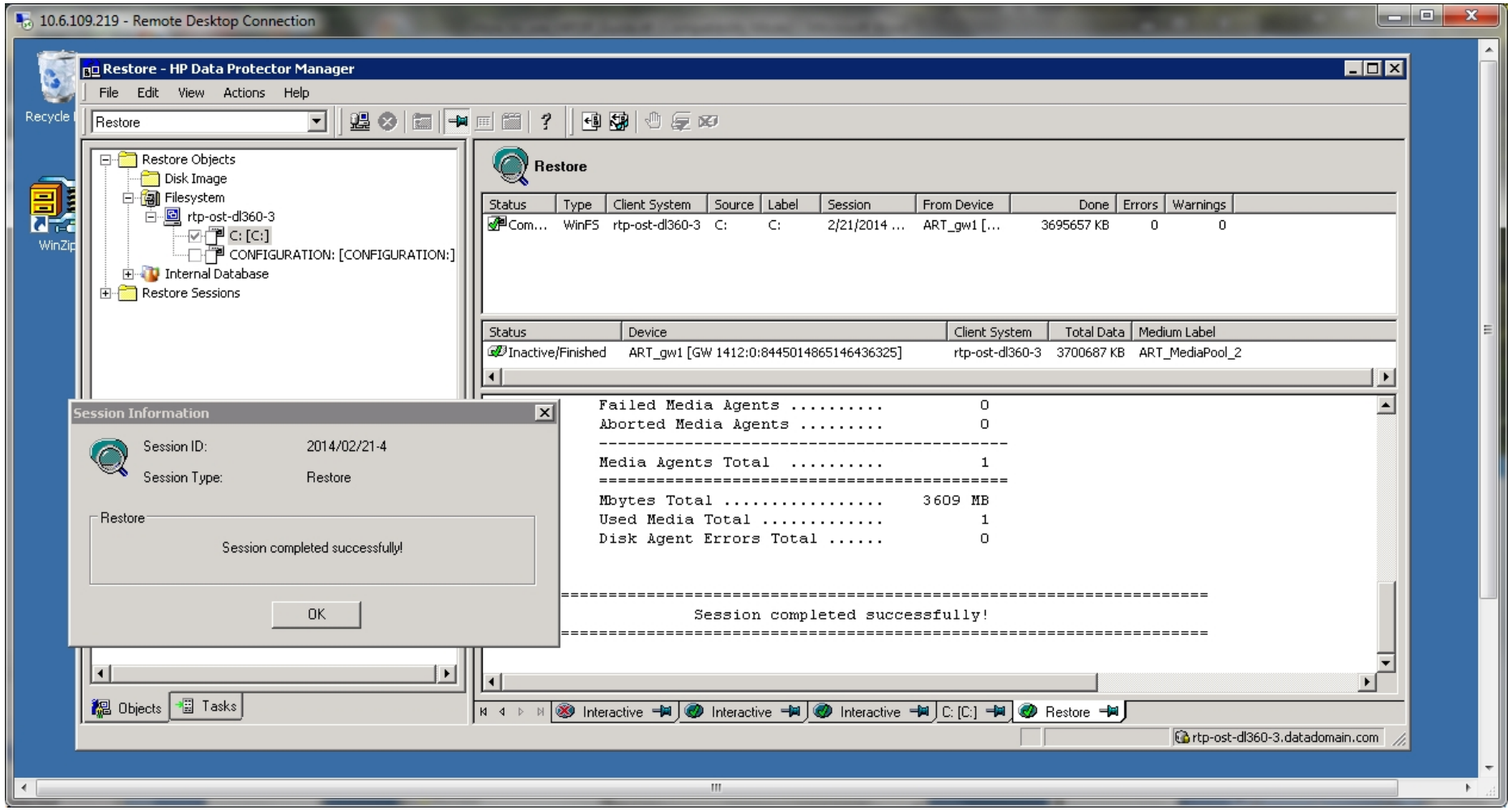
Restore (3)

Then select **Restore** and from the pop-up window that appears, select **Next**



Restore (4)

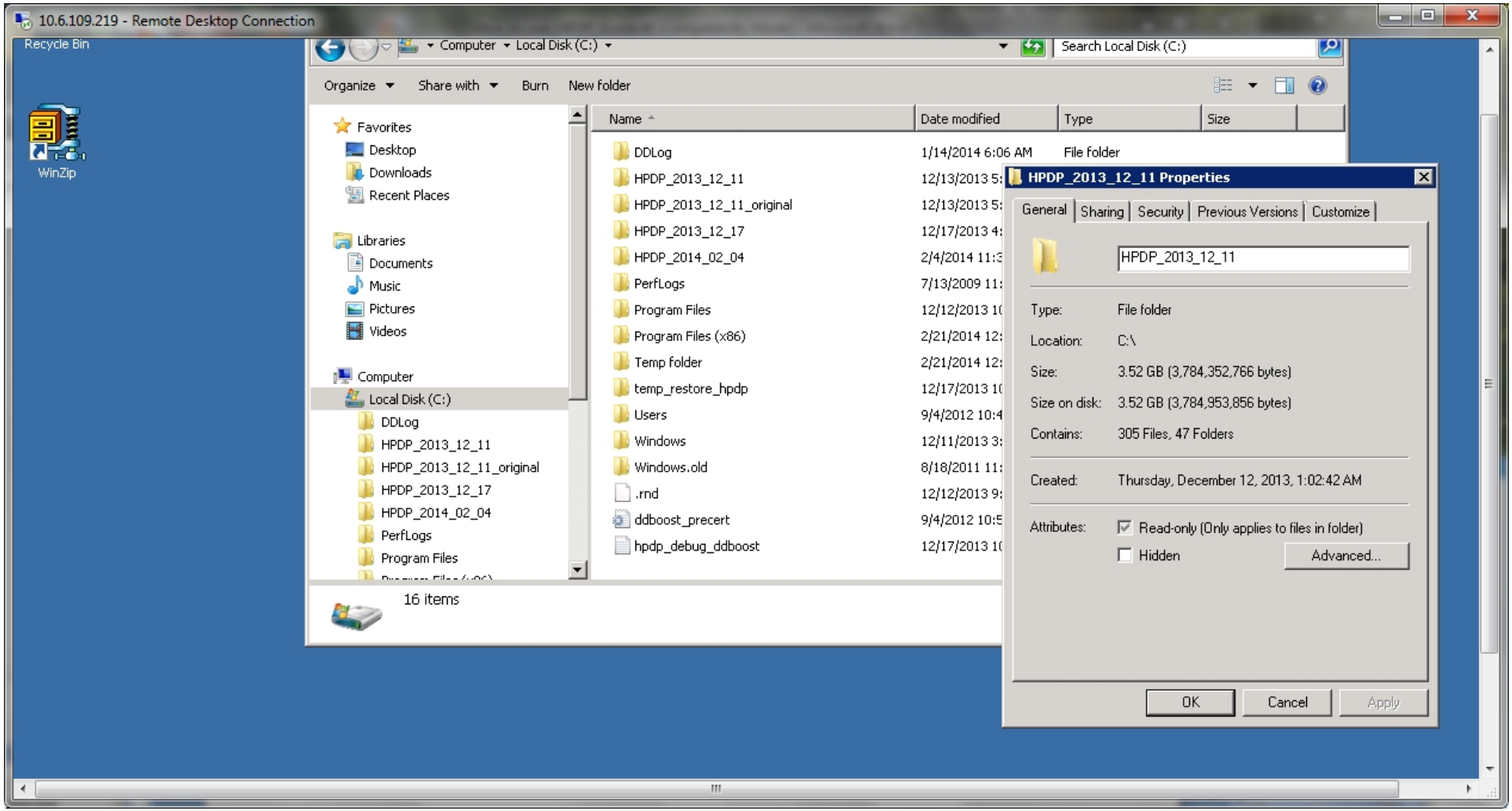
If all goes well, the Successful Completion message should appear:



It says **Restore "Session completed successfully!"**

Restore (5)

Here we can see the original directory structure has been restored :



Note: The Windows Explorer had to be exited and restarted before it would show the restored directory.