

Intel AppUpSM Small Business Service

Built on the Intel[®] Hybrid Cloud Platform

Backup & Disaster Recovery Appliance User Guide

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This guide identifies the steps required to register, configure, and use this software on the Intel[®] Hybrid Cloud platform and does not replace the manufacturers' instructions for third-party products. For additional details about using the Intel Hybrid Cloud platform, refer to the Intel[®] Hybrid Cloud User Guide (at <http://www.intelhybridcloud.com/support.html>).

Registering the BDR Appliance

Before you begin:

- Make sure to always keep the remote interface of the BDR appliance server connected to the Internet for registration and usage reporting.
- Supported browsers include Mozilla Firefox*, Google Chrome*, Apple Safari*, and Microsoft Internet Explorer version 7 (Internet Explorer versions 8 and 9 are not currently supported).
- Note that your BDR appliance Windows password will be same as the appliance secret key.

Step 1: Register the BDR Appliance Server

1. Open your Web browser and go to <https://<IPaddress>:64440/bdr> (this is the IP address assigned to the BDR appliance by the DHCP server).
2. Enter your MSP user ID and password in the Login and Password fields

Note: You might see the following warning screen when you first log in. This is expected and it is safe to continue. Do the following:

- a. Click **I understand the Risks**.
- b. In the window that pops up, click **Confirm Security Exception**.



This Connection is Untrusted

You have asked Firefox to connect securely to **192.168.77.1:64440**, but we can't confirm that your connection is secure.

Normally, when you try to connect securely, sites will present trusted identification to prove that you are going to the right place. However, this site's identity can't be verified.

What Should I Do?

If you usually connect to this site without problems, this error could mean that someone is trying to impersonate the site, and you shouldn't continue.

- ▶ **Technical Details**
- ▶ **I Understand the Risks**

3. Enter the Customer Name (company name) and the Appliance Name in the corresponding fields.

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Welcome to Backup & Disaster Recovery Appliance

Built on Intel® Hybrid Cloud Platform

Enable and configure a revolutionary new Backup and Disaster Recovery solution that reduces recovery time from days to minutes. After a few simple steps, you will be able to activate your appliance, specify its network configuration, and start the process of building your backup and disaster recovery service business.

Before activating your Backup & Disaster Recovery appliance, please have following information ready:

- Your login name
- Customer name
- Network configuration details

Please enter the login ID and password for your Intel AppUpSM Small Business Service account:

Login: ✓

Password: ✓

Now specify your customer name and create an appliance name and secret key for this appliance:

Customer Name: ✓

Appliance Name: ✓

New Secret Key: ✓

Verify Secret Key: ✓

[NEXT >](#)

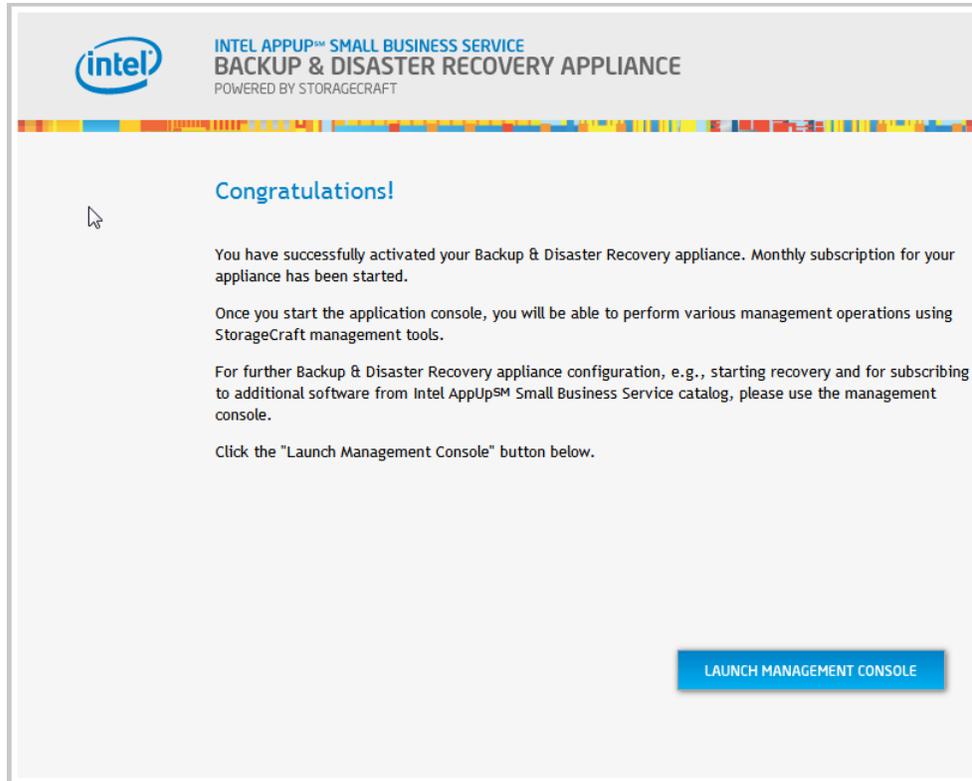
4. Enter the secret key to be used for this customer and then click **Next**.

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Performing Activation

Do not interrupt the activation process or navigate away from this page.

Authenticating Account... OK.
Calling Registration... OK.
Activating Server...



After successful registration, a countdown is displayed on the screen while the BDR appliance is being configured. The configuration might take up to 10 minutes to complete. The appliance will go through a couple of reboot cycles. This is normal. Please do not interrupt the process. When the reboot process is complete, a system summary screen is displayed.

Step 2: Configure the Default Network if Needed

The BDR appliance has two network interfaces:

- The LAN interface has a default IP address of 192.168.77.5.
- The remote interface is DHCP. You may need to modify the network settings before the BDR appliance is available to the hosts on your network. You can use this interface to connect to the BDR Management Console if this is not assigned to a static IP address.

You can modify network settings in the Configure screen of the BDR Management Console. For details, refer to [Configure Network Settings](#) on page 20.

Step 3: Accept the EULAs

Please read and accept the End User License Agreements.

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Accept End User License Agreement (1/2):

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DECLINE ACCEPT

Step 4: Connect to a Domain (optional)

The Windows Domain Configuration page gives you the option to add the StorageCraft Virtual Machine to an existing Windows Domain.

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Windows Domain Configuration

If you would like this appliance to join an existing Windows domain, please specify the domain credentials

Domain Membership: Join Domain Don't Join

Enter domain settings here:

Domain Name:

Administrator:

Domain Password:

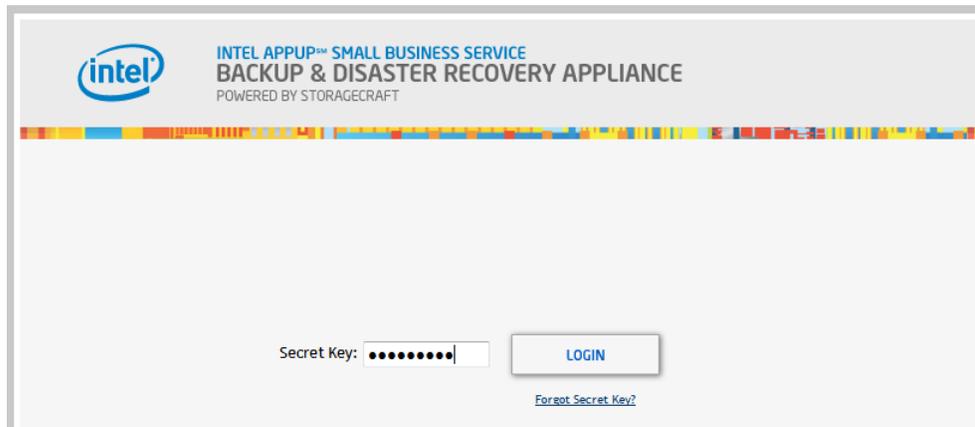
< BACK NEXT >

Do one of the following:

- To join a domain, select the **Join Domain** option and then enter the Domain Name, Administrator name, and Domain Password in the corresponding fields and then click **Next**.
- To skip joining a domain, verify that **Don't Join** is selected and then click **Next**.

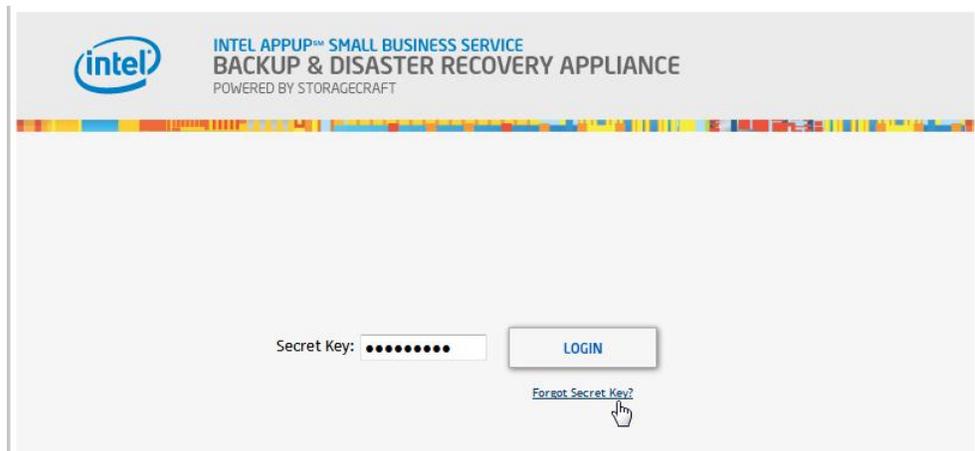
Step 5: Log In

The first time you log in to the appliance, use the default password “Admin@123.”



Forgot Password

1. If you change your password and then misplace it, click the **Forgot Secret Key?** link located below the Login button.



2. In the dialog box that appears, click the **Accept** button.



An access code will be sent to the email address that is registered with your Intel AppUp Small Business Service account.

3. Follow the instructions in the email.

Step 6: Register Level Platforms Managed Workplace Onsite Manager

Level Platforms Onsite Manager and Service Center registration is provided free with this BDR appliance. It is highly recommended that you register and use this service for managing your BDR appliance. For more information on registration, please refer to the Level Platforms Managed Workplace 2011 Initial Setup Guide

(http://download.intel.com/support/progserv/appupsbs/hybrid/sb/lpi_managed_workplace_2011_r3.pdf). If you need additional assistance in setting up your Service Center account, please contact Level Platforms Inc.

LEVEL PLATFORMS **Configure Managed Workplace Onsite Manager**

Configure Service Account | Service Center URL | Register Onsite Manager

Windows Service Account

A service account is created to manage the systems at this Site. A Local User Account will be created on this machine and will belong to the Local Administrator's group.

User Name:

Password:

Confirm Password:

Important
Local Administrator privileges are required to successfully create the service account.

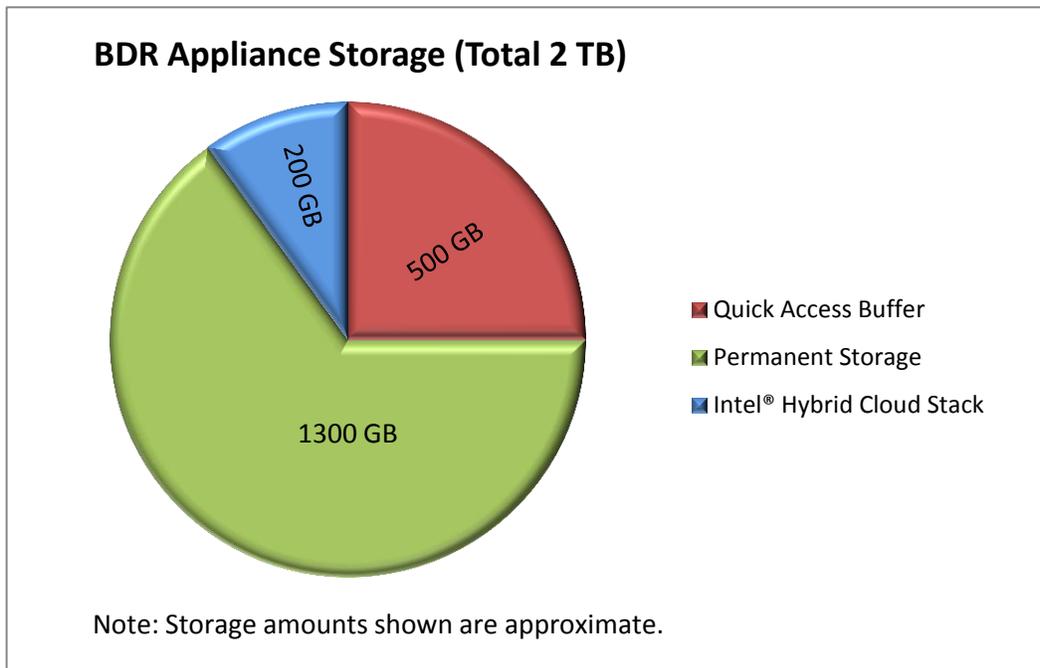
Note: A strong password is recommended.

Machine Information

OS Name: Windows Web Server 2008 R2 (64-bit)
Domain Role: Standalone Server
Machine Name: TEST_SERVER_99

About the BDR Appliance Storage

Appliance storage is the entire storage capacity of the appliance. The BDR appliance storage is divided into the following segments:



- **Quick Access buffer** – Temporary storage for Quick Access VMs.
- **Permanent storage** – Permanent storage for backup images, recovered VMs, and Intel AppUp Small Business Service catalog appliances and software.
- **Intel® Hybrid Cloud Stack** – BDR application files and Intel Hybrid Cloud software stack. The software stack is a core component that runs on top of a Virtual Machine Monitor (VMM) on the Intel® Hybrid Cloud server. This software provides an abstraction layer over VMM, making it easy to deploy, configure, and manage the server. Both Linux* and Microsoft Windows* guest operating systems are supported within the VMM to run a variety of end-user applications.

Using the BDR Management Console

This section provides an overview of the primary BDR Management Console screens.

System Screen

The BDR appliance System screen is displayed after you log in. This screen shows system information and includes controls for the following:

- Shutting down, restarting, resetting, and renaming the BDR appliance server
- Resetting the BDR appliance server software to its default settings
- Accessing the remote console of the StorageCraft ShadowProtect server
- Resizing and removing the backup disk

For instructions on using the options on this screen, refer to [Managing the BDR Appliance](#) on page 17.

The screenshot shows the 'SYSTEM' screen of the Intel AppUp Small Business Service Backup & Disaster Recovery Appliance. The interface includes a top navigation bar with the Intel logo, service name, and user information. A left sidebar contains navigation buttons for SYSTEM, QUICK ACCESS VMs, APPLIANCES, LOGS, and CONFIGURE. The main area displays a server image, system status (ONLINE), and detailed hardware and software information. A 'STORAGECRAFT CONSOLE' button is also present. Callouts provide instructions for various actions: clicking 'Sign out' to log out, clicking 'Help' for help pages, using server power and reset links, accessing the StorageCraft remote console, and using 'REMOVE' and 'RESIZE' buttons for the backup disk.

SYSTEM

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Welcome: Admin
[Help](#) [Sign out](#)

Screen navigation buttons
The button for the active screen is shown in color

Click **Help** to access the StorageCraft ShadowProtect help Web page

Click **Sign out** to log out of the BDR appliance Management Console

Click to access VMs in Quick Access buffer

Click to access controls for running appliances

Click to access BDR status logging

Click to view or change appliance configuration settings

Server power and reset links

Click to access the StorageCraft ShadowProtect remote console

State: **ONLINE**
Name: EBDR_ihcbdr
System: ThinkServer TS130 (Intel® AMT)
Processor: Intel® Xeon® CPU E31275 @ 3.40GHz
Memory: 16 GB total, 11 GB free (69% free)
Appliance Storage: 828 GB total, 262 GB free for appliances (32% free)
Quick Access Storage: 203 GB total, 192 GB free for Quick Access VMs (95% free)
Uptime: 6 Day(s) and 03 Hour(s), Software Version: v3.1.1
IP Addresses: 10.1.37.252, 192.168.77.5
MAC Addresses: 32:7c:b9:e7:a7:2b, 2e:3b:1f:b8:32:b4
Backup Disk: 206.000 GB, Name: Created by xe [REMOVE](#) [RESIZE](#)

STORAGECRAFT CONSOLE

Click **REMOVE** to remove a backup disk
Click **RESIZE** to allocate space to the backup disk

Server status, backup status, and other system status information is displayed here

Quick Access VMs Screen

Use the Quick Access VMs screen to access information and controls for VMs running in the Quick Access buffer. The Quick Access buffer is temporary storage. This storage area is automatically cleared out when the BDR appliance server is shut down or restarted.

From this screen, you can do the following:

- Stop and start an appliance
- Rename an appliance – available when the VM is running
- Uninstall – available when the VM is halted
- Modify – available when the VM is halted
- Add Disk – available when the VM is halted
- Add a CDROM – can be used for giving a Quick Access VM access to the physical CD-ROM drive on a server, or for pointing to an .ISO image file that can be used as a virtual CD-ROM. Available when the VM is running or halted.
- Remove a backup disk – available when the VM is halted
- Resize – available when the VM is halted

For instructions on using this screen to manage VMs, refer to [Managing Quick Access VMs](#) on page 33.

The screenshot displays the 'Quick Access VMs' screen of the Intel AppUp Small Business Service Backup & Disaster Recovery Appliance. The interface includes a top navigation bar with the Intel logo, service name, and user information. A left sidebar contains navigation tabs for SYSTEM, QUICK ACCESS VMs (1 RUNNING), APPLIANCES (1 RUNNING), LOGS, and CONFIGURE. The main content area shows a table of VMs. The first VM, 'WIN2003', is in a 'Running' state. Below the VM name, there are links for 'STOP', 'RENAME', and 'ADD CDROM'. A 'CONSOLE' link is also present. Below these links, the VM's specifications are listed: CPU: 1, Memory: 2048 MB, Disk: 9 GB in 1 drive, local interface. Disk 0, 8.000 GB: WIN2003-shiv-DISK-0-write. IP Addresses: 169.254.94.88. MAC Addresses: 16:21:1d:4c:cb:ee. Three callout boxes provide additional context: one points to the VM name and status, another points to the 'CONSOLE' link, and a third points to the VM details section.

VM Name	Status
WIN2003	Running

Details about the associated VM

Click to open the remote Web console for the associated VM

Appliances Screen

The Appliances screen displays the status and usage information of appliances currently running on the BDR appliance server. Use the controls on this screen to access appliance management options and to add appliances from the Intel AppUpSM Small Business Service Store.

- Add StorageCraft Recovery Appliance – use for recovering a backup image (taken from a physical or virtual server or workstation) to a virtual environment. For details, refer to [Add a StorageCraft Recovery Appliance](#) on page 35.
- Add New Appliance from AppUp Small Business Service Store – use for adding new applications and appliances to your managed servers from the Intel AppUp Small Business Service Store. For details, refer to [Add a New Appliance from the Intel AppUpSM Small Business Service Store](#) on page 35.
- For instructions on using this screen to manage other appliance functions, refer to [Managing Appliances](#) on page 35.

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Welcome: Admin
[Help](#) [Sign out](#)

SYSTEM

QUICK ACCESS VMs
0
RUNNING

APPLIANCES
1
RUNNING

LOGS

CONFIGURE

+ Add StorageCraft Recovery Appliance

+ Add New Appliance from AppUPSM Small Business Service Store

Astaro Security Gateway Running

STOP RENAME ADD CDROM CONSOLE

CPU: 2, Memory: 1048 MB, Disk: 78 GB in 1 drive, local interface.
Disk 1, 78.125 GB: New virtual disk
MAC Addresses: 02:73:d5:37:f1:09

Appliance name and status display here

Click to open the remote Web console for the associated appliance

Displays information about the associated appliance

These options apply to the associated appliance. Some options only display when the appliance is running, some only when the appliance is stopped

Logs Screen

The Logs screen displays BDR status logging such as the Sync with Portal status, password updates, registration status, etc. From this screen you can view and download BDR status logging information.

To view, clear, or download log information, click the links provided.

The screenshot shows the Intel AppUp Small Business Service Backup & Disaster Recovery Appliance interface. The top header includes the Intel logo, the product name, and the user name 'Admin' with links for 'Help' and 'Sign out'. The left sidebar contains navigation buttons for 'SYSTEM', 'QUICK ACCESS VMs' (1 RUNNING), 'APPLIANCES' (1 RUNNING), 'LOGS' (selected), and 'CONFIGURE'. The main content area displays log entries for Tuesday, May 08, 2012, with a '+ Delete Logs' and '+ Download Logs' button at the top. Callout boxes provide instructions: 'Click **Delete Logs** to clear log information' and 'Click **Download Logs** to view a web page of log activity' point to the respective buttons. Another callout box points to the log entry: 'Detailed log activity for date shown'.

Configure Screen

Use the Configure screen to configure interface IP settings, Sync with Portal, open a script shell for applying BDR appliance patches and managing the software RAID, and perform a partial or full BDR appliance reset. Controls include:

- **Reset to Factory Defaults** – use to restore the BDR appliance to the state it was in before you registered it with Intel and StorageCraft. Note that this will delete all backup data in the StorageCraft backup drive.
- **Reset to Partial Factory Defaults** – use to restore the BDR appliance to the state it was in before you registered it with Intel and StorageCraft but retain the backup data in the StorageCraft backup drive.
- **Open Script Shell** – use to open a script shell menu of scripts to run, such as applying BDR appliance patches and managing the software RAID.
- **Sync with Portal** – use to update the server state in the backend Intel AppUp Small Business Service Web Portal (this applies to the BDR appliance server, not the installed VMs).
- **Apply Stack Patch** – use for patching the base software stack of the BDR appliance server.

For instructions on using the BDR appliance configuration settings, refer to [Configuring the System](#) on page 19.

The screenshot displays the configuration interface for the Intel AppUp Small Business Service Backup & Disaster Recovery Appliance. The top header includes the Intel logo, the service name, and the user's name (Admin) with links for Help and Sign out. The left sidebar contains navigation tabs for SYSTEM, QUICK ACCESS VMs (0 RUNNING), APPLIANCES (1 RUNNING), LOGS, and CONFIGURE. The main content area features five task buttons: '+ Reset to Factory Defaults - (Data in StorageCraft backup drive will be destroyed)', '+ Reset to Partial Factory Defaults - (Data in StorageCraft backup drive will be retained)', '+ Open Script Shell (for BDR patching, SW RAID management, etc)', '+ Sync with Portal (for updating server state in the portal)', and '+ Apply Stack Patch (for patching the base software stack of this server)'. Below these are two network settings sections: 'Local Network Settings' and 'Remote Network Settings', each with an 'Edit Settings' link. Callout boxes on the right indicate that the task buttons are used to perform associated tasks, and the 'Edit Settings' links are used to modify IP settings for the local and remote networks.

Managing the BDR Appliance

This section covers managing the BDR appliance through the BDR Management Console. The BDR Management Console enables remote monitoring of most of the BDR appliance features. However, since the BDR appliance runs on the Intel[®] Hybrid Cloud server, there are some features that are still managed through the Intel[®] Hybrid Cloud Server Manager.

Such features include:

- Software RAID management
- Hardware management
- Email alerts
- Appliance boot up sequence

Find information on more management features for the Intel Hybrid Cloud server in the Intel Hybrid Cloud Platform User Guide. You can manage these features and others using the Intel[®] Hybrid Cloud Server Manager.

Download and Install the Intel Hybrid Cloud Server Manager

The Intel Hybrid Cloud Server Manager needs to be installed on the computer used to manage the BDR appliance.

To download the Intel Hybrid Cloud Server Manager from the Intel Download Center:

1. Go to the Support page at Intel AppUpSM Small Business Service:
<http://www.intelhybridcloud.com/support.html>.
2. Scroll down to the **Server Setup & Activation** link and click it to expand it.
3. Locate and then click the **Server Manager Download** link.
4. Click **Download**.
5. Accept the Intel Software License Agreement.
Your download should begin automatically. Follow the instructions provided with the download to install the Server Manager.

Rename the BDR Appliance Server

To rename the BDR appliance server:

1. In the System screen, click **Rename Server**.
2. In the New System Name dialog box, type the new name and then click **ACCEPT**. You will be automatically logged out of the BDR appliance.
A wait screen appears, counting down from 90 seconds while the server is renamed.
3. After the name resets, log in to the appliance. If you see the "This Connection is Untrusted" warning, do the following:
 - a. Click **I understand the Risks** and then click **Add Exception**.
 - b. In the dialog box that pops up, click **Confirm Security Exception**.
4. At the login page, enter the secret key and click **Login**.

Shut Down the BDR Appliance Server

Use this option when you want to turn off power to the BDR appliance server.

Important! This action will delete any VMs that are currently running in the Quick Access buffer.

To turn off power to the BDR appliance server:

1. In the System screen of the BDR Management Console, click the **Power off Server** link.
2. In the Server Power Off dialog box, click **ACCEPT**.

After a short delay, the server powers off. To restart the server, press the power button on the server.

Reset the BDR Appliance Server

Use this option to reboot the BDR appliance server.

Important! This action will delete any VMs that are currently running in the Quick Access buffer.

To reset the server:

1. In the System screen of the BDR Management Console, click the **Server Reset** link.
2. In the Server Reset dialog box, click **ACCEPT**.

After a short delay, the server reboots. It usually takes about 5 minutes for the server to fully boot and for the StorageCraft VM to start.

Reset the Software

Use this option to return the BDR appliance to its default settings. After resetting the software, you are required to run the registration wizard before using the StorageCraft VM.

To reset the software:

1. In the System screen of the BDR management console, click **Software Reset**.
2. In the Software Reset dialog box, click **ACCEPT**.

After a short delay, the software stack on the Intel Hybrid Cloud server resets. The system log will indicate that a software reset has occurred.

Resize a Backup Disk

Resize a backup disk by changing the server space allocated to it. Perform this task from the System screen of the BDR Management Console. Before you can change the size of the backup disk, you need to shut down the StorageCraft VM and any other running VMs downloaded from the Intel AppUp Small Business Service Store.

To resize a backup disk:

1. In the list of server details in the System screen, locate the line that begins with "Backup Disk" and then click **RESIZE** to left of the line.
2. In the Edit Appliance Disk dialog box, click **ACCEPT** to allow the application to temporarily halt the BDR appliance.
Wait while the BDR appliance is halted.
3. When the status displayed is "OFFLINE," click **RESIZE** again.
4. In the Change Virtual Disk dialog box, type the new amount of GB to allocate to this disk and then click **ACCEPT**.
5. To restart the BDR appliance, click the **START** button.

Remove a Backup Disk

Use this option to remove a backup disk from the BDR appliance server. After a short delay, the Intel Hybrid Cloud software stack on the server will reset, which takes a minute or two. The system log will indicate that a software reset has occurred.

To remove a backup disk:

1. At the end of the server details paragraph in the System screen, locate the line beginning with "Backup Disk" and then click **REMOVE**.
2. In the Remove Appliance Disk dialog box, click **ACCEPT**.

Configuring the System

The actions listed here are performed from the Configure screen of the BDR Management Console.

Reset to Factory Defaults

Use this option to reset the BDR appliance server.

Important! This action deletes all data in the StorageCraft backup drive.

To reset to factory defaults:

1. Uninstall all VMs and appliances.
2. Click the **Reset to Factory Defaults** option. Follow any onscreen instructions.

Reset to Partial Factory Defaults

Note: This action resets the BDR appliance server but preserves data in the StorageCraft backup drive.

To reset to partial factory defaults:

1. Uninstall all VMs and appliances.
2. Click the **Reset to Partial Factory Defaults** option. Follow any onscreen instructions.

Open Script Shell

Use this option to access the script shell for executing scripts for the following:

- Delete attached ISO of the VM
- Delete VM from local application storage
- Update Local Application Store (LAS)
- Manage software RAID on this server
- Perform soft poweroff on this server
- Download and apply BDR patch

Sync With Portal

Use this option to update the server state in the portal (sync the client with the portal). You will need to do this if you rename the server or if you download additional VMs from the Intall AppUp Small Business Service Store and wish to install them immediately. If you do not perform a manual sync, you will have to wait until the daily automated sync occurs.

To perform a sync with portal:

1. Click the **Sync with Portal** link.
2. In the Server Sync dialog box, click **ACCEPT**.
Wait while the server syncs. You will be notified when the server sync completes.
3. In the Sync Server dialog box, click **CLOSE**.

Apply Stack Patch

Use this option to patch the base software stack of the Intel Hybrid Cloud server.

To download and install updates:

1. Click the **Apply Stack Patch** link.
2. In the Server Updating dialog box, click **ACCEPT**.
If there are any updates, they will be automatically installed.

Configure Network Settings

Use these settings to set the network protocol type, IP Address, Subnet Mask, Gateway, and DNS for the local and remote networks.

To configure network settings:

1. In the Configure screen, on the right side of the desired network heading, click **Edit Settings**.
2. In the Network Settings dialog box, make the desired changes and then click **ACCEPT**.

Setting Up a Server Backup

To set up a backup, first install the ShadowProtect agent on each individual device to be backed up.

Note: Before installing the ShadowProtect agent, temporarily disable or modify the Windows firewall on the target machine.

1. Open the ShadowProtect console: from the BDR Management Console System screen, click the **StorageCraft Console** button.

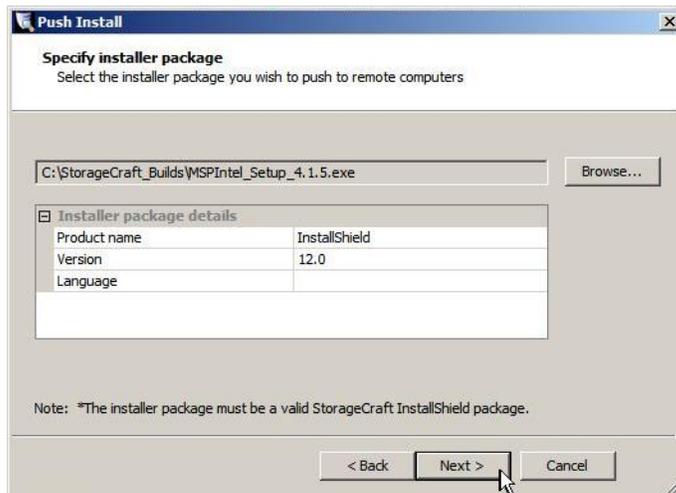
Note: Ensure that the StorageCraft VM network has been configured before you create a backup.

2. Select the **Management View** tab if it is not already selected.
3. In the Management View menu near the top of the screen, click the **Install** button.

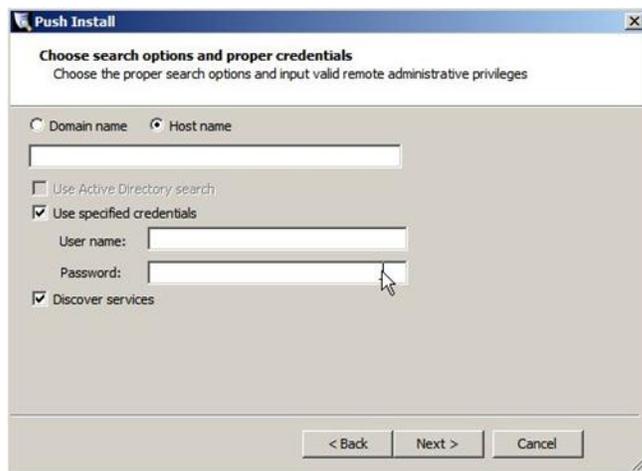


4. When the Push Install Wizard screen appears, click **Next**.

The default installer package should be displayed as follows:



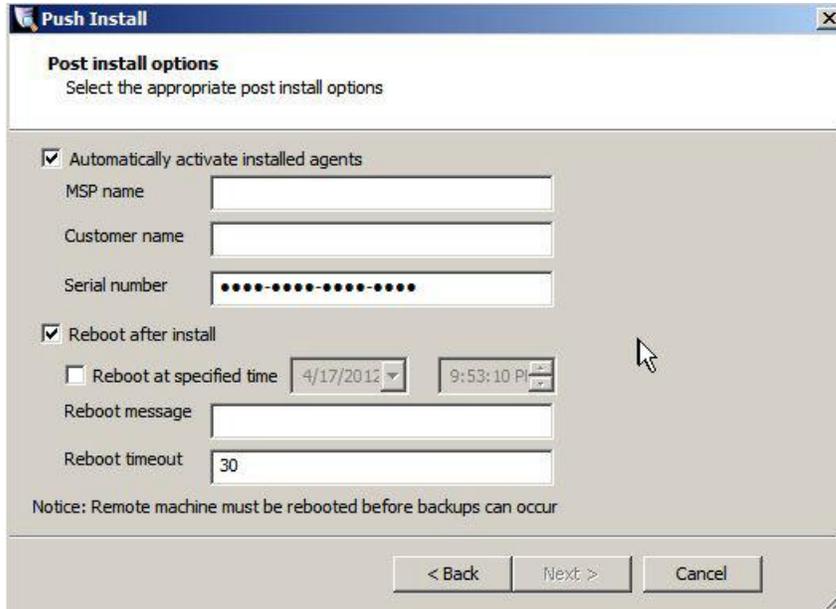
5. Click **Next**.
6. Do one of the following:
 - To push the ShadowProtect agent to an entire domain, select the **Domain name** option.
 - To push the agent to a specific Windows workstation or server, select the **Host name** option.



7. Enter the host information and Administrative login credentials in the corresponding fields and then click **Next**.

- After the host or hosts are found, the StorageCraft agent status is displayed (“Not installed” is the most common). Click **Next**.

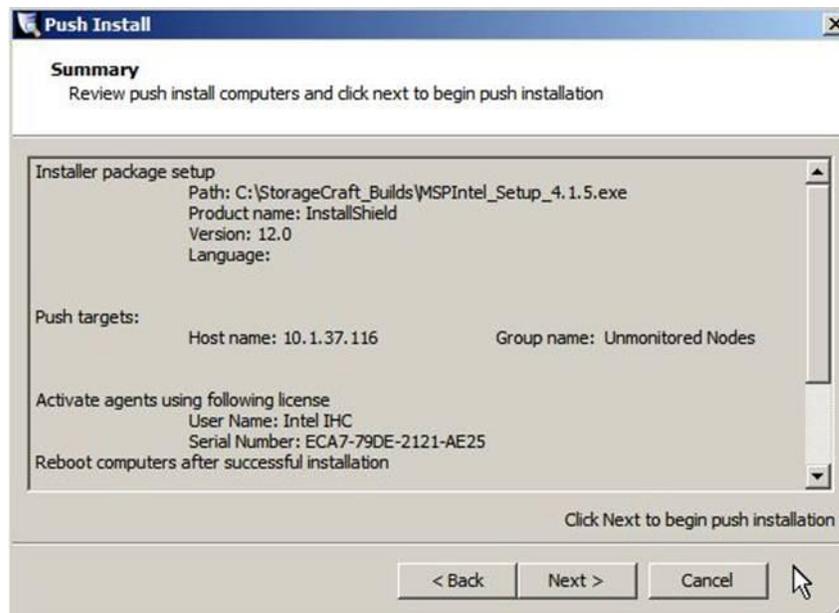
In the Post Install Options screen, enter the MSP license information that will be used by the ShadowProtect agent.



- Verify the information displayed in the configuration summary dialog box.

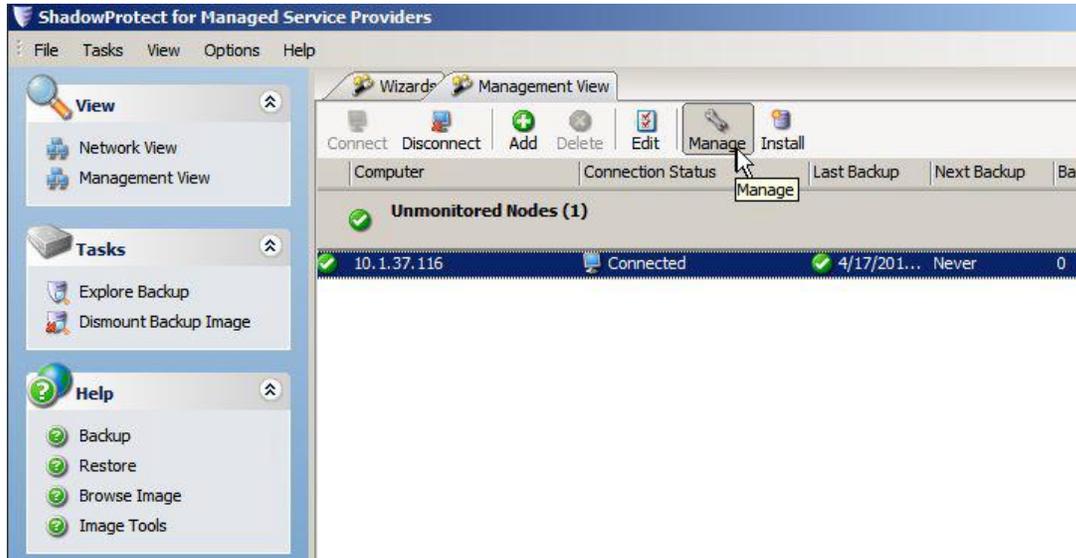
Note: If you selected the **Reboot after install** option, the receiving device will restart. A restart is required to install the agent. If you are not ready for a restart, clear this checkbox. You can schedule a restart at a later time.

- Click **Next** to begin installing the ShadowProtect agent.



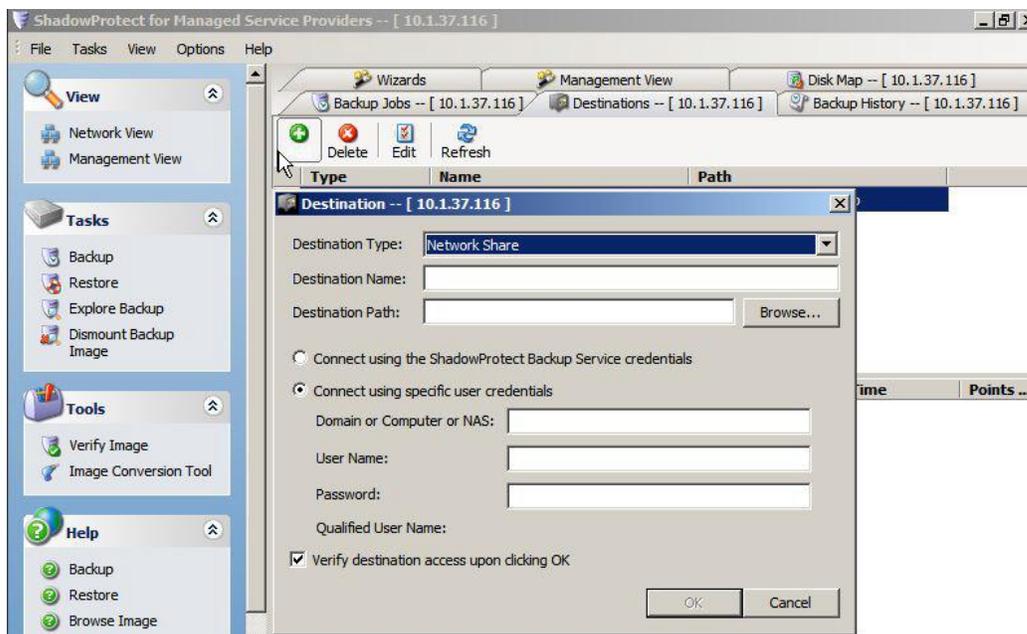
If the agent is installed successfully, the newly-added host displays with the status “Connected” in the ShadowProtect management client. If the device does not connect automatically, verify that the device is fully booted. If it is, manually connect to the device by clicking **Connect**.

11. Click the **Manage** icon and then select the **Destinations** tab.

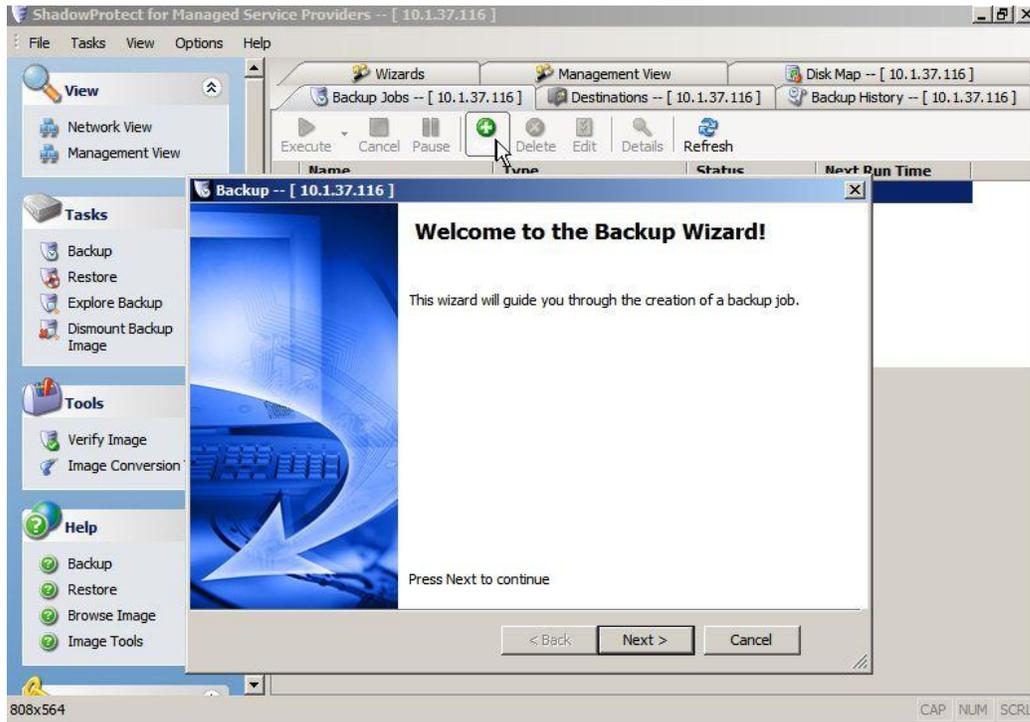


12. In the Destination dialog box, enter destination details such as the Destination Name, the path to a network share that has already been defined on your network (this is where the backup images will be stored), and the account details of a user account that has write access to the network share.

Note: By default, the F: drive is created inside the StorageCraft Windows VM as a local backup destination. To be used, the drive must be enabled for network sharing.

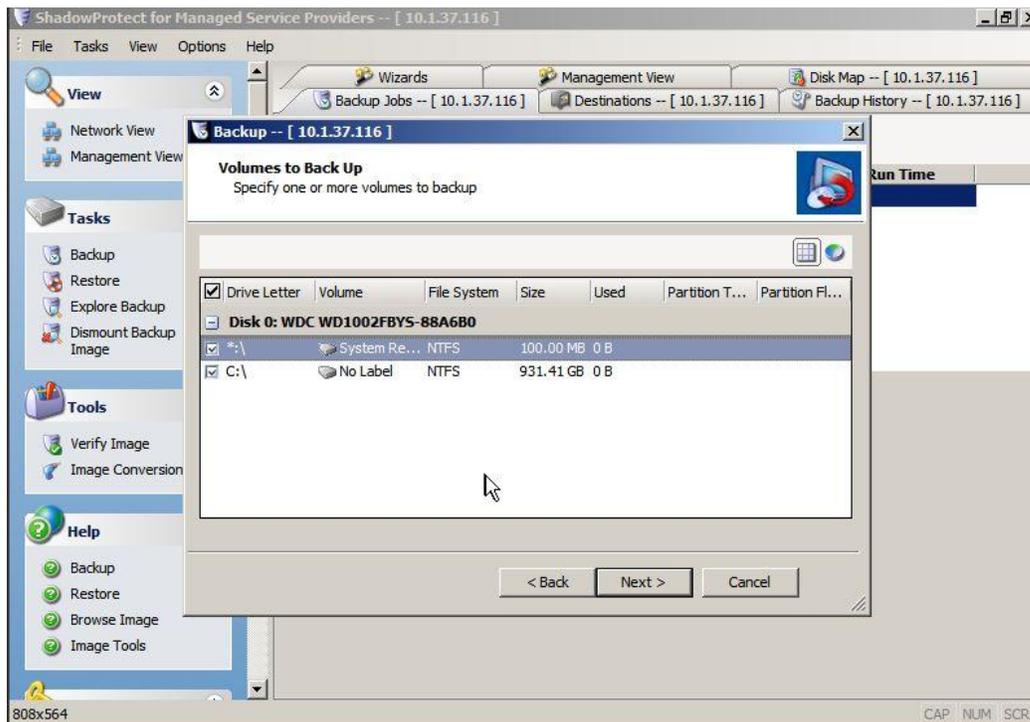


13. Select the **Backup Jobs** tab and then double-click the **Create New Backup** job option.

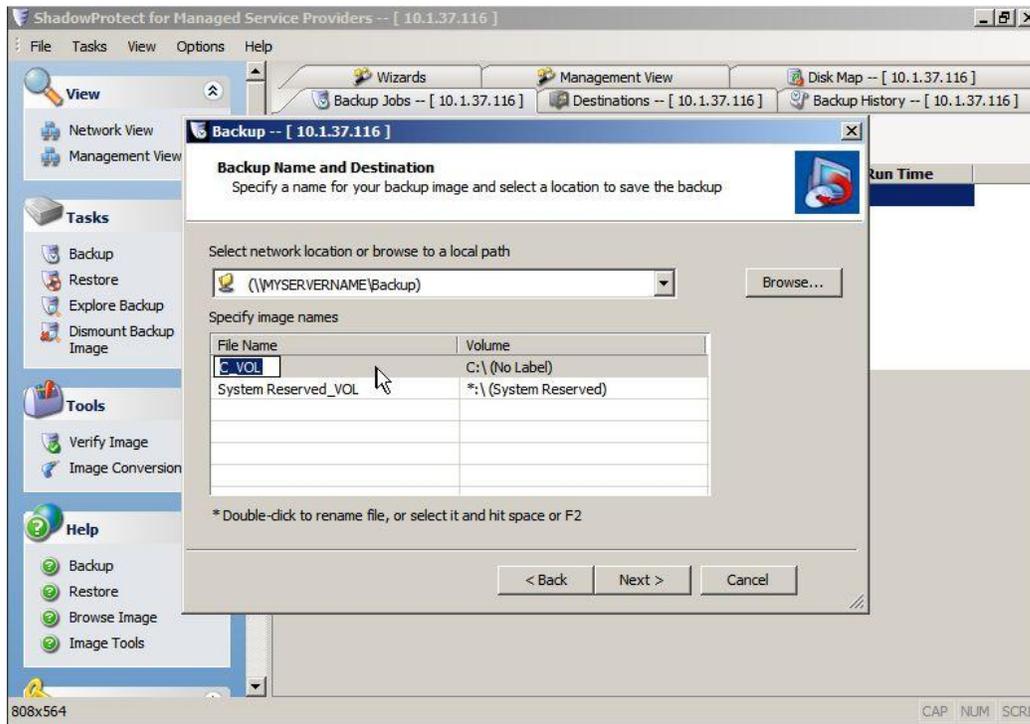


14. Select the drive letter containing your operating system and any separate drive letters containing data that you want to include in this backup.

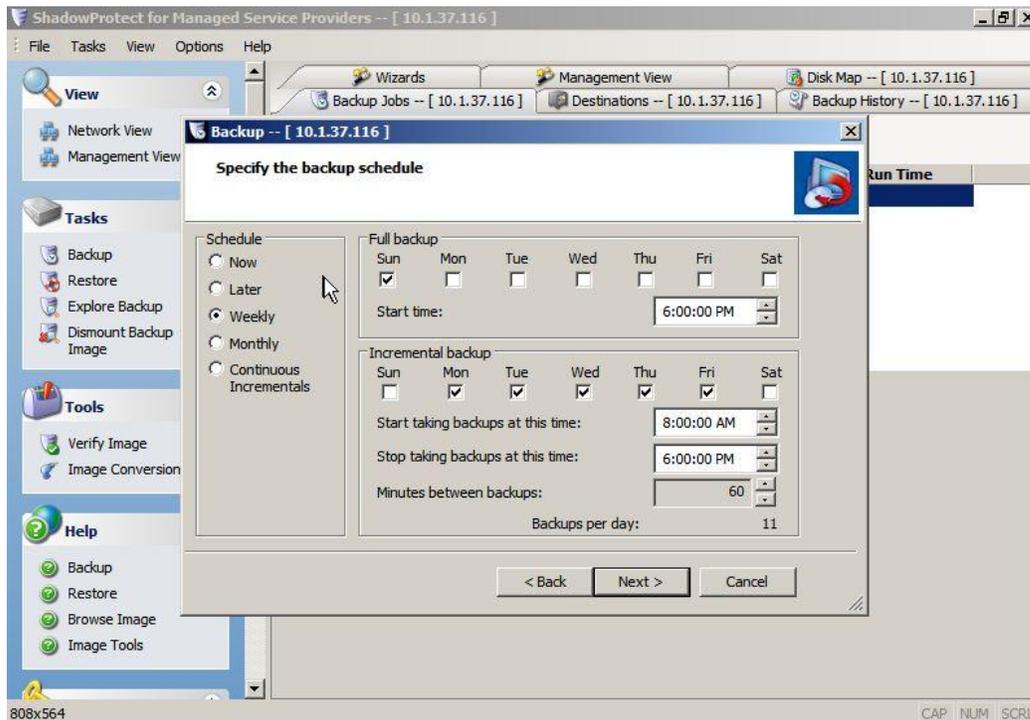
Note: Hidden system reserved drives should not be selected for the backup.



15. It is recommended that you change the file names from the default values. This will help you match the backup images to their respective servers when you view the destination location. After changing the file names, click **Next**.



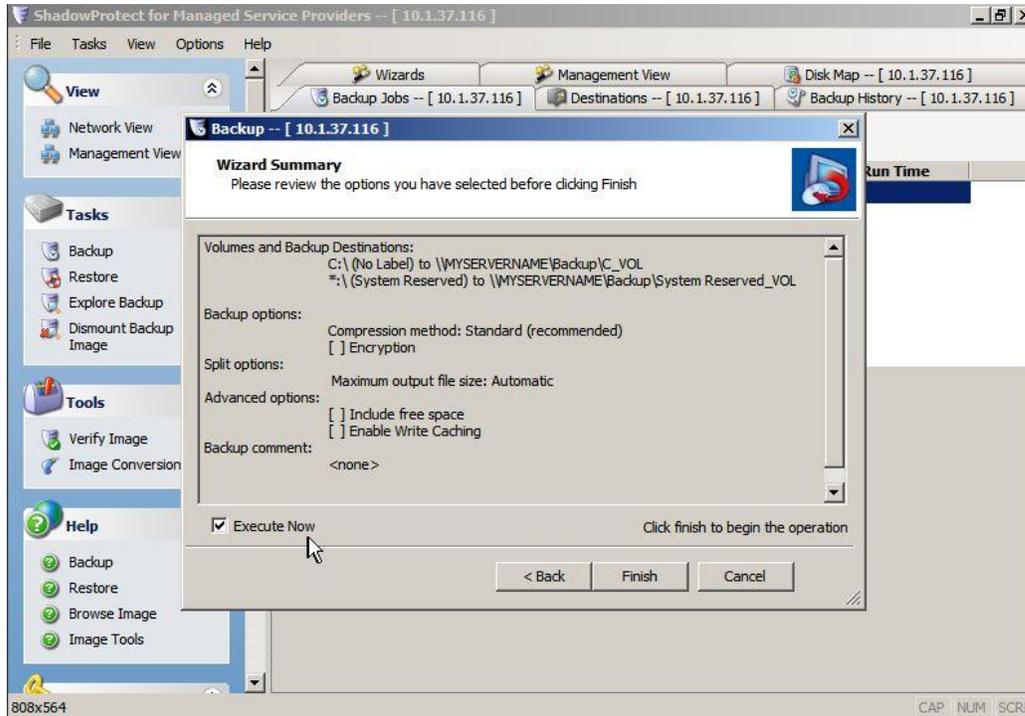
16. In the Schedule section, select a future date and time for the backup job or, to back up now, select the **Now** option.



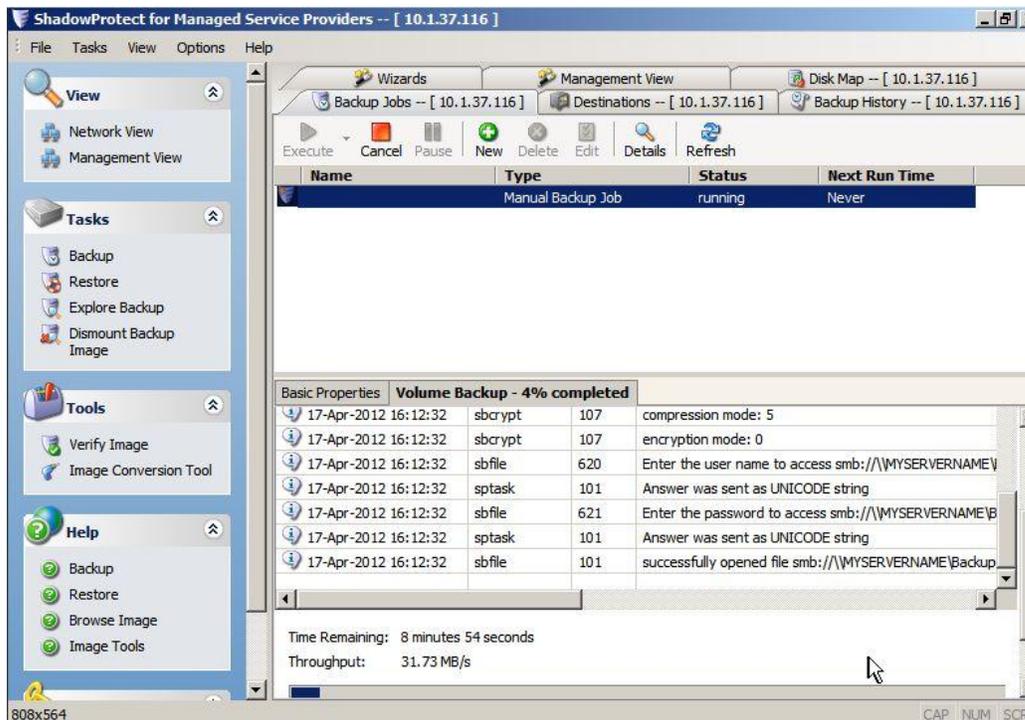
17. Click **Next**.

18. Review your backup settings and then click **Finish**.

Note: Selecting the **Execute Now** checkbox executes the backup job immediately.



Use the Backup Details screen to view the status of the current backup operation and to view the onscreen notification when the backup is complete.



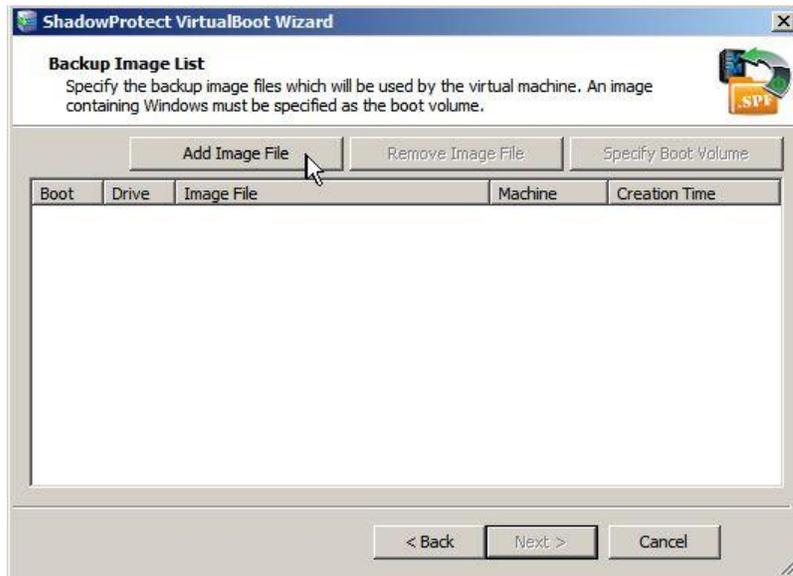
Recovering a Backup Image as a Virtual Machine

Intel[®] Quick Access Technology makes it possible to quickly start up temporary virtual machines (VMs) on the BDR appliance to access your data. This takes only minutes to complete and enables you to run your failed server content from your backup image. The BDR appliance continues to back up any changes you make to the data while working in the virtual environment.

1. On the StorageCraft VM desktop, double-click the **VirtualBoot** icon.

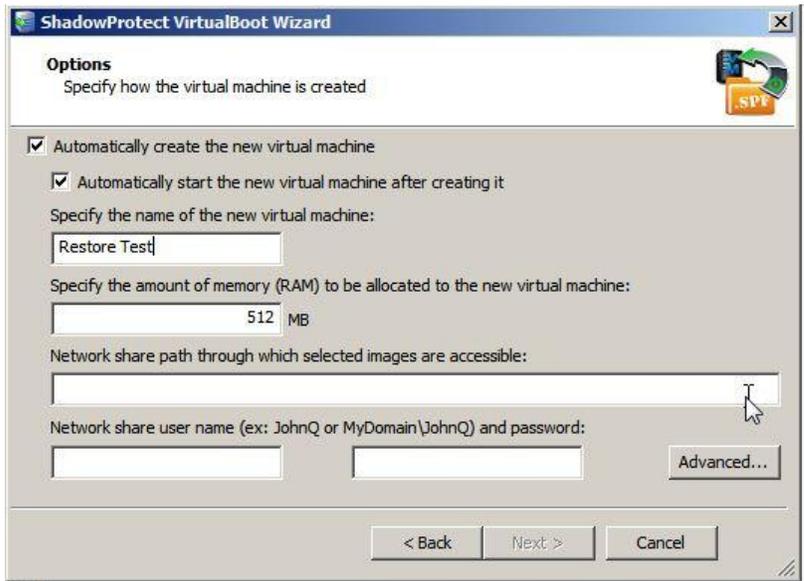


2. In the VirtualBoot Wizard screen, click **Next**.
3. Click the **Add Image File** button and browse to the network location where your backup images are stored.

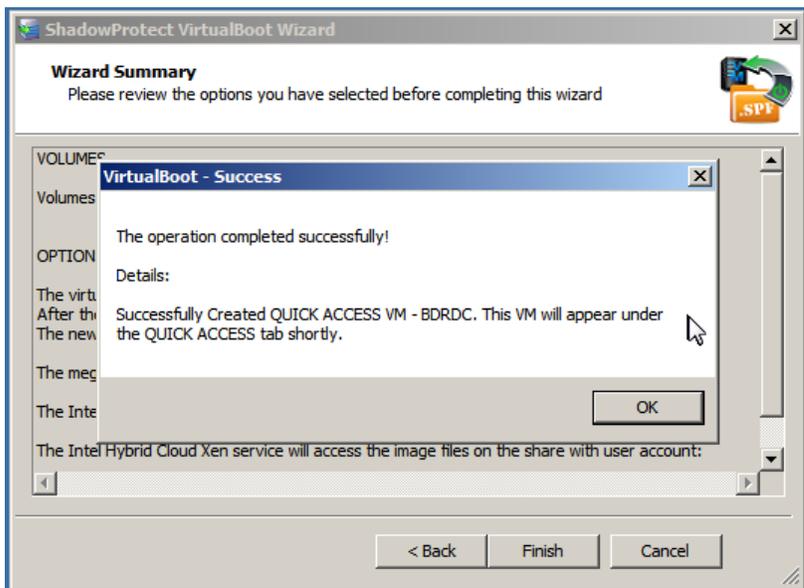


4. Select the backup image to restore and then click **Next**.
5. Enter the required details on the following screen and then click **Next**.

6. Enter the network share path using the following syntax:
\\<ipaddressofserver>\sharename. The network share path must not contain any spaces.
Note: Only one share path can be used to virtual boot at a time (backup images cannot be virtual booted from two different network shares at the same time. However, there is no limit to the number of VirtualBoot VMs that can be started from the same network share location).
Note: Entering a host name will cause the restore path to fail.



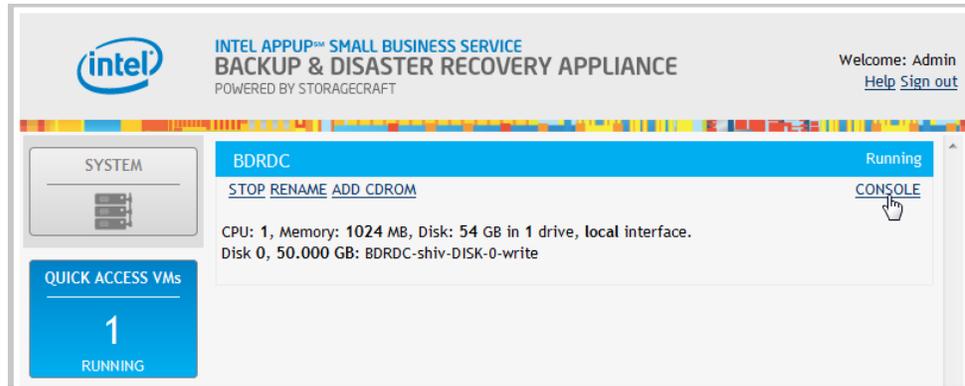
7. Review and verify the settings on the Wizard Summary screen and then click **Next**.
When the VirtualBoot operation is complete, you will see the following message:



8. Click **OK**.

After the operation completes, you will be able to access the VM from the BDR Management Console Quick Access VMs screen.

By default, the Quick Access VMs are started with the local network interface (port B). If a VM needs to be configured for the remote network interface (port A), the VM needs to be stopped first before the controls to configure network settings are available.



Recovering a Backup Image to a Physical Server Using Bare-Metal Restore

These instructions are for restoring a backup image to a device outside of the BDR appliance.

To create a Recovery Environment disk, do the following:

1. If necessary, download the Recovery Environment ISO image file:
 - a. In a Web browser, navigate to the [StorageCraft ISO Download Web page](#).
 - b. In the Serial Number field, enter the product serial number. (If you do not know the serial number, please contact Intel Customer Support.) Click **Submit**.
 - c. Save and run the Download tool.
 - d. Save the zipped file containing the ISO image to a local drive.
 - e. Use a utility to open the zipped file containing the Recovery Environment ISO image `ShadowProtect_RE_x.iso` (where "x" is the version number of ShadowProtect).
2. Insert a blank CD/DVD/Blu-Ray in the optical drive of your system.
3. From Windows, select **Start > ShadowProtect > ISO Tool**.
4. Browse to and select the ShadowProtect ISO file.
 - If you want to replace any existing data on the disk, select **Overwrite any existing data...**
5. Click **Burn the Disk**.
6. When the ISO Tool finishes transferring the ISO image, click **Close**.
The ISO transfer can take several minutes to complete.

Start the StorageCraft Recovery Environment

1. Insert the disk you just created with the ISO tool into the CD-ROM/DVD drive of the restore target system and turn on power to the system (BIOS adjustments may be necessary to ensure that the system boots from the bootable CD-ROM/DVD media). After a few minutes, the recovery environment loads.
 2. Select a language and then click **OK**.
 3. Click **OK** again to start Networking Support.
 4. Select your current time zone.
 5. In the Tools section on the left side of the screen, select **Network Configuration**.
 6. Select the **Network Drives** tab.
 7. Choose a drive letter, enter the network path (e.g. \\10.1.1.9\backup) and then enter a username and password that can be used to access the network share.
 8. Click **Close**.
 9. Click the **Restore Wizard** link on the main screen.
 10. Select the **Restore** option and then click **Next**.
 11. Browse to the mapped drive you chose in step 7, select the image you want to restore to the machine and then click **Open**.
 12. Click **Next**.
 13. Select the drive that you want to restore to and click **Next**.
 14. On the Finalization options screen, select the **Finalize the volume at the end of this restore** check box and then click **Next**. (The volume will not be usable until it is finalized.)
 15. Select the **Restore MBR** check box and then select the **Restore MBR from the image file** option.
 - If you are restoring to a physical server that is different from the server used to create the image, select the **User Hardware Independent Restore (When restoring to a different computer)** check box and then click **Next**.
- The Wizard Summary screen lists the options that you selected.
16. Review the options and then click **Finish** to begin your restore.

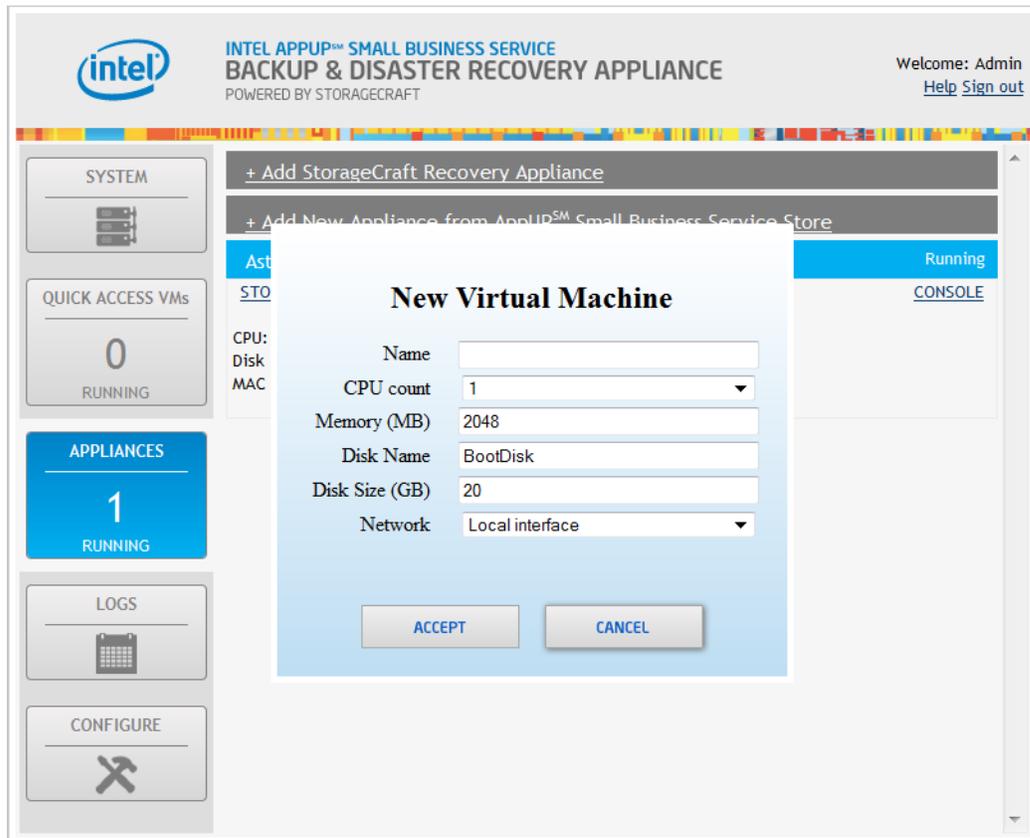
Recovering a Backup Image to a Virtual Machine Using Bare-Metal Restore

These instructions are for restoring a backup image to a virtual machine or the StorageCraft Recovery Appliance. The recovery appliance enables you to start up an environment where you can map a network drive to a location that has an existing backup image. Using the backup image, you can perform a full restore to the StorageCraft recovery environment in much the same way as you would recover to a separate physical device.

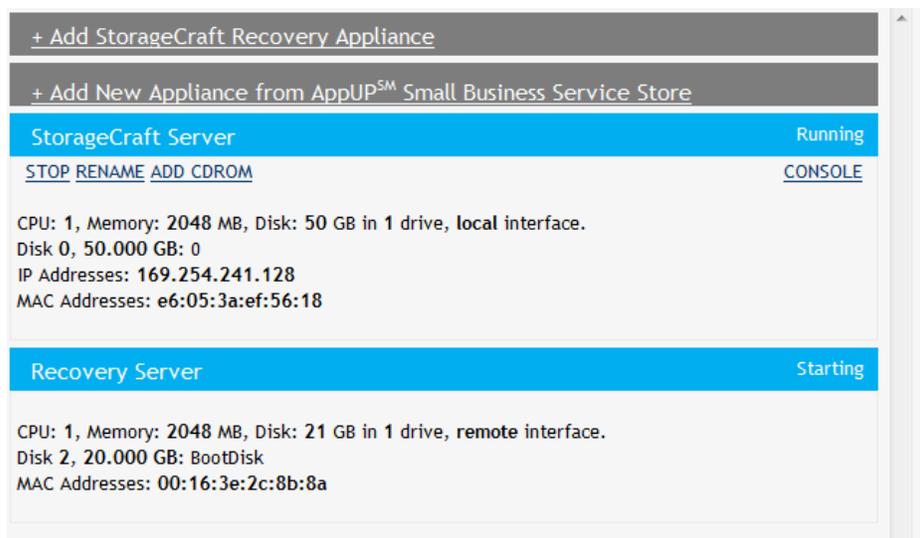
To recover a backup image to a VM:

1. In the Appliances screen of the BDR Management Console, click the **Add StorageCraft Recovery Appliance** link.

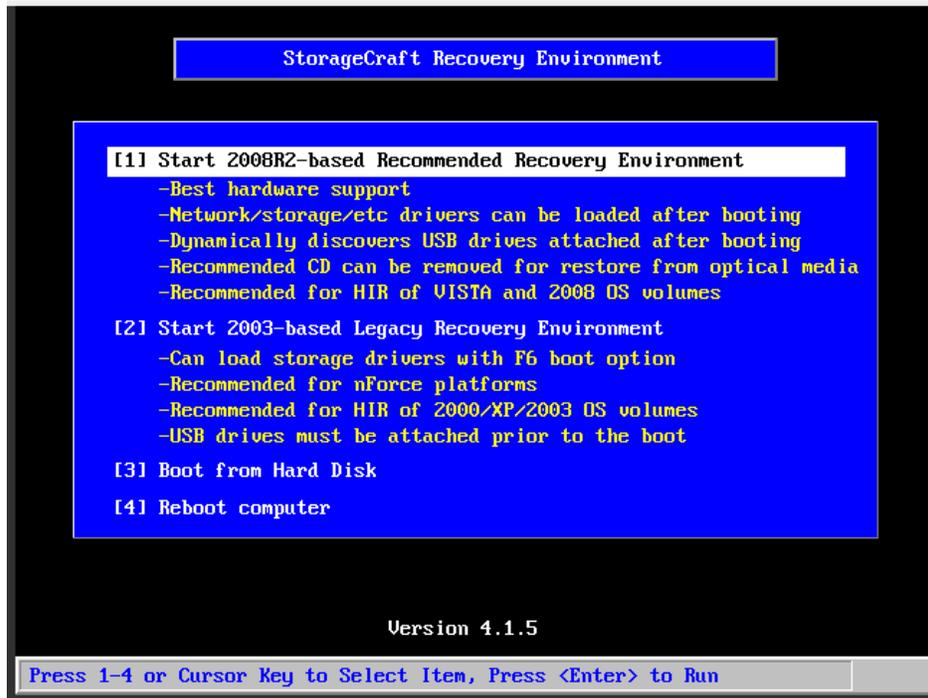
2. In the New Virtual Machine dialog box, enter the preferred server details.



3. After the Recovery Server starts, click the **CONSOLE** link.



4. In the StorageCraft Recovery Environment window, select the first option, **2008R2-based Recommended Recovery Environment**.



5. Click **OK**.

You are presented with a screen that allows you to map a network drive to a network location that contains your StorageCraft backup images.



6. Map the network drive.

You can now perform a restore to the StorageCraft Recovery Appliance.

Managing Quick Access VMs

The actions listed here are performed from the Quick Access VMs screen of the BDR Management Console.

Access the VM Remote Web Console

This option is available when the VM is running.

To access the remote Web console for a VM:

1. Click the **CONSOLE** link located below the end of the VM title bar.
2. To log in to the remote VM screen, click the **Send Ctrl|Alt|Del** button near the upper right corner of your browser.
3. Log in using the password you created when you configured the VM.

Start or Stop a VM

To start or stop a VM:

1. Do one of the following:
 - To stop a running VM, click **STOP** under the title bar for that VM.
 - To start a halted VM, click **START** under the title bar for that VM.
2. In the dialog box, click **ACCEPT**.
It may take a few moments for the VM status to change.

Uninstall a VM

Uninstalling a VM deletes the VM from the BDR appliance memory. This option is only available when the VM status is "Halted."

To uninstall a VM:

1. Stop the VM if it is running.
2. Under the title bar, click **UNINSTALL**.
3. In the Uninstall Virtual Machines dialog box, click **ACCEPT**.

Modify Settings for a VM

Use this option to change the name, CPU count, amount of memory, and the network for a VM. This option is available when the VM status is "Halted."

To modify settings for a VM:

1. Stop the VM if it is running.
2. Under the VM title bar, click **MODIFY**.
3. In the Virtual Machine Settings dialog box, make the desired changes and then click **ACCEPT**.

Rename a VM

This option is available when the VM is running.

To rename a VM:

1. Start the VM if it is stopped.
2. Under the VM title bar, click **RENAME**.
3. In the New VM Name dialog box, type a new name and then click **ACCEPT**.
After a few moments the new name should be displayed.

Resize a VM

This option is available when the VM status is "Halted."

To resize storage for a VM:

1. Stop the VM if it is running.
2. In the information paragraph for the VM, click **RESIZE**.
3. In the Change Virtual Disk dialog box, enter a new disk size and then click **ACCEPT**.

Add or Remove a Virtual Disk

These actions are available when the VM status is "Halted."

To add a virtual disk to a VM:

1. Stop the VM if it is running.
2. Under the VM title bar, click **ADD DISK**.
3. In the Add Virtual Disk dialog box, name the disk, enter a size, then click **ACCEPT**.

To remove a virtual disk from a VM:

1. Stop the VM if it is running.
2. In the information listed for the VM, locate the line for the disk you want to remove, then click **REMOVE** to the right of the line.
3. In the Destroy Virtual Disk dialog box, click **ACCEPT**.

Add or Remove a CD-ROM Device for a VM

To add a CD-ROM device:

1. Under the VM name, click **ADD CDROM**.
2. In the Add CDROM device dialog box, select the desired device and then click the **Add** button to the right of the listed device.

To remove a CD-ROM device:

1. In the information listed for the VM, locate the line for the CD-ROM you want to remove, then click **REMOVE** to the right of the line.
2. In the dialog box, click **ACCEPT**.

Managing Appliances

The actions listed here are performed from the Appliances screen of the BDR Management Console.

Add a StorageCraft Recovery Appliance

To add a StorageCraft Recovery Appliance to the BDR appliance:

1. At the top of the Appliances screen, click the **Add StorageCraft Recovery Appliance** link.
2. In the New Virtual Machine dialog box, enter the appliance information and then click **ACCEPT**.

It may take a few minutes for the appliance to be created.

Add a New Appliance from the Intel AppUpSM Small Business Service Store

These instructions are for downloading and installing appliances and applications from the Intel AppUpSM Small Business Service Store.

Important! When starting a downloaded Windows*-based appliance or application for the first time (for example, Windows Small Business Server*), you need to use the Intel[®] Hybrid Cloud Server Manager to access and start the appliance/application after installation. For details, refer to the Intel Hybrid Cloud Platform User Guide.

To add a new appliance from the Store:

1. At the top of the Appliances screen, click the **Add New Appliance from AppUpSM Small Business Service Store** link.
2. In the Store login screen, enter your login credentials and password, then click **Login**.
3. Purchase and install the desired appliances/applications.

Note: It is recommended that you install no more than two appliances in addition to the BDR appliance.

Access the Appliance Remote Web Console

This option is available when the appliance is running.

To access the remote Web console for an appliance:

1. Click the **CONSOLE** link located below the end of the appliance title bar.
2. To log in to the remote screen, click the **Send CtrlAltDel** button near the upper right corner of your browser.
3. Log in using your password.

Stop or Start an Appliance

To start or stop an appliance:

1. Do one of the following:
 - To stop a running appliance, click **STOP** under the title bar for that appliance.
 - To start a stopped appliance, click **START** under the title bar for that appliance.
2. In the dialog box, click **ACCEPT**.

Uninstall an Appliance

This option is available when the appliance status is "Halted."

To uninstall an appliance:

1. Stop the appliance if it is running.
2. Under the appliance name, click **UNINSTALL**.
3. In the Uninstall Virtual Machines dialog box, click **ACCEPT**.

Modify Settings for an Appliance

This option is available when the appliance status is "Halted." Use this option to change settings such as the name, CPU count, amount of memory, and the network, for an appliance.

To modify an appliance:

1. Stop the appliance if it is running.
2. Under the appliance name, click **MODIFY**.
3. In the Virtual Machine Settings dialog box, change the desired information and then click **ACCEPT**.

Rename an Appliance

This option is available when the appliance is running.

To rename an appliance:

1. Under the appliance name, click **RENAME**.
2. In the New VM Name dialog box, enter the new name and then click **ACCEPT**.

Resize an Appliance

This option is available when the appliance status is "Halted."

To resize an appliance:

1. Stop the appliance if it is running.
2. In the information paragraph for the appliance, locate the "Disk" line and then click **RESIZE**.
3. In the Change Virtual Disk dialog box, enter the desired size and then click **ACCEPT**.

Add or Remove a Virtual Disk

This option is available when the appliance status is "Halted."

Use this option to add an additional drive to the StorageCraft VM.

To add a virtual disk:

1. Under the appliance name, click **ADD DISK**.
2. In the Add Virtual Disk dialog box, enter a name and size for the disk in the corresponding fields and then click **ACCEPT**.

To remove a virtual disk from an appliance:

1. On the right side of the named disk, click **REMOVE**.
2. In the Destroy Virtual Disk dialog box, click **ACCEPT**.

Add or Remove a CD-ROM Device

Use this feature to allow the StorageCraft VM to connect to the physical CD-ROM drive in the BDR appliance, or to mount an .ISO file as a CD-ROM. CD-ROMs can be used to perform diagnostics or offload CD media files.

To add a CD-ROM device:

1. Under the appliance name, click **ADD CDROM**.
2. In the Add CDROM device dialog box, select the desired device and then click the **Add** button to the right of the listed device.

To remove a CD-ROM device:

1. In the information paragraph for the appliance, locate the line for the CD-ROM you want to remove and then click **REMOVE**.
2. In the dialog box, click **ACCEPT**.