

# Filr 3

## Installation, Deployment, and Upgrade Guide

December 2017

## Legal Notice

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# About This Guide

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**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).
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## Best Practice Deployments

To create a production-viable, best practice Filr deployment, complete the sections below in the order presented.

- ♦ [Chapter 1, “Overview,” on page 9](#)
- ♦ [Chapter 2, “Planning Is Critical,” on page 11](#)
- ♦ [Chapter 3, “System Requirements,” on page 13](#)
- ♦ [Chapter 4, “Setting Up Shared Storage,” on page 23](#)
- ♦ [Chapter 5, “Downloading and Preparing the Filr Software,” on page 27](#)
- ♦ [Chapter 6, “Deploying the Virtual Machines,” on page 31](#)
- ♦ [Chapter 7, “Starting and Configuring the Appliances,” on page 45](#)
- ♦ [Chapter 8, “Creating an Expandable Filr Deployment,” on page 51](#)
- ♦ [Chapter 9, “Setting Up Filr Services,” on page 67](#)
- ♦ [Chapter 12, “Setting Up Sharing,” on page 109](#)

## Test and Evaluation Deployments

To create an evaluation or test deployment, see the following sections.

- ♦ [Appendix B, “All-in-One \(Small\) Deployment—Creating,” on page 129](#)
- and
- ♦ [Appendix D, “Non-Expandable Deployment—Creating,” on page 133](#)

## Upgrade Instructions

To upgrade existing deployments, see

- ♦ [Chapter I, “Upgrading Filr,” on page 71](#)
- ♦ [“Upgrading an All-in-One \(Small\) Deployment” on page 92](#)

## Audience

This guide is intended for Filr Administrators.

## Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the **comment on this topic** link at the bottom of each page of the online documentation.

## Documentation Updates

For the most recent version of this guide, visit the [Filr 3 Documentation web site \(http://www.novell.com/documentation/filr-3\)](http://www.novell.com/documentation/filr-3).

## Additional Documentation

For other documentation on Filr 3, see the [Filr 3 Documentation web site \(http://www.novell.com/documentation/filr-3\)](http://www.novell.com/documentation/filr-3).



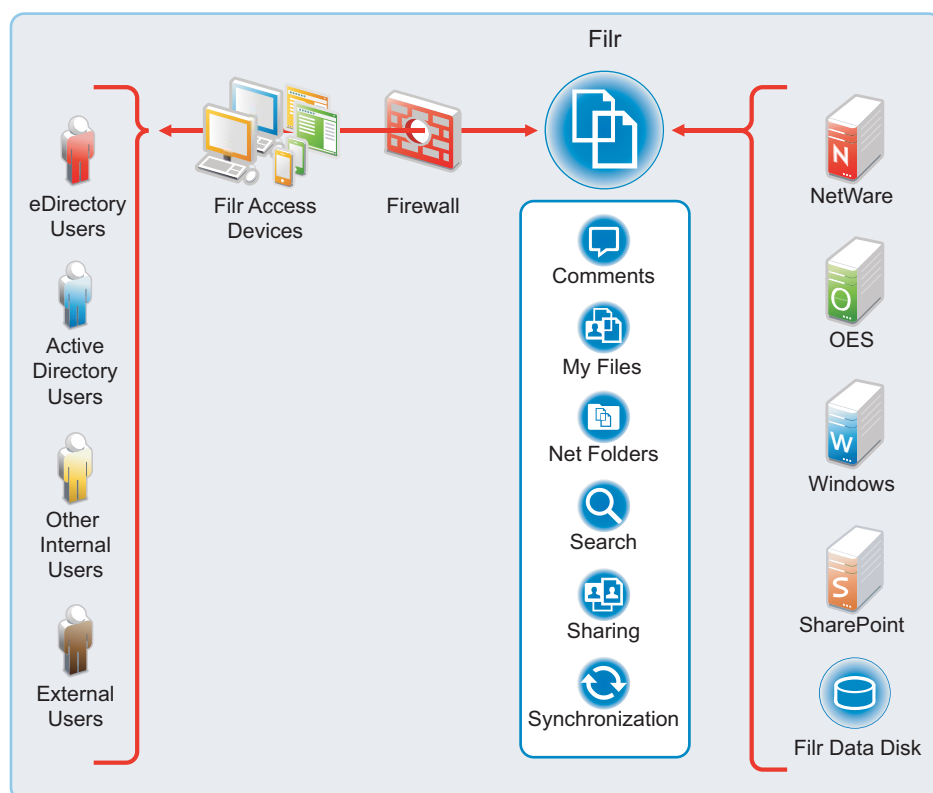
# 1 Overview

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

## What Is Micro Focus Filr?

Micro Focus Filr is an enterprise file sharing tool that leverages your current file server and security infrastructure to provide multi-device access to organizational and personal files.



For more detail about this illustration and for more illustrations and explanations, see the [Filr 3.3: Understanding How Filr Works](#).

## What Is “Filr Clustering”?

“Filr clustering” is a term that is sometimes used in the Filr product and means that multiple Filr appliances access a shared storage location, which contains deployment-level configuration settings and data. “Filr clustering” provides a measure of

- ♦ Fault tolerance

And

- ♦ High availability

“Filtr clustering” is not related to Novell Cluster Services.

This guide refers to “Filtr-clustered” deployments as “Expandable” deployments.

# 2 Planning Is Critical

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**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).
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Creating a successful Filr deployment requires that you

1. Involve pertinent stakeholders.
2. Conduct a thorough needs assessment.
3. Plan your deployment based on the needs assessment.

The instructions that follow assume that you have:

1. Completed the planning processes outlined in the [Filr 3.3 Planning Your Filr Deployment—Best Practices](#) guide.
2. Filled in the [Filr Planning Worksheets](#) associated with the Planning Best Practices guide.



# 3 System Requirements

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

## Expandable Deployments Are the Focus of This Guide

Other deployment types are covered in

- ♦ [Appendix B, “All-in-One \(Small\) Deployment—Creating,” on page 129](#)
- ♦ [Appendix D, “Non-Expandable Deployment—Creating,” on page 133](#).

The following sections outline platform, version, and other requirements for your expandable Filr deployment.

- ♦ [“Administrative Workstations and Browsers” on page 13](#)
- ♦ [“Appliance Disk Space” on page 14](#)
- ♦ [“Appliance Memory and CPU” on page 14](#)
- ♦ [“Appliance Shared Storage \(/vashare Mount Point\) Platforms” on page 14](#)
- ♦ [“Desktop Platforms \(for the Desktop Application\)” on page 15](#)
- ♦ [“Desktop Web Application Access” on page 16](#)
- ♦ [“File Servers \(Backend Storage\)” on page 17](#)
- ♦ [“Filr Software” on page 18](#)
- ♦ [“IP Addresses” on page 18](#)
- ♦ [“LDAP Directory Services \(Users and Groups\)” on page 19](#)
- ♦ [“Mobile Device Platforms” on page 19](#)
- ♦ [“SQL Database Server” on page 20](#)
- ♦ [“Virtualization Hypervisor Platform” on page 21](#)

## Administrative Workstations and Browsers

**Table 3-1** *Administrative Workstations and Browsers*

Platform	Browser	Requirement
Windows, Mac, or Linux	Mozilla Firefox	Latest version
Capable of running a listed browser	Microsoft Internet Explorer	11
	Microsoft Edge	Latest version
	Chrome	Latest version
	Safari	Latest version

## Appliance Disk Space

- ♦ See Worksheet 25—Storage Planning Summary

Planning for disk space varies widely according to organization needs and the planning process is covered in the [Filtr 3.3 Planning Your Filtr Deployment—Best Practices](#) guide.

General guidelines are summarized in the following sections of the [Planning Best Practices](#) guide:

- ♦ [Filtr Appliance Sizing Guidelines](#)
- ♦ [Filtrsearch Appliance Sizing Guidelines](#)
- ♦ [SQL Server Sizing Guidelines](#)

For an overview of Filtr storage, see “Appliance Storage Illustrated” in the [Filtr 3.3: Understanding How Filtr Works](#).

## Appliance Shared Storage (/vashare Mount Point) Platforms

- ♦ See Worksheet 25—Storage Planning Summary

The Filtr appliances in an Expandable deployment access a commonly-shared CIFS or NFS storage disk that you will identify and create in [Chapter 4, “Setting Up Shared Storage,”](#) on page 23.

**Table 3-2** Shared Storage Platforms (/vashare Mount Point)

Protocol	Requirement
CIFS	♦ A Windows-based CIFS share
NFS	Exported mount point on one of the following: <ul style="list-style-type: none"><li>♦ SLES 11 SP4</li></ul> NFS on Windows is not supported.

## Appliance Memory and CPU

**Table 3-3** Memory and CPU

Appliance	Recommended	Minimum
Filtr	♦ 12 GB RAM	♦ 8 GB RAM
	2 GB Operating System	1.5 GB Operating System
	10 GB Java Heap	6.5 GB Java Heap
	♦ 4 CPUs	♦ 4 CPUs

Appliance	Recommended	Minimum
Filtrsearch	Less than 1,000 Users	Same
	♦ 8 GB RAM	
	2 GB Operating System	
	2 GB Memcached	
	4 GB Java Heap	
	♦ 2 CPUs	
	More than 1,000 Users	
	♦ 12 GB RAM	
	2 GB Operating System	
	3 GB Memcached	
MySQL	Less than 1,000 Users	Same
	♦ 8 GB RAM	
	♦ 2 CPUs	
	More than 1,000 Users	
	♦ 12 GB RAM	
	♦ 2 CPUs	

## Desktop Platforms (for the Desktop Application)

For more information about the Filr desktop application, see the following guides:

- ♦ **Linux:** *Filr Desktop Application for Linux Guide* (<https://www.novell.com/documentation/filr-3/filr-desktop-linux/data/bookinfo.html>)
- ♦ **Mac:** *Filr Desktop Application for Mac* (<https://www.novell.com/documentation/filr-3/filr-desktop-mac/data/bookinfo.html>)
- ♦ **Windows:** *Filr Desktop Application for Windows Guide* (<https://www.novell.com/documentation/filr-3/filr-desktop/data/bookinfo.html>)

**Table 3-4** Desktop Platforms (Desktop Application)

Platform	Versions
Windows	<b>IMPORTANT:</b> Always make sure that the latest patches and support packs are installed. <ul style="list-style-type: none"><li>♦ Windows 7 SP1 (x86 &amp; x64)</li><li>♦ Windows 8.1 (x64 only)</li><li>♦ Windows 10 (x64 only)</li></ul>
Mac	<b>IMPORTANT:</b> Always make sure that the latest patches and support packs are installed. <ul style="list-style-type: none"><li>♦ OS X10.13 (High Sierra)</li><li>♦ OS X10.12 (macOS Sierra)</li></ul>
Linux Platform	<ul style="list-style-type: none"><li>♦ SLED 12 SP3</li></ul> <p><b>NOTE:</b> Filr supports only the default GNOME graphical desktop environment that is shipped with SLED 12 SP3.</p>

## Desktop Web Application Access

Three components apply:

- ♦ [A Browser](#)
- ♦ [Java](#)
- ♦ [An Office Application](#)

**Table 3-5** Browsers for Web Application Access

Platform	Requirement
Linux	Mozilla Firefox; Google Chrome (latest versions)
Windows	Microsoft Edge Microsoft Internet Explorer 11 Mozilla Firefox; Google Chrome (latest versions)
Mac	Safari; Mozilla Firefox (latest versions), Google Chrome (latest versions)

**Table 3-6** Java for Web Application Functionality

Version	Functionality
Java v1.7.0_72	<ul style="list-style-type: none"><li>♦ <b>Editing files with Edit-in-Place</b> as described in “Working with files” in the <a href="#">Filr 3.3: User Access Guide</a>.</li><li>♦ <b>Uploading folders to Filr</b> as described in “Creating a New Folder” in the <a href="#">Filr 3.3: User Access Guide</a>.</li></ul> <p>If the browser does not support HTML 5, uploading both files and folders requires this version of Java to be installed.</p>



**Table 3-7** Office Application for Edit-in-Place Functionality

**NOTE:** OpenOffice and LibreOffice are used synonymously throughout the Micro Focus Filr documentation.

For more information about Edit-in-Place, see “Working with files” in the [Filr 3.3: User Access Guide](#).

Linux	<ul style="list-style-type: none"><li>♦ OpenOffice.org (latest version)</li><li>♦ LibreOffice (latest version)</li></ul>
Windows	<ul style="list-style-type: none"><li>♦ LibreOffice (latest version)</li><li>♦ OpenOffice (latest version)</li><li>♦ MS Office 2013</li><li>♦ MS Office 2010</li><li>♦ MS Office 365</li></ul>
Mac	<ul style="list-style-type: none"><li>♦ LibreOffice (latest version)</li><li>♦ OpenOffice (latest version)</li><li>♦ MS Office 2011 for MAC</li><li>♦ MS Office 2013 for MAC</li><li>♦ MS Office 365 for MAC</li></ul>

## File Servers (Backend Storage)

**NOTE:** Your organization’s file servers provide the backend storage for Net Folders.

If you use Filr only for user personal storage (My Files), then file servers aren’t required.

**Table 3-8** File Servers

Platform	Supported Versions
Windows	<ul style="list-style-type: none"><li>♦ Windows Server 2016 (CIFS)</li><li>♦ Windows Server 2012 R2 (CIFS)</li><li>♦ Windows Server 2008 R2 (CIFS)</li></ul> <p>Windows native DFS-N and DFS-R with replication are supported</p>
OES	<p><b>IMPORTANT:</b> You must apply the latest Scheduled Maintenance Update, otherwise the NCP server can fail.</p> <ul style="list-style-type: none"><li>♦ OES 11 SP3 (NCP and CIFS)</li><li>♦ OES 2015 SP1 (NCP and CIFS)</li><li>♦ OES 2015 SP1 NSS AD (CIFS)</li></ul> <p>DFS and DST for OES are supported.</p> <p>Domain Services for Windows (DSfW) is not supported.</p>
NetWare	<ul style="list-style-type: none"><li>♦ NetWare 6.5 SP8</li></ul>
SharePoint	<ul style="list-style-type: none"><li>♦ 2013</li></ul>

Platform	Supported Versions
Other	<p>In addition to storage that is directly attached to the file servers listed in Net Folders can provide access to files that are being stored on any of the following storage platforms:</p> <ul style="list-style-type: none"> <li>♦ NetApp NAS device</li> <li>♦ EMC</li> <li>♦ Other Microsoft Active Directory joined NAS devices that support the CIFS protocol.</li> <li>♦ Storage Area Network (SAN)</li> </ul>

## Filr Software

To download and prepare the Filr software, See [Chapter 5, “Downloading and Preparing the Filr Software,” on page 27](#).

## IP Addresses

Each appliance requires the following.

**Table 3-9** IP Addresses

Component	Requirement
IP Address	<ul style="list-style-type: none"> <li>♦ A static address that is associated with a DNS host name.</li> </ul> <p>Example: 192.168.1.61</p>
Network Mask	<ul style="list-style-type: none"> <li>♦ The appropriate network mask for the IP address.</li> </ul> <p>Example: 255.255.255.0</p>
Gateway IP Address	<ul style="list-style-type: none"> <li>♦ The gateway for the IP address subnet.</li> </ul> <p>Example: 192.168.1.254</p>
DNS Host Name	<ul style="list-style-type: none"> <li>♦ The DNS name associated with the IP address.</li> </ul> <p>Example: filr-1.myorg.local</p>
DNS IP Address	<ul style="list-style-type: none"> <li>♦ Up to three IP addresses of DNS servers for the IP address subnet.</li> </ul> <p>Example: 192.168.1.1</p>

Component	Requirement
NTP IP Address or DNS Name	<ul style="list-style-type: none"> <li>Up to three IP addresses or DNS names of reliable NTP servers used to coordinate time on your organization's network—especially your LDAP directory servers.</li> </ul> <p>Example: time.myorg.local</p> <p>When using VMware, it is recommended that you set up NTP in accordance with the <a href="http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&amp;cmd=displayKC&amp;externalId=1006427">VMware best practices guidelines</a> (<a href="http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&amp;cmd=displayKC&amp;externalId=1006427">http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&amp;cmd=displayKC&amp;externalId=1006427</a>).</p>

## LDAP Directory Services (Users and Groups)

**Table 3-10** LDAP Directory Services

Directory Service	Platform Version
eDirectory	<ul style="list-style-type: none"> <li>NetIQ eDirectory 8.8.x.x</li> </ul> <p>For more information, see the <a href="http://www.netiq.com/documentation/edir88">NetIQ eDirectory 8.8 Documentation website</a> (<a href="http://www.netiq.com/documentation/edir88">http://www.netiq.com/documentation/edir88</a>).</p> <ul style="list-style-type: none"> <li>NetIQ eDirectory version 8.8.x.x on standalone Windows.</li> </ul> <p><b>IMPORTANT:</b> eDirectory running on Windows servers with file shares is not supported.</p>
Active Directory	<ul style="list-style-type: none"> <li>Windows Server 2008 R2 Active Directory with the latest Service Pack</li> <li>Windows Server 2012 R2 Active Directory with the latest Service Pack</li> </ul> <p>For more information, see <a href="http://www.microsoft.com/windowsserver2008/en/us/active-directory.aspx">Windows Server 2008 Active Directory</a> (<a href="http://www.microsoft.com/windowsserver2008/en/us/active-directory.aspx">http://www.microsoft.com/windowsserver2008/en/us/active-directory.aspx</a>).</p>

## Mobile Device Platforms

**IMPORTANT:** Accessing Filr through a web browser on a mobile device is not supported. Instead, download the Filr mobile app that is compatible with your mobile device.

For more information about the Filr mobile app, see the [Mobile App Quick Start](#).

**Table 3-11** *Mobile Devices*

Platform	Supported Versions
iOS Phones and Tablets	<ul style="list-style-type: none"><li>♦ iOS 10.0 or later</li></ul> <p>The native app is available as a free download in the Apple App Store.</p>
Android Phones and Tablets	<ul style="list-style-type: none"><li>♦ Android phones and tablets for Android 4.4 or later</li></ul> <p>The native app is available as a free download in the Google Play App Store, the Amazon Appstore for Android, and the Samsung Knox Apps store.</p>
Windows Phones	<ul style="list-style-type: none"><li>♦ Windows 8.0 and 8.1</li></ul> <p><b>IMPORTANT:</b> Windows tablets are not currently supported.</p>
BlackBerry PlayBook and Z10	<p>The native application is available in the BlackBerry World app store.</p> <p>Filr documentation for BlackBerry is the same as for Android devices.</p>

## SQL Database Server

**Table 3-12** *SQL Database Server*

Database Type	Supported Versions
MySQL	<ul style="list-style-type: none"><li>♦ 5.6</li><li>♦ 5.7</li></ul>
Microsoft SQL	<ul style="list-style-type: none"><li>♦ SQL Server 2016 SP1</li><li>♦ SQL Server 2014 SP2</li><li>♦ SQL Server 2012 SP2</li><li>♦ SQL Server 2008 R2</li></ul>
MariaDB	<ul style="list-style-type: none"><li>♦ 10.1</li></ul>

## Virtualization Hypervisor Platform

**Table 3-13** Virtualization Hypervisor Platform

Hypervisor Type	Supported Versions
VMware	<ul style="list-style-type: none"><li>◆ One of the following VMware host servers for hosting the appliance VMs.<ul style="list-style-type: none"><li>◆ ESXi 6.0 with the latest update</li><li>◆ ESX 5.5 with the latest update</li></ul></li></ul> <p>For the most up-to-date compatibility matrix of supported VMware host servers, see the <a href="http://www.vmware.com/resources/compatibility/search.php?deviceCategory=software&amp;testConfig=16">VMware Compatibility Guide (http://www.vmware.com/resources/compatibility/search.php?deviceCategory=software&amp;testConfig=16)</a> provided by VMware.</p> <ul style="list-style-type: none"><li>◆ VMware vMotion is supported when running Filr on VMware ESXi or 5.5 with the latest updates</li></ul>
Hyper-V	<ul style="list-style-type: none"><li>◆ The following platforms<ul style="list-style-type: none"><li>◆ Windows Server 2016</li><li>◆ Windows Server 2012 R2</li><li>◆ Windows Server 2008 R2</li></ul></li><li>◆ Hyper-V Manager to deploy, set up, and configure the appliances.</li></ul>
Xen	<p><b>IMPORTANT:</b> Apply all Xen and kernel patches before installing.</p> <ul style="list-style-type: none"><li>◆ One of the following servers with the Xen packages installed and the Xen bootloader running by default.<ul style="list-style-type: none"><li>◆ SLES 11 SP4, 64-bit</li><li>◆ SLES 12 SP1, 64-bit</li></ul></li><li>◆ Virtual Machine Manager to deploy, set up, and configure the appliances.</li></ul>
Citrix Xen	<ul style="list-style-type: none"><li>◆ Citrix XenServer 6.5 and later</li><li>◆ Citrix XenCenter to deploy, set up, and configure the appliances.</li></ul>



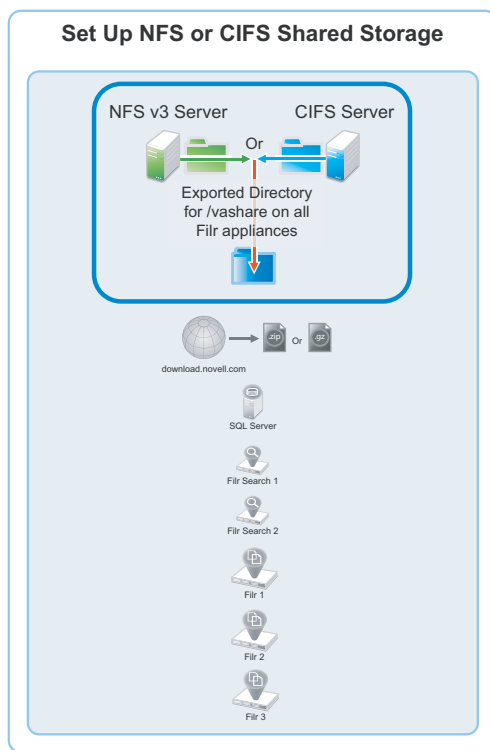
# 4 Setting Up Shared Storage

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).
- ♦ See Worksheet 25—Storage Planning Summary

[Figure 4-1](#) is the first in a series of illustrations that visually track deployment order.

**Figure 4-1** Export an NFS Directory or Create a CIFS share for the /vashare mount point



Complete the instructions in the section below that applies to the plans you have made on Worksheet 25:

- ♦ [“Exporting an NFS Directory for the /vashare Mount Point” on page 23](#)
- Or
- ♦ [“Creating a CIFS Share for the /vashare Mount Point” on page 25](#)

## Exporting an NFS Directory for the /vashare Mount Point

**IMPORTANT:** Filr does not support remote NFS from a Novell Storage Services (NSS) volume.

If you plan to use a CIFS share for Filr shared storage (/vashare) in Worksheet 25, skip to [“Creating a CIFS Share for the /vashare Mount Point” on page 25](#). Otherwise, export an NFS directory on a Linux server by doing the following:

**Table 4-1** Task 1: Exporting an NFS Directory for /vashare

Page, Dialog, or Option	Do This
<b>1 - Verify that the server has adequate disk space.</b>	
	<ol style="list-style-type: none"> <li>1. Make sure that the Linux server that you are targeting has the available disk space you identified in <a href="#">“Recording Your Plan”</a> in the <i>Filr 3.3 Planning Your Filr Deployment—Best Practices</i> guide and recorded on Worksheet 25.</li> </ol> <p>If necessary, add disk space to the Linux server.</p>
	<ol style="list-style-type: none"> <li>1. On the Linux server, launch YaST2.</li> </ol>
YaST Control Center	<ol style="list-style-type: none"> <li>1. In the <b>Network Services</b> section, click <b>NFS Server</b>.</li> </ol> <p>The NFS Server Configuration dialog box displays.</p>
NFS Server Configuration	<ol style="list-style-type: none"> <li>1. Make sure that the NFS Server is set to <b>Start</b>, that <b>Open Port in Firewall</b> is selected (running firewall required for option), and that <b>Enable NFSv4</b> is <i>not selected</i> - i.e. NFS v4 is disabled.</li> <li>2. Click <b>Next</b>.</li> </ol>
Directories to Export	<ol style="list-style-type: none"> <li>1. Click <b>Add Directory</b>.</li> </ol>
YaST2	<ol style="list-style-type: none"> <li>1. Click <b>Browse</b> and choose the directory or share path identified on Worksheet 25 that has the required disk space.</li> </ol> <p>You can add a directory name, such as /shared to the path if desired.</p> <p><b>IMPORTANT:</b> The directory path must not be located in the /var directory structure on the NFS server, as explained in <a href="#">“NFS Mount Point Must Not Point to /var on Target Server”</a> in the <i>Filr 3 Release Notes</i>.</p> <ol style="list-style-type: none"> <li>2. Click <b>OK</b>.</li> </ol> <p>As your first Filr appliance is deployed, a directory named <code>filr</code> will be created within the directory path you have specified.</p> <ol style="list-style-type: none"> <li>3. If you added to the directory path, click <b>Yes</b> to confirm directory creation.</li> <li>4. Leave the asterisk (*) in the <b>Host Wild Card</b> field.</li> <li>5. Click the <b>Options</b> field to edit it and change the following options: <ul style="list-style-type: none"> <li>◆ <code>ro</code> to <code>rw</code> (read-only to read-write)</li> <li>◆ <code>root_squash</code> to <code>no_root_squash</code>.</li> </ul> </li> <li>6. Click <b>OK</b>.</li> </ol>
Directories to Export	<ol style="list-style-type: none"> <li>1. Click <b>Finish</b>.</li> <li>2. Skip to <a href="#">Chapter 5, “Downloading and Preparing the Filr Software,” on page 27</a>.</li> </ol>



## Creating a CIFS Share for the /vashare Mount Point

**Table 4-2** Task 1: Creating a CIFS Share for /vashare

Page, Dialog, or Option	Do This
	<b>1 - Verify that the Windows server has adequate disk space.</b>
	<ol style="list-style-type: none"><li>1. Make sure that the Windows server that you are targeting has the available disk space you identified in “<a href="#">Recording Your Plan</a>” in the <a href="#">Filr 3.3 Planning Your Filr Deployment—Best Practices</a> guide and recorded on Worksheet 25.  If necessary, add disk space to the server.</li><li>2. Open Windows Explorer</li></ol>
Windows Explorer	<ol style="list-style-type: none"><li>1. In Windows Explorer, navigate to the folder that you identified on Planning Worksheet 25.  This folder will be the shared storage location (/vashare) for Filr.</li><li>2. Right-click the folder, then click <b>Properties</b>.</li></ol>
folder Properties	<ol style="list-style-type: none"><li>1. Click the <b>Sharing</b> tab.</li><li>2. Click <b>Share</b>.</li></ol>
Filr Sharing	<ol style="list-style-type: none"><li>1. Add a user (new or existing) to the list and assign the <b>Read/Write</b> permission to the user.  <b>IMPORTANT:</b> You will need the username and password when you select the CIFS share while deploying the Filr appliances.</li><li>2. Click <b>Share &gt; Done &gt; Close</b>.</li></ol>
Directories to Export	<ol style="list-style-type: none"><li>1. Continue with <a href="#">Chapter 5, “Downloading and Preparing the Filr Software,”</a> on <a href="#">page 27</a>.</li></ol>



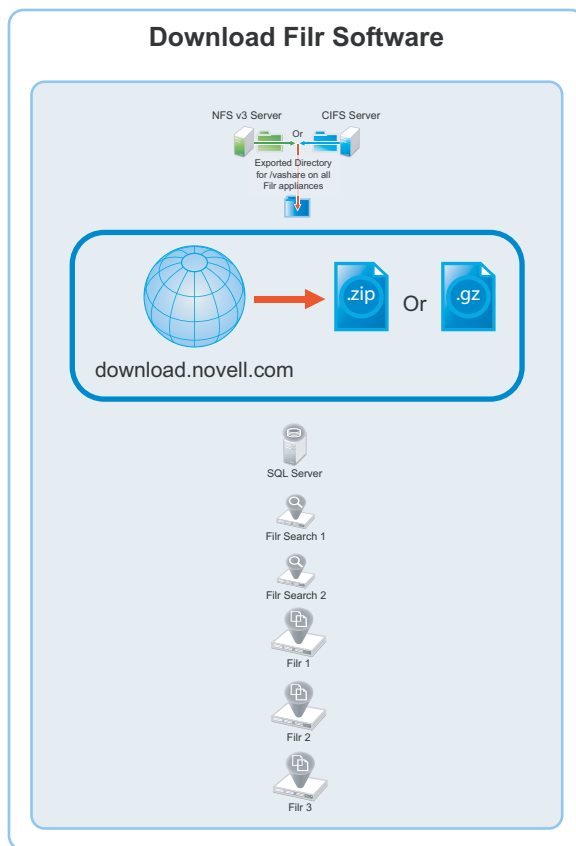
# 5 Downloading and Preparing the Filr Software

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

After [planning your deployment](#) and making sure you have the necessary [system requirements](#) in place, you are ready to download and prepare the Filr software that applies to your virtualization platform.

**Figure 5-1** Download the Filr Software for your VM platform



- ♦ “VMWare” on page 28
- ♦ “Hyper-V” on page 28
- ♦ “Xen” on page 29
- ♦ “Citrix Xen” on page 30

## VMWare

- 1 As planned in Worksheets 21, 22, and 23 [download the Filr software](#) shown below to your management workstation.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

Appliance Type	Filename
Filr	Filr.x86_64-version.ovf.zip
Search	Filrsearch.x86_64-version.ovf.zip
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.ovf.zip

- 2 Extract each .ovf.zip file on your management workstation until an *ApplianceType-version* folder appears.
- 3 Continue with [“Deploying a VMware VM” on page 32](#).

## Hyper-V

- 1 Log in to the Hyper-V host server either locally or from a remote workstation using Remote Desktop.
- 2 As planned in Worksheets 21, 22, and 23 [download the Filr software](#) shown below to the location where you plan to host your VMs as identified on Planning Worksheet 25.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

Appliance Type	Filename
Filr	Filr.x86_64-version.vhd.zip
Search	Filrsearch.x86_64-version.vhd.zip
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.vhd.zip

- 3 Extract each .vhd.zip file in the directory where you downloaded it until an *ApplianceType-version.vhd* archive file appears.
- 4 As planned in Worksheets 21, 22, and 23, create a new directory for each virtual machine.  
As a best practice, name these directories with the name that you plan to use for your different appliances.  
Consider including information in the names that easily identifies the appliance type and other information, such as the IP address.  
For example,
  - ♦ filr-1-30-192.168.1.61
  - ♦ filr-2-30-192.168.1.62
  - ♦ filrsearch-1-30-192.168.1.71
  - ♦ filrsearch-2-30-192.168.1.72
- 5 Move the *filr-version.vhd* archive file to the first Filr appliance-type folder and then copy the archive file to the remaining Filr appliance type folders.

- 6 Move the *filrsearch-version.vhd* archive file to the first Filrsearch appliance-type folder and then copy the archive file to the second Filrsearch folder.
- 7 (Optional) If you are deploying a MySQL appliance rather than using an in-house SQL server, move the *mysql-version.vhd* archive file to the MySQL appliance folder.
- 8 Continue with [“Deploying a Hyper-V VM” on page 35.](#)

## Xen

- 1 Log in to the Xen VM host server either locally or from a remote workstation.  
If you are connecting from a remote Linux workstation, use the following command:  

```
ssh -X root@host_ip_address
```

  
The -X in the command is required for the GUI installation program upon which the steps in this section are based.
- 2 As planned in Worksheets 21, 22, and 23 [download the Filr software](#) shown below to the Xen VM host server in the location where you plan to host your VMs as identified on Planning Worksheet 25.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

Appliance Type	Filename
Filr	Filr.x86_64-version.xen.tar.gz
Search	Filrsearch.x86_64-version.xen.tar.gz
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.xen.tar.gz

---

- 3 Untar each \*.gz file in the directory where you downloaded it.  
You can use the following command to untar the file:  

```
tar -Sxvzf ApplianceType.x86_64-version.xen.tar.gz
```

  
An *ApplianceType-version* directory is created for each appliance type.
- 4 Copy and rename the *ApplianceType* directories until you have one directory for each appliance that you have planned to deploy.  
Consider including information in the name that easily identifies the appliance, such as the IP address. For example:
  1. Rename the *Filr-version* directory to *Filr-30-192.168.1.61*.
  2. Copy the *Filr-30-192.168.1.61* directory and rename it to *Filr-30-192.168.1.62*, and so on until you have the Correct number of Filr appliances you identified in Worksheet 21.
  3. In a similar manner, copy and rename the *Filrsearch-version* directory until you have two Filrsearch appliances.
  4. If you need a MySQL appliance, follow the same methodology.

---

**IMPORTANT:** Do not change the names of the *.raw* or *.xenconfig* files within the directories that you have copied and renamed.

---

- 5 Continue with [“Deploying a Xen VM” on page 38.](#)

## Citrix Xen

- 1 On a workstation with Citrix XenCenter installed, [download the Filr software](#) shown below, as planned in Worksheets 21, 22, and 23.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

Appliance Type	Filename
Filr	Filr.x86_64-version.xva.tar.gz
Search	Filrsearch.x86_64-version.xva.tar.gz
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.xva.tar.gz

- 2 Using a program such as 7-Zip, extract each `.xva.tar.gz` file on your management workstation until an *ApplianceType-version* folder appears.
- 3 Continue with [“Deploying a Citrix Xen VM” on page 42](#).

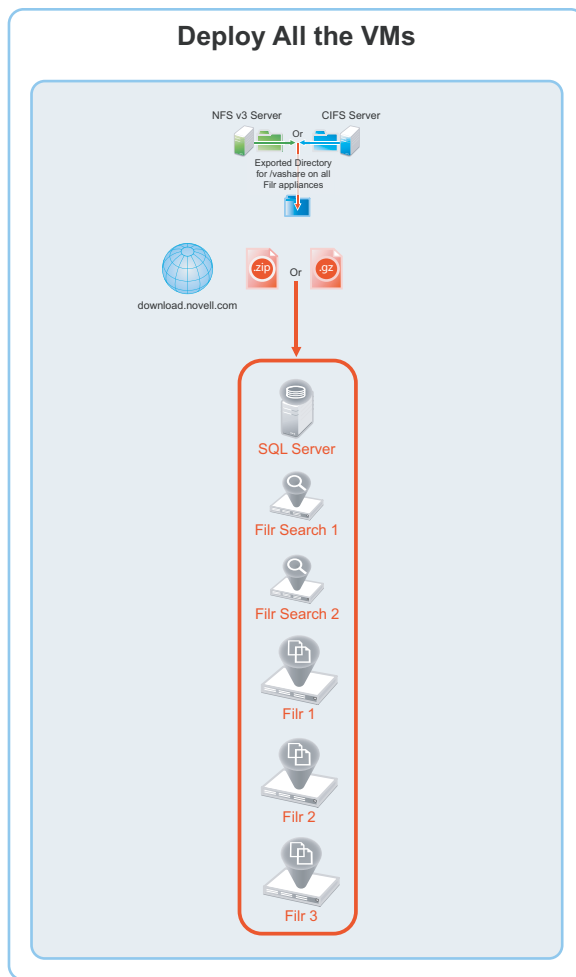
# 6 Deploying the Virtual Machines

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

After downloading and preparing the Filr software as instructed in [Chapter 5, “Downloading and Preparing the Filr Software,” on page 27](#), complete the instructions in the section for your virtualization platform.

**Figure 6-1** Deploy All VMs



- ♦ “Deploying a VMware VM” on page 32
- ♦ “Deploying a Hyper-V VM” on page 35
- ♦ “Deploying a Xen VM” on page 38
- ♦ “Deploying a Citrix Xen VM” on page 42

# Deploying a VMware VM

Complete the steps in [Table 6-1](#) for each appliance that you planned in the following worksheets:

- ♦ Worksheet 21—Filtr Appliances
- ♦ Worksheet 22—Filtrsearch Appliances
- ♦ Worksheet 23—SQL Database (if applicable)

**Table 6-1** *Deploying a VMware VM*

Page, Dialog, or Option	Do This
<b>1 - Identifying the appliance.</b>	
	<ol style="list-style-type: none"> <li>Referring to the worksheets listed in the introduction, choose an appliance to deploy.</li> </ol> <p><b>IMPORTANT:</b> Your Filr deployment must be set up in the order specified in <a href="#">Chapter 8, “Creating an Expandable Filr Deployment,”</a> on page 51.</p> <ol style="list-style-type: none"> <li>It is recommended to deploy the MySQL appliance behind the firewall.</li> <li>The Search appliance runs Memcached service to enable clustering. To secure Memcached, it is strongly recommended to deploy the Search appliance behind the firewall. Port 11211 is used by the Memcached service.</li> </ol> <p>For more information on securing Memcached, see <a href="#">Securing Memcached</a> in the <a href="#">Filtr 3.3: Administrative UI Reference</a>.</p>
<b>2 - Launching the vSphere Client, naming the VM, and choosing the datastore.</b>	
vSphere Client	<ol style="list-style-type: none"> <li>On your management workstation, start the vSphere Client.</li> <li>Click <b>File &gt; Deploy OVF Template</b>.</li> </ol>
Deploy OVF Template	<ol style="list-style-type: none"> <li>Click <b>Browse</b>.</li> </ol>
Open	<ol style="list-style-type: none"> <li>For the appliance type you are deploying, navigate to the contents of the appropriate folder extracted in <a href="#">Step 2 on page 28</a>.</li> </ol> <p><b>TIP:</b> Check to be sure that the appliance type matches the worksheet you are following.</p> <ol style="list-style-type: none"> <li>Select the <code>.ovf</code> file.</li> <li>Click <b>Open</b>.</li> </ol>
Deploy OVF Template	<ol style="list-style-type: none"> <li>Click <b>Next &gt; Next</b>.</li> <li>In the <b>Name</b> field, type the name of the appliance as planned on the worksheet you are following. For example <code>filr-30-192.168.1.61</code>.</li> <li>Click <b>Next</b>.</li> <li>Choose the datastore you identified as the <b>Location on VM Host Server</b> on <a href="#">Worksheet 25—Storage Planning Summary</a>.</li> <li>Click <b>Next</b> to accept the default for the disk format.</li> <li>Do not select <b>Power on after deployment</b>.</li> <li>Click <b>Finish</b>.</li> </ol> <p>The boot disk is created and the appliance is deployed as specified to this point.</p>



Page, Dialog, or Option	Do This
<b>3 - Editing the VM settings.</b>	
vSphere Client	<ol style="list-style-type: none"> <li>1. In the vSphere Client, right-click the VM you just deployed and select <b>Edit Settings</b>.</li> </ol> <p>The Virtual Machine Properties dialog displays.</p>
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. The Filr VMware VMs ship with <b>Memory</b> and <b>CPU</b> settings that are appliance-type appropriate in most circumstances.</li> </ol> <p>You can adjust them at this point if desired, or you can adjust them later if required for performance tuning purposes.</p> <p>If you increase or decrease server memory for a Filr or Filrsearch appliance, you should also modify the Java heap size, as described in “<a href="#">Changing JVM Configuration Settings</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</p>
<b>4 - Adding and configuring disk 2 (/vastorage)</b>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Hard Disk</b>.</li> <li>2. Click <b>Next</b>.</li> <li>3. Click <b>Next</b> (create a new virtual disk).</li> <li>4. Adjust the <b>Disk Size</b> field value specified for disk 2 on this appliance in the Worksheet 25—Storage Planning Summary.</li> <li>5. Under <b>Disk Provisioning</b>, select either: <ul style="list-style-type: none"> <li>♦ <b>Thick Provision Eager Zeroed</b></li> <li>or</li> <li>♦ <b>Support clustering features such as Fault Tolerance</b></li> </ul> <p>Depending on the VMware version that you are running.</p> </li> <li>6. Under <b>Location</b>, select <b>Specify a datastore or Datastore cluster</b></li> <li>7. Click <b>Browse</b>.</li> <li>8. Select a datastore</li> <li>9. Click <b>OK</b>.</li> <li>10. Click <b>Next</b>.</li> <li>11. Under <b>Virtual Device Node</b> section, select <b>SCSI (1:0)</b>.</li> <li>12. Under <b>Mode</b>, select <b>Independent</b> and <b>Persistent</b>.</li> <li>13. Click <b>Next</b>.</li> <li>14. Click <b>Finish</b>.</li> </ol>
<b>5 - Adding and Configuring disk 3 (/var)</b>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>

Page, Dialog, or Option	Do This
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Hard Disk</b>.</li> <li>2. Click <b>Next</b>.</li> <li>3. Click <b>Next</b> (create a new virtual disk).</li> <li>4. Adjust the <b>Disk Size</b> field value specified for disk 3 on this appliance in the Worksheet 25—Storage Planning Summary.</li> <li>5. Under <b>Disk Provisioning</b>, select either: <ul style="list-style-type: none"> <li>♦ <b>Thick Provision Eager Zeroed</b></li> <li>or</li> <li>♦ <b>Support clustering features such as Fault Tolerance</b></li> </ul> <p>Depending on the VMware version that you are running.</p> </li> <li>6. Under <b>Location</b>, select <b>Specify a datastore or Datastore cluster</b></li> <li>7. Click <b>Browse</b>.</li> <li>8. Select a datastore</li> <li>9. Click <b>OK</b>.</li> <li>10. Click <b>Next</b>.</li> <li>11. Under <b>Virtual Device Node</b> section, select <b>SCSI (2:0)</b>.</li> <li>12. Click <b>Next</b>.</li> <li>13. Click <b>Finish</b>.</li> <li>14. If you need to add network adapters, continue with <a href="#">6 - (Optional) Adding a Network Adapter</a>.</li> </ol> <p>Otherwise, click <b>OK</b>, return to the top of <a href="#">Table 6-1</a>, and deploy the next appliance you have planned for.</p>
<b>6 - (Optional) Adding a Network Adapter</b> <p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ NFS mount or CIFS access to the /vashare mount point.</li> <li>♦ Security of Memcached.</li> </ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Ethernet Adapter</b>.</li> <li>2. Click <b>Next</b>.</li> <li>3. Under <b>Network Connection</b>, select the secondary network associated with the Filr installation.</li> <li>4. Click <b>Next &gt; Finish &gt; OK</b>.</li> </ol>
vSphere Client	<ol style="list-style-type: none"> <li>1. Repeat the steps in this table until all of your planned appliances have been deployed, then continue with <a href="#">Chapter 7, “Starting and Configuring the Appliances,” on page 45</a>.</li> </ol>

# Deploying a Hyper-V VM

Complete the steps in [Table 6-2](#) for each appliance that you planned in the following worksheets:

- ♦ Worksheet 21—Filtr Appliances
- ♦ Worksheet 22—Filtrsearch Appliances
- ♦ Worksheet 23—SQL Database (if applicable)

**Table 6-2** *Deploying a Hyper-V VM*

Page, Dialog, or Option	Do This
<b>1 - Identifying the appliance.</b>	
	<ol style="list-style-type: none"> <li>Referring to the worksheets listed in the introduction, choose an appliance to deploy.   <b>IMPORTANT:</b> Your Filr deployment must be set up in the order specified in <a href="#">Chapter 8, "Creating an Expandable Filr Deployment,"</a> on page 51.</li> <li>It is recommended to deploy the MySQL appliance behind the firewall.</li> <li>The Search appliance runs Memcached service to enable clustering. To secure Memcached, it is strongly recommended to deploy the Search appliance behind the firewall. Port 11211 is used by the Memcached service.   For more information on securing Memcached, see <a href="#">Securing Memcached</a> in the <a href="#">Filtr 3.3: Administrative UI Reference</a>.</li> </ol>
<b>2 - Open Hyper-V Manager.</b>	
Hyper-V Host Server	<ol style="list-style-type: none"> <li>Open the Hyper-V Manager.</li> </ol>
<b>3 - Create a new VM.</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>In the left pane, right-click the server where you have planned to create the new virtual machine, then click <b>New &gt; Virtual Machine</b>.   The New Virtual Machine Wizard displays.</li> <li>Click <b>Next</b>.</li> </ol>
Specify Name and Location	<ol style="list-style-type: none"> <li>Referring to the appropriate appliance worksheet, specify the appliance name and select the folder that you created in <a href="#">Step 4 on page 28</a>.</li> <li>Click <b>Next</b>.</li> </ol>
Specify Generation	<ol style="list-style-type: none"> <li>Make sure that <b>Generation 1</b> is selected.</li> <li>Click <b>Next</b>.</li> </ol>
<b>4 - Specify memory</b>	
Assign Memory	<ol style="list-style-type: none"> <li>In the <b>Startup RAM</b> field, specify the amount of memory (in MB) that you planned on the worksheet for this VM.</li> <li>Click <b>Next</b>.</li> </ol>
<b>5 - Assign network adapter</b>	

Page, Dialog, or Option	Do This
Configure Networking	<ol style="list-style-type: none"> <li>1. On the Configure Networking page, select the networking card for this VM.</li> <li>2. Click <b>Next</b>.</li> </ol>
<b>6 - Identify the system disk</b>	
Connect Virtual Hard Disk	<ol style="list-style-type: none"> <li>1. Select <b>Use an existing virtual hard disk</b>.</li> <li>2. Browse to and select the .vhd file in the folder you created for this appliance.</li> <li>3. Click <b>Open</b>.</li> <li>4. Click <b>Next</b>.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Click <b>Finish</b>.</li> </ol> <p>The VM is created and appears in the list of Virtual Machines.</p>
<b>7 - Specify processors</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In Hyper-V Manager, right-click the VM that you just created.</li> <li>2. Click <b>Settings</b>.</li> </ol>
Processor	<ol style="list-style-type: none"> <li>1. Click <b>Processor</b>.</li> <li>2. In the <b>Number of virtual processors</b> field, specify the number of processors that you planned on the worksheet for this VM.</li> <li>3. Click <b>Next</b>.</li> </ol>
<b>8 - Add hard disk 2 (/vstorage).</b>	
Settings for <i>VM on Host Server</i>	<ol style="list-style-type: none"> <li>1. Under <b>Hardware</b>, select <b>IDE Controller 1</b></li> <li>2. Click <b>Hard Drive</b>.</li> <li>3. Click <b>Add</b>.</li> </ol> <p>A Hard Drive entry is added below the controller.</p>
Hard Drive	<ol style="list-style-type: none"> <li>1. Under <b>Media</b>, select <b>Virtual hard disk</b>.</li> <li>2. Click <b>New</b>.</li> </ol>
New Virtual Hard Disk Wizard	<ol style="list-style-type: none"> <li>1. Click <b>Next</b>.</li> </ol>
Choose Disk Format	<ol style="list-style-type: none"> <li>1. Select <b>VHD</b>.</li> <li>2. Click <b>Next</b>.</li> </ol>
Choose Disk Type	<ol style="list-style-type: none"> <li>1. On the Choose Disk Type page, select <b>Fixed size</b></li> <li>2. Click <b>Next</b>.</li> </ol>
Specify Name and Location	<ol style="list-style-type: none"> <li>1. Specify the following: <ul style="list-style-type: none"> <li>♦ <b>Name:</b> A descriptive name for the virtual disk. For example, Filr-1-Disk-2.</li> <li>♦ <b>Location:</b> Specify the location where you want the virtual disk to be located.</li> </ul> </li> <li>2. Click <b>Next</b>.</li> </ol>

Page, Dialog, or Option	Do This
Configure Disk	<ol style="list-style-type: none"> <li>1. Select <b>Create a new blank virtual hard disk</b>.</li> <li>2. <b>Size:</b> Specify the amount calculated for disk 2 on this appliance in the Worksheet 25—Storage Planning Summary.</li> <li>3. Click <b>Next</b>.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Review the summary information.</li> <li>2. Click <b>Finish</b></li> </ol>
<b>9 - Add hard disk 3 (/var).</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In Hyper-V Manager, right-click the VM that you just created.</li> <li>2. Click <b>Settings</b>.</li> </ol>
Settings for <i>VM on Host Server</i>	<ol style="list-style-type: none"> <li>1. Under <b>Hardware</b>, select <b>SCSI Controller</b>.</li> <li>2. Click <b>HardDrive</b>.</li> <li>3. Click <b>Add</b>.</li> </ol> <p>A Hard Drive entry is added below the controller.</p>
Hard Drive	<ol style="list-style-type: none"> <li>1. Under <b>Media</b>, select <b>Virtual hard disk</b>.</li> <li>2. Click <b>New</b>.</li> </ol>
New Virtual Hard Disk Wizard	<ol style="list-style-type: none"> <li>1. Click <b>Next</b>.</li> </ol>
Choose Disk Format	<ol style="list-style-type: none"> <li>1. Select <b>VHD</b>.</li> <li>2. Click <b>Next</b>.</li> </ol>
Choose Disk Type	<ol style="list-style-type: none"> <li>1. On the Choose Disk Type page, select <b>Fixed size</b></li> <li>2. Click <b>Next</b>.</li> </ol>
Specify Name and Location	<ol style="list-style-type: none"> <li>1. Specify the following: <ul style="list-style-type: none"> <li>♦ <b>Name:</b> A descriptive name for the virtual disk. For example, <code>Filr-1-Disk-3</code>.</li> <li>♦ <b>Location:</b> Specify the location where you want the virtual disk to be located.</li> </ul> </li> <li>2. Click <b>Next</b>.</li> </ol>
Configure Disk	<ol style="list-style-type: none"> <li>1. Select <b>Create a new blank virtual hard disk</b>.</li> <li>2. <b>Size:</b> Specify the amount calculated for disk 3 on this appliance in the Worksheet 25—Storage Planning Summary.</li> <li>3. Click <b>Next</b>.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Review the summary information.</li> <li>2. Click <b>Finish &gt; OK</b></li> </ol>

Page, Dialog, or Option	Do This
	<b>10 - (Optional) Add a Network Adapter</b>  You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons: <ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ NFS mount or CIFS access to the /vashare mount point.</li> <li>♦ Security of Memcached.</li> </ul> <b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.
Hyper-V Manager	1. In Hyper-V Manager, right-click the virtual machine for which you want to create an additional NIC, then click <b>Settings</b> .
Settings for <i>VM on Host Server</i>	1. Under <b>Hardware</b> , select <b>Add Hardware</b> .
Add Hardware	1. Click <b>Network Adapter</b> . 2. Click <b>Add</b> .  A Network Adapter entry is added to the hardware list.
Network Adapter	1. Under <b>Virtual Switch</b> , select the secondary network associated with the Filr installation. 2. Specify any other required settings for the new network adapter. 3. Click <b>OK</b> .
Hyper-V Manager	1. Repeat the steps in this table until all of your planned appliances have been deployed, then continue with <a href="#">Chapter 7, "Starting and Configuring the Appliances,"</a> on page 45.

## Deploying a Xen VM

Complete the steps in [Table 6-3](#) for each appliance that you planned in the following worksheets:

- ♦ Worksheet 21—Filr Appliances
- ♦ Worksheet 22—Filrsearch Appliances
- ♦ Worksheet 23—SQL Database (if applicable)

**Table 6-3** Deploying a Xen VM

Page, Dialog, or Option	Do This
	<b>1 - Before you deploy the first Xen VM.</b> <ol style="list-style-type: none"> <li>If you have not already done so, before you begin this process, you must set up shared storage for your Filr appliances by either: <ul style="list-style-type: none"> <li>Exporting an NFS directory</li> <li>or</li> <li>Creating a CIFS share</li> </ul> <p>See the “Network-Based Shared Disk Space for /vashare” section of <i>Worksheet 25</i> and complete the instructions in <a href="#">Section 4, “Setting Up Shared Storage,” on page 23.</a></p> </li> </ol>
	<b>2 - Identifying the appliance.</b> <ol style="list-style-type: none"> <li>Referring to the worksheets listed in the introduction, choose an appliance to deploy. <p><b>IMPORTANT:</b> Your Filr deployment must be set up in the order specified in <a href="#">Chapter 8, “Creating an Expandable Filr Deployment,” on page 51.</a></p> </li> <li>It is recommended to deploy the MySQL appliance behind the firewall.</li> <li>The Search appliance runs Memcached service to enable clustering. To secure Memcached, it is strongly recommended to deploy the Search appliance behind the firewall. Port 11211 is used by the Memcached service. <p>For more information on securing Memcached, see <a href="#">Securing Memcached</a> in the <a href="#">Filr 3.3: Administrative UI Reference</a>.</p> </li> </ol>
	<b>3 - Launch the installer.</b>
Terminal prompt on Xen VM Host Server	<ol style="list-style-type: none"> <li>Run the following command to launch the GUI configuration menu: <pre>vm-install</pre> <p>The Create a Virtual Machine wizard is displayed.</p> </li> </ol>
Create a Virtual Machine	<ol style="list-style-type: none"> <li>Click <b>Forward</b>.</li> </ol>
Install an Operating System?	<ol style="list-style-type: none"> <li>Select <b>I have a disk or disk image with an installed operating system</b>.</li> <li>Click <b>Forward</b>.</li> </ol>
Type of Operating System	<ol style="list-style-type: none"> <li>Select <b>SUSE Linux Enterprise Server 11</b>.</li> <li>Click <b>Forward</b>.</li> </ol>
	<b>4 - Name the VM.</b>
Summary	<ol style="list-style-type: none"> <li>Click <b>Name of Virtual Machine</b>.</li> </ol>

Page, Dialog, or Option	Do This
Name of Virtual Machine	<ol style="list-style-type: none"> <li>1. In the <b>Name</b> field, type the name of one of the appliances that you prepared a directory for in <a href="#">Step 4 on page 29</a>.  For example, filr-1-30-192.168.1.61.</li> <li>2. (Optional) In the <b>Description</b> field, type additional information about the appliance.</li> <li>3. Click <b>Apply</b>.</li> </ol>
<b>5 - Specify the RAM and Virtual Processors.</b>	
Summary	<ol style="list-style-type: none"> <li>1. Click <b>Hardware</b>.</li> </ol>
Hardware	<ol style="list-style-type: none"> <li>1. Change the <b>Initial Memory</b> and <b>Maximum Memory</b> specify the amount of memory (in MB) that you planned on the worksheet for this VM.</li> <li>2. Change the <b>Virtual Processors</b> setting to the number that you planned on the worksheet for this VM.</li> <li>3. Click <b>Apply</b>.</li> </ol>
<b>6 - Configure the boot disk</b>	
Summary	<ol style="list-style-type: none"> <li>1. Click <b>Disks</b>.</li> </ol>
Disks	<ol style="list-style-type: none"> <li>1. Click the <b>Harddisk</b> button.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click the <b>Browse</b> button.</li> </ol>
Locate Disk or Disk Image.	<ol style="list-style-type: none"> <li>1. Navigate to the contents of the folder for the appliance you are creating.</li> <li>2. Select the <code>.raw</code> file.</li> <li>3. Click <b>Open</b>.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click <b>OK</b>.</li> </ol>
<b>7 - Configure disk 2 (/vastorage)</b>	
Disks	<ol style="list-style-type: none"> <li>1. Click the <b>Harddisk</b> button.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click the <b>Browse</b> button.</li> </ol>
Locate Disk or Disk Image.	<ol style="list-style-type: none"> <li>1. Select the <code>.raw</code> file.</li> <li>2. Click <b>Open</b>.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click in the <b>Source</b> field.</li> <li>2. Press the End key.</li> <li>3. Use the Backspace key to erase the filename so that the path ends with the forward slash (/) that follows the appliance's folder name.</li> <li>4. Type a disk name that reflects the appliance name and that this is disk 2. For example, Filr-192.168.1.61-disk-2.</li> <li>5. Do not change the <b>Storage Format</b>.</li> <li>6. Change the <b>Size</b> field value according to the appliance type as specified in the Worksheet 25—Storage Planning Summary.</li> <li>7. Make sure that <b>Create Sparse Image File</b> is selected.</li> <li>8. Click <b>OK</b>.</li> </ol>



Page, Dialog, or Option	Do This
<b>8 - Configure disk 3 (/var)</b>	
Disks	1. Click the <b>Harddisk</b> button.
Virtual Disk	1. Click the <b>Browse</b> button.
Locate Disk or Disk Image.	1. Select the <code>.raw</code> file. 2. Click <b>Open</b> .
Virtual Disk	1. Click in the <b>Source</b> field. 2. Press the End key. 3. Use the Backspace key to erase the filename so that the path ends with the forward slash (/) that follows the appliance's folder name. 4. Type a disk name that reflects the appliance name and that this is disk 3. For example, Filr-192.168.1.61-disk-3. 5. Do not change the <b>Storage Format</b> . 6. Change the <b>Size</b> field value according to the appliance type as specified in the Worksheet 25—Storage Planning Summary. 7. Click <b>OK</b> .
Disks	1. Click <b>Apply</b> . 2. If you need to add network adapters, continue with “ <a href="#">9 - (Optional) Add a Network Adapter</a> ”. Otherwise, click <b>OK</b> . The virtual machine is created, the appliance starts, and the configuration process begins. 3. Go to <a href="#">Chapter 7, “Starting and Configuring the Appliances,”</a> on page 45. 4. After completing the instructions in <a href="#">Chapter 8</a> , return to <a href="#">Table 6-3 on page 39</a> to deploy your next appliance.
<b>9 - (Optional) Add a Network Adapter</b>	
<p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>◆ Appliance administration.</li> <li>◆ NFS mount or CIFS access to the /vashare mount point.</li> <li>◆ Security of Memcached.</li> </ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>	
Summary	1. Click <b>Network Adapters</b> .
Network Adapters	1. Click <b>New</b> .
Virtual Network Adapter	1. Specify the settings for the adapter. 2. Click <b>Apply</b> .
Network Adapters	1. Click <b>Apply</b> .

Page, Dialog, or Option	Do This
Summary	<ol style="list-style-type: none"> <li>1. Click <b>OK</b>. The virtual machine is created, the appliance starts, and the configuration process begins.</li> <li>2. Go to “<a href="#">4 - Accept the license and specify the keyboard layout.</a>” on page 46, then return to <a href="#">Table 6-3 on page 39</a> to deploy your next appliance.</li> </ol>

## Deploying a Citrix Xen VM

Complete the steps in [Table 6-4](#) for each appliance that you planned in the following worksheets:

- ♦ Worksheet 21—Filtr Appliances
- ♦ Worksheet 22—Filtrsearch Appliances
- ♦ Worksheet 23—SQL Database (if applicable)

**Table 6-4** *Deploying a Citrix Xen VM*

Page, Dialog, or Option	Do This
<b>1 - Identify the appliance to deploy.</b>	
	<ol style="list-style-type: none"> <li>1. Referring to the worksheets listed in the introduction, choose an appliance to deploy.  <b>IMPORTANT:</b> Your Filr deployment must be set up in the order specified in <a href="#">Chapter 8, “Creating an Expandable Filr Deployment,” on page 51</a>.</li> <li>2. It is recommended to deploy the MySQL appliance behind the firewall.</li> <li>3. The Search appliance runs Memcached service to enable clustering. To secure Memcached, it is strongly recommended to deploy the Search appliance behind the firewall. Port 11211 is used by the Memcached service.  For more information on securing Memcached, see <a href="#">Securing Memcached</a> in the <a href="#">Filtr 3.3: Administrative UI Reference</a>.</li> </ol>
<b>2 - Launch XenCenter.</b>	
Management Workstation	<ol style="list-style-type: none"> <li>1. Start XenCenter.</li> </ol>
XenCenter	<ol style="list-style-type: none"> <li>1. Connect to the Citrix XenServer where you planned to deploy Filr in <i>Worksheet 23 - VM Host Servers</i>.</li> <li>2. Right-click the server and select <b>Import</b>.</li> </ol>
<b>3 - Import the system disk</b>	
Locate the File you want to import	<ol style="list-style-type: none"> <li>1. Browse to and select the .xva file on your management workstation for the appliance type that you are deploying.</li> <li>2. Click <b>Open</b>.</li> <li>3. Click <b>Next</b>.</li> </ol>
Select the location where the imported VM will be placed	<ol style="list-style-type: none"> <li>1. Select the XenServer.</li> <li>2. Click <b>Next</b>.</li> </ol>

Page, Dialog, or Option	Do This
Select target storage	<ol style="list-style-type: none"> <li>1. Select the storage repository for the VM.</li> <li>2. Click <b>Import</b>.</li> </ol>
<b>4 - Select the network adapter</b>	
Select network to connect VM	<ol style="list-style-type: none"> <li>1. Select the virtual network adapter.</li> <li>2. Click <b>Next</b>.</li> </ol>
Review the import settings	<ol style="list-style-type: none"> <li>1. Deselect <b>Start VM(s) after import</b>.</li> <li>2. Click <b>Finish</b>.</li> </ol> <p><b>IMPORTANT:</b> Depending on network latency and other factors, it can take a while to import the system disk.</p>
<b>5 - Specify Memory</b>	
	<ol style="list-style-type: none"> <li>1. If you need to adjust the memory to the amount of memory that you planned on the worksheet for this VM, select the newly created VM selected in the left pane.</li> <li>2. Click the <b>Memory</b> tab.</li> <li>3. Click <b>Edit</b>, change the setting, and click <b>OK</b>.</li> </ol>
<b>6 - Specify Processors</b>	
	<ol style="list-style-type: none"> <li>1. If you need to adjust the CPUs to the number that you planned on the worksheet for this VM, right-click the newly created VM in the left pane.</li> <li>2. Select <b>Properties</b>.</li> <li>3. Click <b>CPU</b>, change the setting, and click <b>OK</b>.</li> </ol>
<b>7 - Add Disk 2 (/vastorage)</b>	
	<ol style="list-style-type: none"> <li>1. With the newly created VM selected in the left pane, click the <b>Storage</b> tab.</li> </ol>
Virtual Disks	<ol style="list-style-type: none"> <li>1. Click <b>Add....</b></li> </ol>
Add Virtual Disk	<ol style="list-style-type: none"> <li>1. Type a disk name that reflects the appliance name and that this is disk 2. For example, Filr-1-disk-2.</li> <li>2. Change the <b>Size</b> field value according to the appliance type as specified in the Worksheet 25—Storage Planning Summary.</li> <li>3. Click <b>Add</b>.</li> </ol>
<b>8 - Add Disk 3 (/var)</b>	
Virtual Disks	<ol style="list-style-type: none"> <li>1. Click <b>Add....</b></li> </ol>
Add Virtual Disk	<ol style="list-style-type: none"> <li>1. Type a disk name that reflects the appliance name and that this is disk 3. For example, Filr-1-disk-3.</li> <li>2. Change the <b>Size</b> field value according to the appliance type as specified in the Worksheet 25—Storage Planning Summary.</li> <li>3. Click <b>Add</b>.</li> </ol>

Page, Dialog, or Option	Do This
	<b>9 - (Optional) Add a Network Adapter</b> <p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"><li>◆ Appliance administration.</li><li>◆ NFS mount or CIFS access to the /vashare mount point.</li><li>◆ Security of Memcached.</li></ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>
	<ol style="list-style-type: none"><li>1. With the newly created VM selected in the left pane, click the <b>Networking</b> tab.</li><li>2. Select the secondary network associated with the Filr installation..</li></ol>
XenCenter	<ol style="list-style-type: none"><li>1. Repeat the steps in this table until all of your planned appliances have been deployed, then continue with <a href="#">Chapter 7, “Starting and Configuring the Appliances,”</a> on page 45.</li></ol>

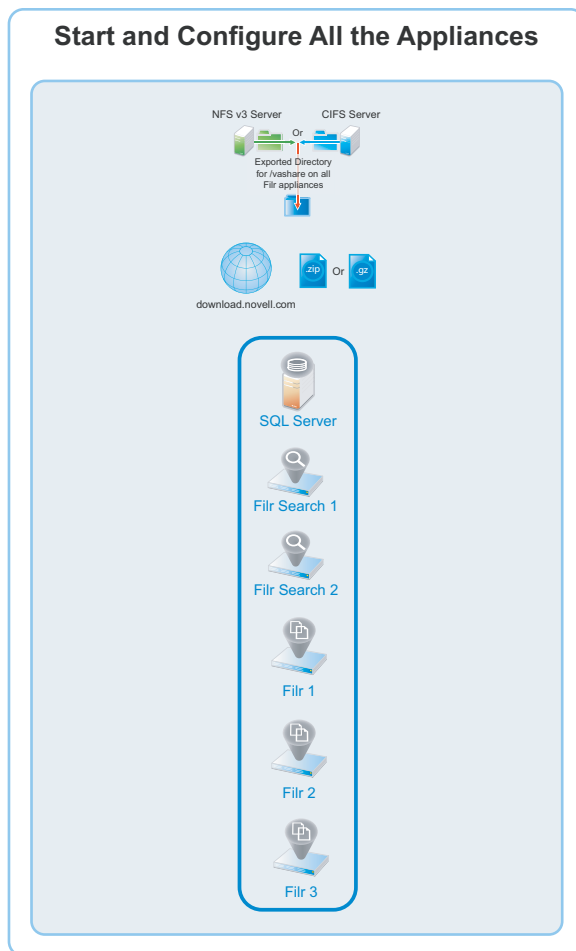
# 7 Starting and Configuring the Appliances

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

After the VMs are deployed with the necessary disks added and other settings adjusted according to your plans, it is time to start and configure the appliance software on each appliance. When this step is completed, all of the appliances will be running and ready to be deployed as an integrated Filr infrastructure.

**Figure 7-1** Starting and Configuring the Appliances



**Table 7-1** Starting and Configuring the Appliances

Page, Dialog, or Option	Do This
	<p><b>NOTE:</b> For Xen, after you have completed the instructions in “<a href="#">Deploying a Xen VM</a>” on page 38, skip to “4 - Accept the license and specify the keyboard layout.” in this table.</p> <p><b>1 - Before you deploy the first VM.</b></p> <ol style="list-style-type: none"> <li>If you have not already done so, before you begin this process, you must set up shared storage for your Filr appliances by either: <ul style="list-style-type: none"> <li>Exporting an NFS directory</li> <li>or</li> <li>Creating a CIFS share</li> </ul> <p>See the “Network-Based Shared Disk Space for /vashare” section of <i>Worksheet 25</i> and complete the instructions in <a href="#">Section 4, “Setting Up Shared Storage,”</a> on page 23 before continuing.</p> </li> </ol> <p><b>2 - Select an appliance.</b></p> <ol style="list-style-type: none"> <li>Choose one of the appliances that you deployed in <a href="#">Chapter 6, “Deploying the Virtual Machines,”</a> on page 31 and refer to its <a href="#">planning worksheet</a> as you start and configure it.</li> </ol> <p><b>IMPORTANT:</b> You must set up your Filr deployment in the order specified in <a href="#">Chapter 8, “Creating an Expandable Filr Deployment,”</a> on page 51.</p> <p><b>3 - Start the appliance.</b></p> <ol style="list-style-type: none"> <li>After you have downloaded the Filr software and configured your appliances, you must start and configure each appliance in turn. <ul style="list-style-type: none"> <li><b>VMware:</b> In the vSphere Client, power on the first appliance, then click the <b>Console</b> tab.</li> <li><b>Hyper-V:</b> In Hyper-V Manager, right-click the VM and select <b>Start</b>.</li> <li><b>Citrix Xen:</b> In XenCenter, right-click the appliance and select <b>Start</b>.</li> </ul> </li> </ol> <p><b>4 - Accept the license and specify the keyboard layout.</b></p> <ol style="list-style-type: none"> <li>After the appliance boots, the License Agreement screen displays.</li> </ol>
License Agreement	<ol style="list-style-type: none"> <li>Select your preferred keyboard layout in the <b>Keyboard Language</b> drop-down.</li> <li>(Optional) use the <b>License Language</b> drop-down to change the license language.</li> <li>(Optional) use the <b>Keyboard Language</b> drop-down to change the keyboard layout.</li> <li>Accept the license agreement.</li> </ol>

Page, Dialog, or Option	Do This
Passwords and Time Zone	<ol style="list-style-type: none"> <li>           On the configuration page, specify the following information:           <p><b>IMPORTANT:</b> Keep a confidential record of the passwords you set for the root and vaadmin users below.</p> <p><b>Root password and confirmation:</b> The root password provides root access to the appliance terminal prompt. Do not access appliances as the root user unless specifically requested by Filr support personnel.</p> <p><b>Vaadmin password and confirmation:</b> The preferred user for accessing the appliance as requested by Filr support personnel.</p> <p>Consider using a different password for each appliance for enhanced security.</p> <p><b>NTP Server:</b> The IP address or DNS name of the reliable external Network Time Protocol (NTP) server for your network.</p> <p>Example: time.example.com.</p> <p>For the best results, set up NTP in accordance with the <a href="http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&amp;cmd=displayKC&amp;externalId=1006427">VMware best practices guidelines (http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&amp;cmd=displayKC&amp;externalId=1006427)</a>.</p> <p><b>Region:</b> Your local region.</p> <p><b>Time Zone:</b> The time zone of all file servers that Filr will provide access to.</p> </li> <li>Click <b>Next</b>.</li> </ol>
Network Settings	<ol style="list-style-type: none"> <li>           Specify the following:           <p><b>Hostname:</b> The fully qualified DNS host name associated with the appliance's static IP address.</p> <p>Example: myFilr.mynetwork.example.com.</p> <p><b>IP Address:</b> The static IP address for the appliance.</p> <p>Example: 172.17.2.3.</p> <p><b>Network Mask:</b> The network mask associated with the appliance's IP address.</p> <p>Example: 255.255.255.0.</p> <p><b>Gateway:</b> The IP address of the gateway on the subnet where your Filr virtual appliance is located.</p> <p>Example: 172.17.2.254.</p> <p><b>IMPORTANT:</b> Filr appliances do not tolerate latency and should be installed in the same subnet or a near-subnet.</p> <p><b>DNS Servers:</b> The IP address of a primary DNS server for your network.</p> <p>Example: 172.17.1.1.</p> <p><b>Domain Search:</b> The domain that is associated with the Filr host name.</p> </li> <li>Click <b>Next</b>.</li> </ol>

Page, Dialog, or Option	Do This
Additional LAN Card Configuration	<ol style="list-style-type: none"> <li>(Conditional) If you configured multiple network adapters for this appliance, select from the following options, then click <b>Next</b>: <ul style="list-style-type: none"> <li>♦ <b>Do Not Configure</b>: Select this option to configure this network at a later time as described in “<a href="#">Changing Network Settings</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</li> <li>♦ <b>DHCP Dynamic Address</b>: Select this option to have an IP address assigned dynamically on the secondary network.</li> <li>♦ <b>Statically Assigned IP Address</b>: Select this option to assign a static IP address on the secondary network. Then specify the IP address, network mask, and host name.</li> </ul> </li> </ol>
Data Store Location	<ol style="list-style-type: none"> <li>Hard Disk 2 is automatically detected and the disk designation is displayed in the hard drive drop-down.</li> </ol> <p>Accept the defaults for the other options on this page by clicking <b>Next</b>.</p> <p><b>WARNING:</b> If you have not already created additional disks 2 and 3 for each of your VMs and prepared a shared storage location for your Filr appliances as described in early sections of this guide and in <a href="#">Recording Your Plan</a> in the <i>Filr 3.3 Planning Your Filr Deployment—Best Practices</i> guide, power off the virtual machine and make sure you have the required disk space in place for your deployment before proceeding. Otherwise, there is a substantial risk that your deployment will not meet your organization's needs.</p>
Data Log Location	<ol style="list-style-type: none"> <li>Hard Disk 3 is automatically detected and the disk designation is displayed in the hard drive drop-down.</li> </ol> <p><b>Filr:</b> Accept the defaults for the other options on this page by clicking <b>Next</b>.</p> <p><b>Filrsearch and MySQL:</b> Accept the defaults for the other options on this page by clicking <b>Configure</b>.</p>
Shared Storage Type (Filr only)	<ol style="list-style-type: none"> <li>If you are configuring a Filrsearch or MySQL appliance, this page doesn't appear. Go to “<a href="#">Configuring Password, Time, and Network Settings</a>” on <a href="#">page 49</a>.</li> <li>If you are configuring a Filr appliance in an expandable deployment (the default for this guide) <ol style="list-style-type: none"> <li>Select the option for the type of shared storage (<b>Remote NFS</b> or <b>Remote CIFS</b>) that you identified and configured in <a href="#">Chapter 4, “Setting Up Shared Storage,”</a> on <a href="#">page 23</a>.</li> <li>Click <b>Next</b> and continue with the steps for the page matching your selection.</li> </ol> </li> <li>If you are configuring a small or non-expandable deployment <ol style="list-style-type: none"> <li>Select <b>Do Not Configure Shared Storage</b>.</li> <li>Click <b>Next</b>.</li> <li>Go to “<a href="#">Configuring Password, Time, and Network Settings</a>” on <a href="#">page 49</a>.</li> </ol> </li> </ol>



Page, Dialog, or Option	Do This
Shared Storage NFS Location	<p>Referring to the work you did in <a href="#">“Exporting an NFS Directory for the /vashare Mount Point” on page 23</a>, do the following:</p> <ol style="list-style-type: none"> <li>1. For the <b>NFS Server Hostname</b> field, click <b>Browse</b> and select the NFS server that you identified.</li> <li>2. For the <b>Remote Directory</b> field, click <b>Browse</b> and select the directory that you exported.</li> <li>3. Click <b>Configure</b>.</li> <li>4. Go to <a href="#">“Configuring Password, Time, and Network Settings” on page 49</a>.</li> </ol>
Shared Storage CIFS Location	<p>Referring to the work you did in <a href="#">“Creating a CIFS Share for the /vashare Mount Point” on page 25</a>, do the following:</p> <ol style="list-style-type: none"> <li>1. Type the UNC path to the share that you created.</li> <li>2. Type the user name of the CIFS user that you identified or created.</li> <li>3. Type the password of the CIFS user.</li> <li>4. Click <b>Configure</b>.</li> </ol>
Configuring Password, Time, and Network Settings	<ol style="list-style-type: none"> <li>1. The settings you have specified are configured, storage is verified, and the appliance starts.</li> </ol> <p>Continue as indicated for your deployment type:</p> <p><b>Expandable Deployment:</b> Repeat the above steps starting with <a href="#">“2 - Select an appliance.” on page 46</a> until all of your appliances are started, configured, and running. Then go to <a href="#">Chapter 8, “Creating an Expandable Filr Deployment,” on page 51</a>.</p> <p><b>All-in-one (Small) Deployment:</b> Return to <a href="#">Appendix B, “All-in-One (Small) Deployment—Creating,” on page 129</a>.</p> <p><b>Non-expandable Deployment:</b> Repeat the above steps starting with <a href="#">“2 - Select an appliance.” on page 46</a> until all of your appliances are started, configured, and running. Then return to <a href="#">Appendix D, “Non-Expandable Deployment—Creating,” on page 133</a>.</p>



# 8

## Creating an Expandable Filr Deployment

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**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

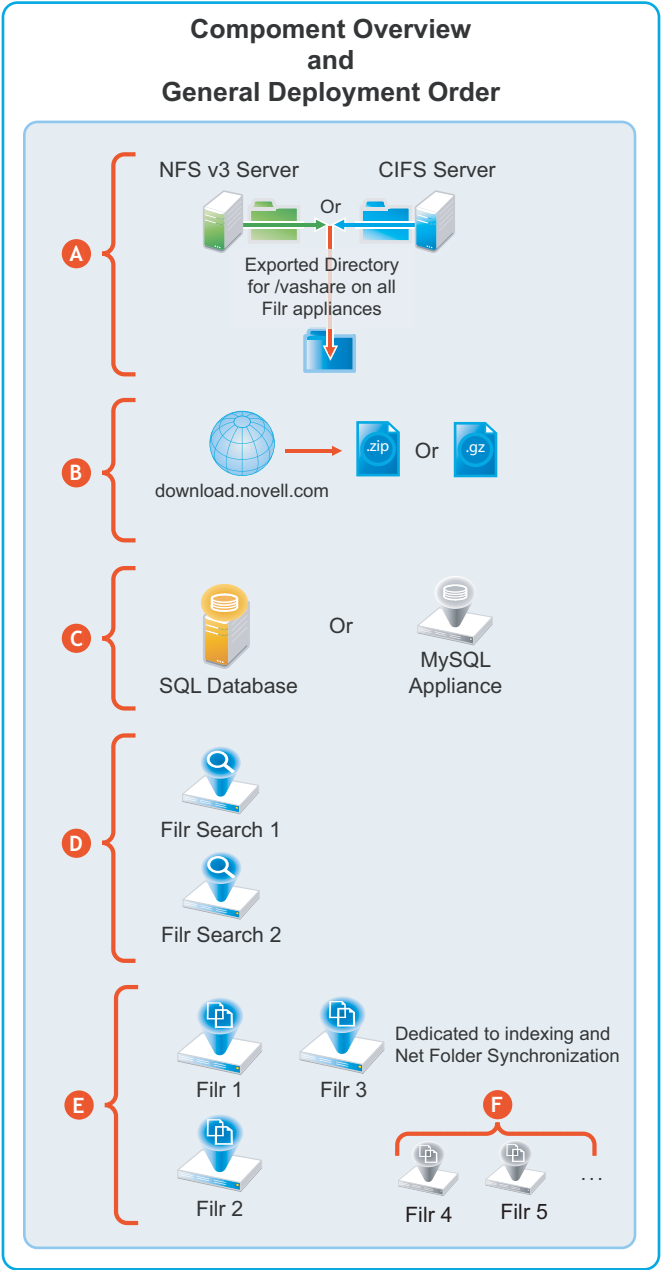
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[Figure 8-1](#) illustrates the general order for deploying Filr components. Letters reference brief component/process descriptions in the table that follows.

The first process (shared storage) was completed in [Chapter 4, “Setting Up Shared Storage,” on page 23](#) and illustrated in [Figure 4-1 on page 23](#).

The illustrations that follow are to help you track deployment progress.

Figure 8-1 Creating an Expandable Deployment



Letter	Details
A	<b>Exported NFS Directory or CIFS Share:</b> All of the Filr appliances in an expandable deployment share this directory, which stores <ul style="list-style-type: none"><li>♦ Mutually accessed configuration files</li><li>♦ Personal storage</li><li>♦ Temporary files used by upload and conversion processes</li><li>♦ HTML renderings</li></ul>

Letter	Details
<b>B</b>	<b>Filr Software:</b> You download Filr software that you then deploy as a boot/system disk on your VM host server.
<b>C</b>	<b>SQL Database:</b> Each Filr appliance in an expandable deployment accesses the same SQL database. If available, an SQL server should be used, but if that is not an option, the MySQL appliance can be deployed in its place.
<b>D</b>	<b>Filrsearch Appliances:</b> Micro Focus best practices require that each Filr cluster be configured with two Filrsearch appliances.
<b>E</b>	<b>Filr Appliances:</b> By definition, a Filr cluster must contain at least two Filr appliances. Micro Focus recommends three Filr appliances with the third appliance dedicated to Net Folder synchronization and maintaining the search index.
<b>F</b>	<b>Additional Filr Appliances:</b> More Filr appliances can be included as the service load increases.

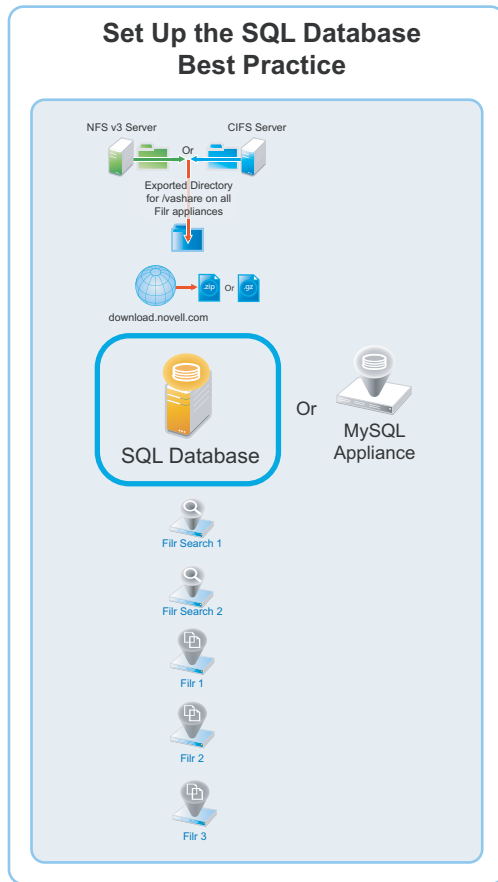
To create an expandable Filr deployment, complete the following sections in the order presented.

- ♦ [“Setting Up the SQL Database” on page 53](#)
- ♦ [“Setting Up Two Filr Search Appliances” on page 56](#)
- ♦ [“Setting Up the Filr Appliances” on page 58](#)
- ♦ [“Completing the Expandable Filr Deployment” on page 63](#)
- ♦ [“Dedicating a Filr Appliance to Indexing and Net Folder Synchronization” on page 65](#)
- ♦ [“Using the Dedicated Filr Appliance to Complete the Indexing Setup” on page 66](#)

## Setting Up the SQL Database

[Figure 8-3](#) illustrates that an SQL database is the second component deployed (after shared storage) when creating an expandable Filr deployment.

**Figure 8-2** Set Up an SQL Database



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**IMPORTANT:** As noted elsewhere, Micro Focus recommends using an existing SQL database if one is available.

If you need to use a MySQL appliance, prepare that now by completing the instructions in [Appendix C, “MySQL Appliance—Configuring \(Alternate Practice\),” on page 131](#) and then continue with [“Setting Up the Filr Appliances” on page 58](#).

---

Prepare your in-house SQL server by completing the steps in one of the following sections:

- ♦ [“Configuring a MySQL or MariaDB Server” on page 54](#)
- ♦ [“Configuring a Microsoft SQL Server” on page 55](#)

## Configuring a MySQL or MariaDB Server

---

**IMPORTANT:** Do not create the Filr database on your MySQL or MariaDB server manually.

Let the Filr configuration wizard create the database to ensure the correct configuration.

---

**Table 8-1** Configuring MySQL or MariaDB for Filr

File	Do This
	<b>1 - Edit the configuration file.</b>
MySQL or MariaDB server > /etc/my.cnf file	<ol style="list-style-type: none"><li>1. Edit the file as follows: <pre>[client] default-character-set = utf8  [mysqld] character-set-server = utf8 max_connections = 900 transaction-isolation = READ-COMMITTED expire_logs_days = 7</pre><p>The <code>expire_logs_days</code> setting is optional, but is recommended because it cleans up <code>mysql-bin-*</code> files.</p><p>Unless this is done regularly, the files will consume significant disk space in the <code>vastorage</code> directory.</p></li><li>2. Uncomment the InnoDB tables section.</li><li>3. Increase the buffer pool size to approximately 60 percent of the amount of RAM that has been allocated to the dedicated server.  For example, a dedicated server with 4 GB of RAM should have a buffer pool size of 2560 MB, as follows: <pre>innodb_buffer_pool_size = 2560M</pre></li><li>4. Identify or create a user account with sufficient rights to create and manage the Filr database.</li></ol>
Worksheet 23	<ol style="list-style-type: none"><li>1. Record the username and password on Worksheet 23.</li><li>2. Continue with <a href="#">“Setting Up Two Filr Search Appliances” on page 56.</a></li></ol>

# Configuring a Microsoft SQL Server

**IMPORTANT:** Do not create the Filr database on your MS SQL server manually.

Let the Filr configuration wizard create the database to ensure the correct configuration.

**Table 8-2** Configuring Microsoft SQL Server for Filr

File	Do This
<b>1 - Configure the server.</b>	
Server management console	<ol style="list-style-type: none"><li>1. Enable remote access to the Microsoft SQL database server.</li><li>2. Open port 1433 on the Windows firewall where the database server is running.</li><li>3. Identify or create a user account that is configured with <b>SQL Server Authentication</b> and has sufficient rights to create and manage the Filr database.  <b>IMPORTANT:</b> Filr supports only <b>SQL Server Authentication</b>. Windows Authentication and Windows Domain User Authentication to Microsoft SQL are not supported.</li></ol>
Worksheet 23	<ol style="list-style-type: none"><li>1. Record the username and password on Worksheet 23.</li></ol>
Server management console	<ol style="list-style-type: none"><li>1. Run the following queries against the database:  <pre>ALTER DATABASE <i>database-name</i> SET READ_COMMITTED_SNAPSHOT ON ALTER DATABASE <i>database-name</i> COLLATE Latin1_General_CI_AS_KS_WS</pre></li><li>2. Continue with <a href="#">“Setting Up Two Filr Search Appliances” on page 56</a>.</li></ol>

## Setting Up Two Filr Search Appliances

Filr best practices require that every expandable deployment have two Filrsearch appliances. There are no advantages to having more than two.

Best practices allow for operating Filr with one search appliance, but only under special circumstances, such as when reindexing is required. One appliance continues to service user requests while the other is focused on rebuilding the search index.

[Figure 8-3](#) shows that two Filr Search appliances are the third and fourth components deployed in an expandable deployment.



Figure 8-3 Set up Two Filr Search Appliances

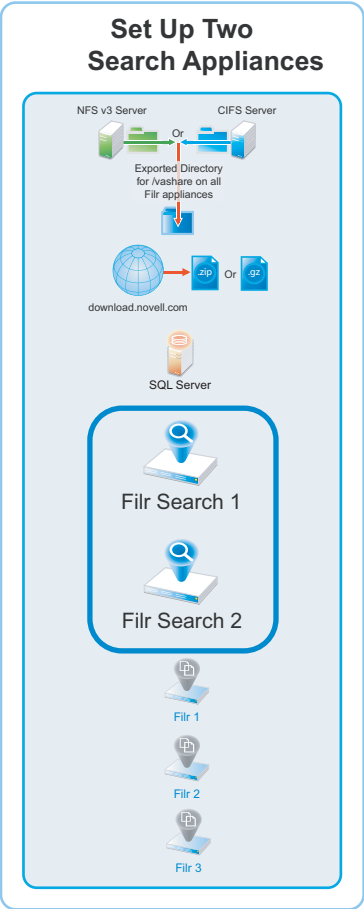



Table 8-3 Setting Up the Filrsearch Appliances

Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"><li>Open a <a href="#">management browser on your administrative workstation</a> and access the Port 9443 Administration Utility on the first Filrsearch appliance using the following URL:  <code>https://filrsearch_IP_Address:9443</code>  Where <i>IP_Address</i> is the IP address of the first Filrsearch appliance.</li></ol>
Filr Search Appliance Sign In	<ol style="list-style-type: none"><li>Log in as the <code>vaadmin</code> user with the password that you set for the appliance in <a href="#">“Vaadmin password and confirmation:” on page 47</a>.</li></ol>
Filr Search Tools	<ol style="list-style-type: none"><li>Click the <b>Configuration</b> button  to launch the <b>Filr Search Configuration Wizard</b>.</li></ol>
Filr Search Configuration Wizard	<ol style="list-style-type: none"><li>Click <b>Next</b>.</li><li>Type and confirm a password for the Lucene Service User (use the same password for both appliances). Make a note of the password for later.</li><li>Click <b>Finish</b>.</li></ol>

Page, Dialog, or Option	Do This
Search Settings	1. Scroll down and click <b>Submit &gt; OK</b> .
	1. Repeat the steps in this table for the second Filrsearch appliance, then close the browser.
	2. Continue with <a href="#">“Setting Up the Filr Appliances” on page 58</a>

## Setting Up the Filr Appliances

[Figure 8-4](#) illustrates that the Filr appliances are deployed after all other components are in place.

**Figure 8-4** *The Filr Appliances Are Set Up Last*

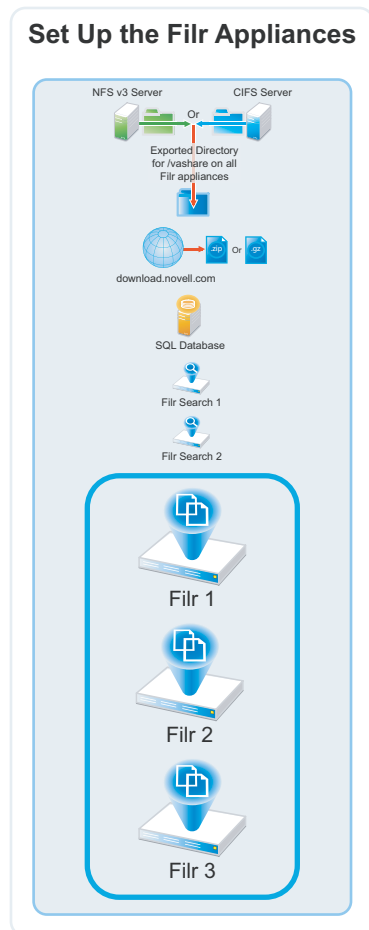


Table 8-4 Logging in and Starting the Configuration Wizard


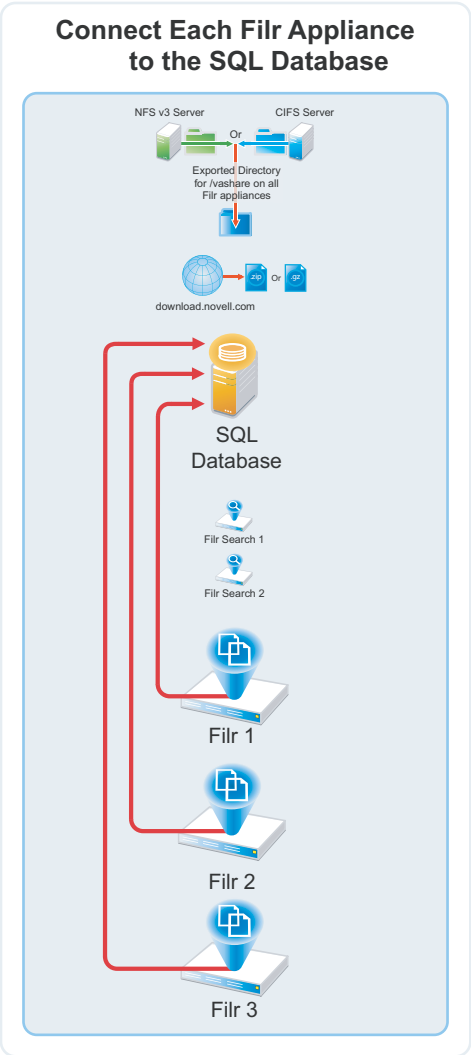
Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"><li>1. Open a <a href="#">management browser on your administrative workstation</a> and access the Port 9443 Administration Utility on the first Filr appliance using the following URL:  <code>https://filr_IP_Address:9443</code>  Where <i>IP_Address</i> is the IP address of the first Filr appliance.</li></ol>
Filr Appliance Sign In	<ol style="list-style-type: none"><li>1. Log in as the <code>vaadmin</code> user with the password that you set for the appliance in <a href="#">“Vaadmin password and confirmation:” on page 47</a>.</li></ol>
Filr Appliance Tools	<ol style="list-style-type: none"><li>1. Click the Configuration icon  to launch the <b>Filr Configuration Wizard</b>.</li></ol>
Filr Configuration Wizard	<ol style="list-style-type: none"><li>1. <b>Large Deployment</b> is automatically selected.  Click <b>Next</b>.</li></ol>

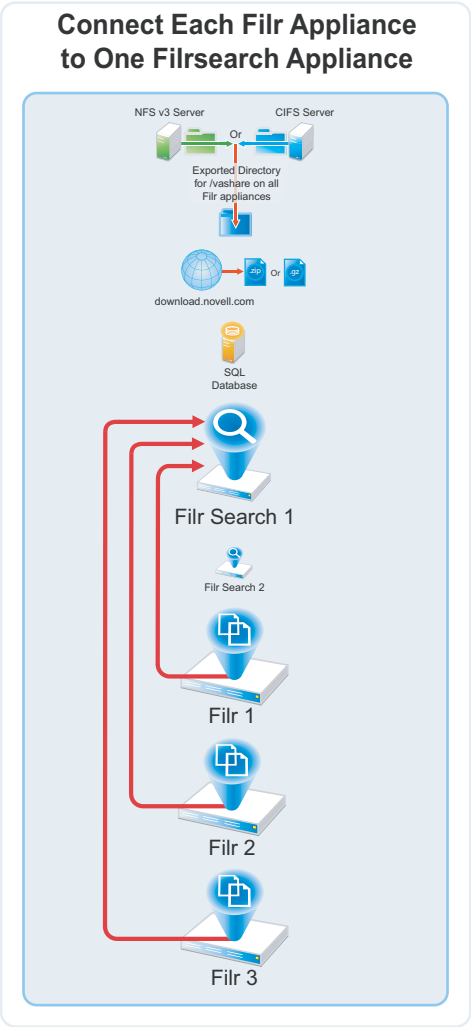
Figure 8-5 Each Filr Appliance Needs the Database Connection Information



**Table 8-5** Configuring each Filr to connect to the SQL Database

Page, Dialog, or Option	Do This
Database	<div><div>1. Specify the following configuration options for the database:</div><div><div><b>Database Type:</b> Select the type of database that you prepared in <a href="#">“Setting Up the SQL Database” on page 53</a>.</div><div><b>Host Name:</b> The host name or IP address of the database server.</div><div><b>Port:</b> The wizard selects the standard port for the database type. If your server communicates using a non-standard port, adjust the number accordingly</div><div><b>Database Name:</b> The name of the database you want the wizard to create (first appliance) and then connect to (subsequent appliances).</div><div><b>User Name:</b> The administrative user name you identified in <a href="#">“Setting Up the SQL Database” on page 53</a>.</div><div>For the <a href="#">MySQL appliance</a>, the default is <code>filr</code>.</div><div><b>Password:</b> The administrative user’s password.</div></div><div>2. Click <b>Next</b>.</div></div>

**Figure 8-6** Initially, Each Filr Appliance Is Configured to Work with One Filr Search Appliance

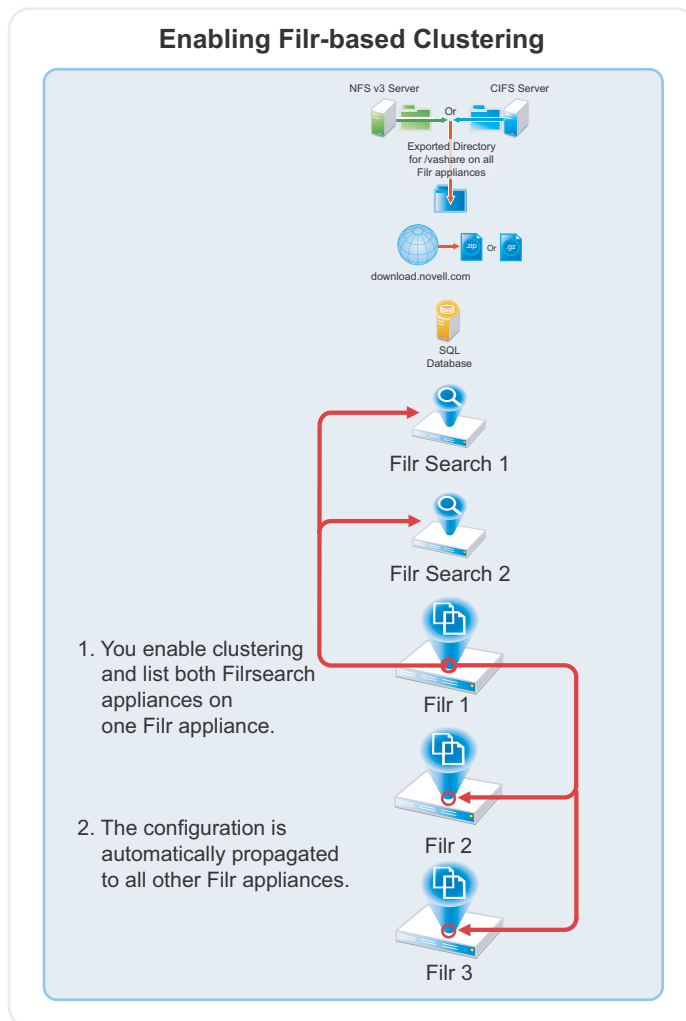


**Table 8-6** Specify the First Search Appliance, Locale, and Admin user

Page, Dialog, or Option	Do This
Search Appliance	<ol style="list-style-type: none"><li>1. Specify the first Filrsearch appliance's DNS name and Lucene password, then click <b>Finish</b>.  <b>IMPORTANT:</b> If you specify the IP address, it must be resolvable to the DNS hostname of the search appliance.</li><li>2. Click <b>Next</b>.</li></ol>
Default Locale	<ol style="list-style-type: none"><li>1. Select a <b>Default Locale</b>.</li><li>2. If desired, specify a name other than <code>admin</code> for appliance administration on port 8443.</li><li>3. Click <b>Finish</b>.  <b>IMPORTANT:</b> Wait for the appliance to start before closing the tab or navigating away from the page.</li><li>4. When the "Congratulations!" message displays, return to <a href="#">Table 8-4</a> and deploy the next Filr appliance.</li><li>5. After all of the Filr appliances are deployed, continue with "<a href="#">Completing the Expandable Filr Deployment</a>."</li></ol>

# Completing the Expandable Filr Deployment

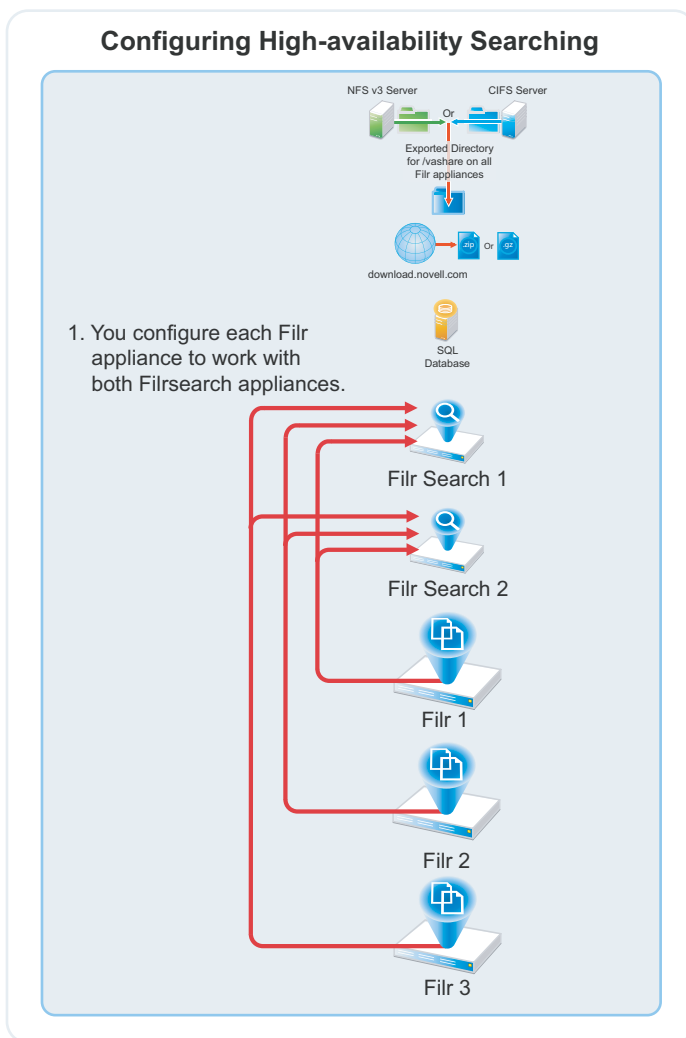
**Figure 8-7** When One Filr Appliance Is Configured for “Filr Clustering,” All of Them Are



**Table 8-7** Enabling Filr-based Clustering

Page, Dialog, or Option	Do This
Configuration Summary	1. In the Configuration panel, click <b>Clustering</b> .
Clustering	<ol style="list-style-type: none"> <li>1. Select <b>Enable Clustered Environment</b>.</li> <li>2. The <b>JVM Route</b> field is used only if you are setting up Apache load balancing, and is used to uniquely identify this appliance. In many cases, the hostname (automatically supplied) will suffice, but you can customize it if needed.</li> <li>3. In the <b>Server Address</b> field, make sure that both Filrsearch appliances in your deployment are listed. Separate the appliances with a space. Use either IP addresses or fully-qualified hostnames to identify the appliances.</li> <li>4. Click <b>OK</b>.</li> <li>5. Click <b>Reconfigure Filr Server</b>.</li> </ol> <p>The Filr appliance is reconfigured and restarted.</p> <p>Subsequently, the configuration is shared by each Filr appliance through the <code>/vashare</code> mount point.</p>

**Figure 8-8** The Filr Appliances Are Individually Configured to Use Both Filrsearch Appliances





**Table 8-8** Configuring High-availability Searching

Page, Dialog, or Option	Do This
Configuration Summary	1. In the Configuration panel, click <b>Search Appliance</b> .
Search Appliance	<ol style="list-style-type: none"> <li>1. Click the <b>Configuration Type</b> drop-down list and select <b>High Availability</b>.</li> <li>2. Type the Lucene service password that you set in <a href="#">Table 8-3 on page 57</a>.</li> <li>3. Notice that the Filrsearch appliance you configured for this Filr appliance is listed under Name. Click <b>Add</b>.</li> </ol>
New Search Node	<ol style="list-style-type: none"> <li>1. In the <b>Name:</b> field, type an arbitrary name for the second appliance.</li> <li>2. In the <b>Host Name:</b> field, type the DNS host name of the other Filrsearch appliance.</li> <li>3. Click <b>OK</b>.</li> </ol>
Search Appliance	1. Click <b>OK</b> .
Configuration	<ol style="list-style-type: none"> <li>1. Click <b>Reconfigure Filr Server</b>.  The appliance is reconfigured and restarted.  However, in contrast with the process in <a href="#">Table 8-7</a>, the Search Appliance configuration is not propagated to the other Filr appliances.</li> <li>2. In the upper-right corner, click <b>Log out</b>.</li> </ol>
	<ol style="list-style-type: none"> <li>1. Log in to the next Filr appliance and repeat the steps in this table.</li> <li>2. When all of the Filr appliances have been configured for high-availability searching, continue with <a href="#">Dedicating a Filr Appliance to Indexing and Net Folder Synchronization</a>.</li> </ol>

## Dedicating a Filr Appliance to Indexing and Net Folder Synchronization

As a best practice, Micro Focus recommends dedicating one Filr appliance to Indexing and Net Folder Synchronization, which are very resource-intensive tasks.

Do the following:

- ♦ **Allow Net Folder Synchronization on only the dedicated appliance:** Disable Net Folder Synchronization on all other Filr appliances as follows:
  1. Access the Port 9443 administration console.
  2. Click **Net Folders**.
  3. De-select **Allow Synchronization**.
  4. Repeat on all other Filr appliances except the one you are dedicating to Net Folder Synchronization.

Now when a Full synchronization occurs (either as a result of a scheduled or manual synchronization), the Filr appliance that you set aside is the one that handles the load.

**NOTE:** Just-in-time synchronization (JITS) is unaffected and takes place on whichever Filr appliance receives the user request that triggers JITS.

- ♦ **Use Load Balancing to isolate the dedicated appliance from user requests:** When you set up load balancing, don't include the dedicated Filr appliance in the round-robin rotation.
- ♦ **Rebuild the search index using the dedicated appliance:** Follow the steps in the next section.

Thereafter, the dedicated appliance will handle all of the re-indexing workload.

## Using the Dedicated Filr Appliance to Complete the Indexing Setup

**Table 8-9** Index with the Dedicated Appliance

Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"> <li>1. Open a <a href="#">management browser on your administrative workstation</a> and access the Port 8443 Administration Utility on the <i>Dedicated Filr Appliance</i> using the following URL:   <code>https://dedicated_filr_IP_Address:8443</code>   Where <i>IP_Address</i> is the IP address of the dedicated Filr appliance.</li> </ol>
Filr 3.0 Sign In Dialog	<ol style="list-style-type: none"> <li>1. Log in as user <code>admin</code> with password <code>admin</code>, or with the alternate administrator name/password if you specified one for this appliance in <a href="#">Table 8-6 on page 62</a>.</li> <li>2. When prompted, change the user password.</li> </ol>
Product Improvement (first login only)	<ol style="list-style-type: none"> <li>1. Click <b>OK</b>.</li> </ol>
Filr Main Window (Web access)	<ol style="list-style-type: none"> <li>1. Click the Admin user name in the upper-right corner.</li> <li>2. Select <b>Administration Console</b>.</li> </ol>
Administration Console	<ol style="list-style-type: none"> <li>1. Click <b>Index</b> in the left frame.</li> </ol>
Search Index	<ol style="list-style-type: none"> <li>1. Select <b>Re-Index Everything</b>.</li> <li>2. Under <b>Select the Nodes to Apply Re-Indexing to</b>, select the second, write-only Filrsearch appliance.</li> <li>3. Click <b>OK</b>.</li> </ol> <p>Indexing should complete with no errors.</p>
Indexing has finished!	<ol style="list-style-type: none"> <li>1. Click <b>Close</b>.</li> </ol>
Administration Console	<ol style="list-style-type: none"> <li>1. Click <b>Nodes</b> in the left frame.</li> </ol>
Search Nodes	<ol style="list-style-type: none"> <li>1. Change the <b>User Mode Access</b> option for the second Filrsearch appliance to <b>Read and Write</b>.</li> <li>2. Click <b>Apply &gt; Close</b>.</li> </ol> <p>the dedicated Filr appliance will now handle all of the re-indexing workload.</p>

# 9 Setting Up Filr Services

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**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).
- 

Complete the following steps to prepare your Filr site and make it available to users.

- 1 Using the [Port 9443 > License](#) dialog, install the same valid license on each Filr appliance in your system.
- 2 Referring to the Worksheets indicated below, change any Filr infrastructure configuration settings that require restarting Filr.

This prevents interrupting Filr services after users begin accessing Filr services.

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Worksheet 13 - Notifications

1. (Optional) Using the [Port 9443 > Configuration > Outbound E-mail](#) dialog, configure your system for integration with an external email system.
  2. Using the [Port 8443 > System > E-Mail](#) dialog, review the default notification settings and make any required configuration changes.
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Worksheet 20 - Networking Support

1. Review the settings in the [Port 9443 > Firewall](#) dialog and make sure that the port and firewall settings on your network are configured to support Filr services.
  2. If you are enabling port redirection so that users don't need to include :8443 in Filr requests, configure that now.  
**Path:** [Port 9443 Appliance Console > Configuration > Network](#)
  3. If you are using NetIQ Access Manager.  
**Path:** [Port 9443 Appliance Console > Configuration > Reverse Proxy](#)
- 

- 3 Referring to the worksheets below, add users and groups to your Filr site and set up the LDAP synchronization processes.

---

Worksheet 4 - Users and Groups (LDAP and Non)	<ol style="list-style-type: none"> <li>1. Configure your Filr system to connect to an existing LDAP source, such as eDirectory or Active Directory, to control user access to the system. <b>Path:</b> <a href="#">Port 8443 Filr Admin Console &gt; System &gt; LDAP</a></li> <li>2. Manually create any non-LDAP users and groups that need access to Filr services.  For more information, see “<a href="#">Filr Admin Created Users and Groups:</a>” in <i>Filr 3.3: Understanding How Filr Works</i> and “<a href="#">the New User button</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</li> </ol>
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Worksheet 5 - LDAP Synchronization	<ol style="list-style-type: none"> <li>1. Configure the Filr system to synchronize with your LDAP servers.  For assistance, see “<a href="#">LDAP Servers and Synchronization</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</li> </ol>
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- 4 If you want users to be able to share through Filr, you must enable sharing for the Filr system.

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Worksheet 14 - System-Level Sharing Settings	<ol style="list-style-type: none"> <li>1. Configure the system-level share settings.  For more information about allowing users to share documents within Filr, see “<a href="#">Managing Sharing, License Terms, and Comments</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</li> </ol>
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- 5 if you want users to be able to upload personal files and folders directly to the Filr site, you must enable personal storage.

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Worksheet 11 - Personal Storage	<ol style="list-style-type: none"> <li>1. Configure Personal Storage.  For more information about allowing users to share documents within Filr, see “<a href="#">Enabling Personal Storage for Users and Groups</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</li> </ol>
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For more information about personal storage, as well as how personal storage relates to users’ Home folders, see “[Enabling Personal Storage for Users and Groups](#)” in the *Filr 3.3: Administrative UI Reference*.

- 6 Configure Home Net Folder servers.

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Worksheet 8 - Net Folder Servers	<ol style="list-style-type: none"> <li>1. Configure Home Net Folder servers.  For more information, see “<a href="#">Creating and Managing Net Folder Servers</a>” in the <i>Filr 3.3: Administrative UI Reference</i>.</li> </ol>
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If the search context of your LDAP synchronization contains an OES or Windows server that has a Home folder attribute associated with at least one user, a Net Folder Server is ready to be configured immediately after running the LDAP synchronization process. You need to consider the amount of data in users’ Home folder directories when performing an LDAP synchronization.

The following points are critical to successful Home NF Server creation and the synchronization of access privileges.

- ♦ **Import Both Groups and Users:** If you import only LDAP users and not the groups they belong to, then file system group permissions won't map to Filr group permissions when Net Folders are created.
- ♦ **Register User Profiles Automatically (default):** If you deselect this option, then users won't be created until after they log in. This causes the following issues:
  - ♦ You must wait until users log in to their home folders before you can configure the proxy users and passwords for any HOME Net Folder Servers.
  - ♦ Net Folder access permissions that key off user-based file system permissions will not be set or updated during Net Folder Synchronizations.
- ♦ **Register Group Profiles Automatically (default):** If you deselect this option, groups will not be created and Net Folder access permissions that key off group-based file system permissions will not be set or updated during Net Folder Synchronizations.

## 7 Configure Net Folder Servers.

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Worksheet 8 - Net Folder Servers	1. Configure the other Net Folder servers that are identified on the worksheet.
Worksheet 10 - Home Folder Net Folder Servers	For more information, see <a href="#">“Creating and Managing Net Folder Servers”</a> in the <i>Filr 3.3: Administrative UI Reference</i> .
Worksheet 17 - Net Folder Server Synchronization	

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## 8 Configure Net Folders.

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Worksheet 9 - Net Folders	1. Configure the Net Folders that are identified on the worksheet.
Worksheet 15 - Net Folder Sharing Settings	For more information, see <a href="#">“Managing Net Folders”</a> in the <i>Filr 3.3: Administrative UI Reference</i> .
Worksheet 16 - Net Folder Global Settings	
Worksheet 18 - Net Folder Synchronization	

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Net Folders in Filr provide access to files on your corporate OES, Windows, or NetWare file servers by synchronizing file metadata. In essence, a Net Folder is simply a pointer or a reference to a specific folder on a specific file server.

Filr can be configured to index the content of Net Folders to make the content searchable.

For more information about Net Folders, see [“Managing Net Folders”](#) the *Filr 3.3: Administrative UI Reference*.

## 9 Enable additional Filr Users for Administrative Access.

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Worksheet 19 - Administrative Access	1. Configure users for administrative access to Filr.
	For more information, see <a href="#">“Assigning and Managing Port 8443 Direct Administrators”</a> in the <i>Filr 3.3: Administrative UI Reference</i> .

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## 10 (Optional) Allow access to the Filr site through NetIQ Access Manager.

For more information about using NetIQ Access Manager with Filr, see [Chapter A, “Access Manager \(NAM\) and Filr Integration,”](#) on page 121.

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**IMPORTANT:** When you use NetIQ Access Manager with Filr, external users cannot access your Filr site. This means that the following features are not functional:

- ♦ Users are not able to share with external users, as described in “[Sharing with People Outside Your Organization](#)” in the *Filr 3.3: User Access Guide*.
- ♦ Users cannot make items accessible to the public, as described in “[Making Files Accessible to the Public](#)” in the *Filr 3.3: User Access Guide*.

This means that public users cannot access the Filr site as the Guest user. For more information about the Guest user, see “[Guest Users:](#)” in *Filr 3.3: Understanding How Filr Works*.

For more information about external users in Filr, see “[External, Self-Provisioned Users:](#)” in *Filr 3.3: Understanding How Filr Works*.

- 
- 11 Configure mobile device access to the Filr site, as described in “[Mobile Device Access—Default Settings](#)” in the *Filr 3.3: Administrative UI Reference*.

- 12 Configure the Filr desktop application to access files from the Filr site.

For more information about configuring the Filr desktop application, see “[Desktop Access—Default Settings](#)” in the *Filr 3.3: Administrative UI Reference*.

---

**IMPORTANT:** For optimal performance of the Filr system when using the Filr desktop application, consider the following:

- ♦ Users should not configure the Filr desktop application to synchronize more than 1,000 total files, or to synchronize individual files that are larger than 1 GB to their workstations. For information about how users can configure the Filr desktop application to synchronize files to their workstations, see the *Micro Focus Filr 3.0 Desktop Application Guide for Windows* (<https://www.novell.com/documentation/filr-3/filr-desktop/data/bookinfo.html>) and the *Micro Focus Filr 3.0 Desktop Application Guide for Mac* (<https://www.novell.com/documentation/filr-3/filr-desktop-mac/data/bookinfo.html>).

- 
- 13 Configure Filr to support WebDAV on a Windows 7 environment, as described in “[WebDAV Support](#)” in the *Filr 3.3: Maintenance Best Practices Guide*.
  - 14 If your Filr site needs to support multiple languages, configure the site as described in “[UI Language](#)” in the *Filr 3.3: Administrative UI Reference*.
  - 15 After you have completed all of the topics in this list that are relevant to your Filr environment, you can invite users to use the Filr site. For information about how to use the Filr site, see *Filr 3.3: User Access Guide*.

# Upgrading Filr

You can upgrade your Filr setup from Filr 2.0 to Filr 3.0. However, Filr 3.x releases are only available as online updates to Filr 3.0 or later.

---

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).
- 
- ♦ [Chapter 10, “Upgrading from Filr 2.0 to Filr 3.0,” on page 73](#)
  - ♦ [Chapter 11, “Updating to Filr 3.3,” on page 107](#)





# 10 Upgrading from Filr 2.0 to Filr 3.0

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**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

---

Review the following sections before you upgrade your Filr 2.0 setup to Filr 3.0:

- ♦ [“Upgrading a Large Filr Deployment” on page 73](#)
- ♦ [“Upgrading an All-in-One \(Small\) Deployment” on page 92](#)

## Upgrading a Large Filr Deployment

Before upgrading a Filr deployment, you must ensure certain requirements are met. See [“Before You Upgrade!” on page 73](#) and then complete the instructions in the following sections in order:

- ♦ [“Understanding the Appliance Upgrade Process” on page 76](#)
- ♦ [“Downloading and Preparing Software for the Upgrades” on page 77](#)
- ♦ [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 80](#)
- ♦ [“Upgrading the VMs” on page 81](#)
- ♦ [“Deploying the Upgraded \(Replacement\) VMs” on page 90](#)
- ♦ [“Performing Post-Upgrade Tasks” on page 91](#)

## Before You Upgrade!

Failure to comply with the following critical points could result in a non-functional Filr system.

---

**NOTE:** As an additional resource to the information in this section, [TID 7017288](#) has a “Pre-Flight Checklist” that can help you ensure a successful upgrade.

---

Critical Point	Details
♦ Review the Release Notes	♦ Check <a href="#">“Upgrade Notes”</a> and <a href="#">“Upgrade”</a> known issues in the <a href="#">Filr 3 Release Notes</a> before you start the upgrade process.

---

Critical Point	Details
<ul style="list-style-type: none"> <li>Plan the upgrade order and follow it.</li> </ul>	<ul style="list-style-type: none"> <li>You must upgrade the appliances in order of dependency upon each other.               <ol style="list-style-type: none"> <li><b>Shut Down Order:</b> Prepare a list of your appliances that defines the correct shut down order:                   <ul style="list-style-type: none"> <li><b>Filr:</b> All Filr appliances must be shut down first.</li> <li><b>Filrsearch:</b> Next, you shut down the Filrsearch appliances.</li> <li><b>MySQL (if applicable):</b> Finally, if you are using a MySQL appliance instead of an in-house SQL server, you shut it down last.</li> </ul> </li> <li><b>Deployment Order:</b> Prepare a second list of that defines the correct upgrade and deployment order:                   <ul style="list-style-type: none"> <li><b>MySQL (if applicable):</b> If you are using a MySQL appliance instead of an in-house SQL server, you must upgrade and deploy that appliance first.</li> <li><b>Filrsearch:</b> You must upgrade and deploy the Filrsearch appliances before the Filr appliances.</li> <li><b>Filr:</b> When the upgraded MySQL and Filrsearch appliances are up and running, upgrade and deploy the first Filr appliance. Then upgrade and deploy the additional Filr appliances.</li> </ul> </li> <li>If there are things you need to remember about individual appliances, include those reminders in the appropriate list.</li> <li>Use the shut down list as you complete the steps in <a href="#">“Upgrading the VMs.”</a></li> <li>Use the upgrade list as you complete the steps in <a href="#">“Deploying the Upgraded (Replacement) VMs.”</a></li> </ol> </li> </ul>
<ul style="list-style-type: none"> <li>Ensure that the VM host has enough unformatted disk space.</li> </ul>	<ul style="list-style-type: none"> <li>The VM host server must have enough unallocated disk space to contain the following disks for each appliance. This is only temporary because after the upgrade completes, old appliances can be deleted and their disk space reclaimed.               <ul style="list-style-type: none"> <li><b>System Disk (/):</b> This is created automatically as you deploy the downloaded software. Size is 20 GB per appliance.</li> <li><b>Disk 2 (/vastorage):</b> You make a copy of each old appliance's Disk 2. Size needed equals the total size of all disks to be copied.</li> <li><b>Each Disk 3 (/var):</b> You create this disk for each appliance in conjunction with the upgrade process. Size recommendation for Filr 3 is 4 GB plus 3 times the RAM allocation for each appliance being upgraded.</li> </ul> <p><b>NOTE:</b> The existing <code>/vashare</code> mount point is used by the upgraded Filr appliances. No new disk space is required for upgrading.</p> </li> </ul>
<ul style="list-style-type: none"> <li>Make sure that existing appliances are running version 2.0.</li> </ul>	<ul style="list-style-type: none"> <li>Make sure that all appliances are running version 2.0 with the latest patches applied. See <a href="#">“Managing Field Test Patches”</a> in the <i>Filr 2.0: Administration Guide</i>.</li> <li>Version 1.2 appliances must first be upgraded to version 2.0. See <a href="#">“Upgrading Filr”</a> in the <i>Filr 2.0: Installation and Configuration Guide</i>.</li> </ul>

Critical Point	Details
<ul style="list-style-type: none"> <li>Remove all VMware Snapshots</li> </ul>	<ul style="list-style-type: none"> <li>Before copying Disk 2, make sure to remove all VMware snapshots so that the <code>/vastorage</code> disk has the correct disk file and latest configuration settings.</li> </ul>
<ul style="list-style-type: none"> <li>Make sure that upgraded appliances meet Filr 3.0 system requirements.</li> </ul>	<ul style="list-style-type: none"> <li>See <a href="#">Chapter 3, “System Requirements,” on page 13</a>.</li> <li>RAM and CPU requirements are summarized in the following sections of the <a href="#">Planning Best Practices guide</a>: <ul style="list-style-type: none"> <li><a href="#">Filr Appliance Sizing Guidelines</a></li> <li><a href="#">Filrsearch Appliance Sizing Guidelines</a></li> <li><a href="#">SQL Server Sizing Guidelines</a></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Do not attempt unsupported path migrations.</li> </ul>	<ul style="list-style-type: none"> <li><b>No Cross-platform:</b> You cannot upgrade from one virtualization platform to another. You can only upgrade VMware to VMware, and so forth.</li> <li><b>No Mixed Versions:</b> All of the Filr and Filrsearch appliances in an expandable deployment must be upgraded to the same version.</li> <li><b>No Cross-Deployment-Types:</b> You can only upgrade small to small, non-expandable to non-expandable, or expandable to expandable.  If you have a small or non-expandable deployment, and you need an expandable deployment, you must either install a new system or contact <a href="http://www.novell.com/consulting">Micro Focus Consulting (http://www.novell.com/consulting)</a> to assist you with the migration.</li> </ul>
<ul style="list-style-type: none"> <li>Prepare appliances with two network adapters before upgrading.</li> </ul>	<ul style="list-style-type: none"> <li>For any appliances with two network adapters, do the following: <ol style="list-style-type: none"> <li>Download the <code>networkprep.zip</code> file from the Filr software downloads page.</li> <li>Enable SSH on the appliance, as described in “<a href="#">Managing System Services</a>” in the <a href="#">Filr 3.3: Administrative UI Reference</a>.</li> <li>Using an SSH client (such as WinSCP), log in to the appliance as the root user.</li> <li>Copy the <code>networkprep.zip</code> file that you downloaded to the <code>/root/</code> directory on the appliance.</li> <li>Unzip the <code>networkprep.zip</code> file: <pre>unzip networkprep.zip</pre> The <code>networkprep</code> folder is created.</li> <li>Change to the <code>network prep</code> folder: <pre>cd /root/networkprep</pre></li> <li>Run the script: <pre>sh run-networkprep.sh</pre></li> <li>Close the remote SSH connection to the appliance.</li> </ol> </li> </ul>
<ul style="list-style-type: none"> <li>Plan when to upgrade.</li> </ul>	<ul style="list-style-type: none"> <li>Filr services must be offline during the upgrade. <ol style="list-style-type: none"> <li>Schedule the upgrade for a block of time that is least disruptive from a production standpoint.</li> <li>Notify Filr users about the upgrade.</li> </ol> </li> </ul>

After ensuring that you have met the prerequisites and cautions above, complete the instructions in the following sections in order.

- ♦ [“Understanding the Appliance Upgrade Process” on page 76](#)
- ♦ [“Downloading and Preparing Software for the Upgrades” on page 77](#)
- ♦ [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 80](#)
- ♦ [“Upgrading the VMs” on page 81](#)
- ♦ [“Deploying the Upgraded \(Replacement\) VMs” on page 90](#)
- ♦ [“Performing Post-Upgrade Tasks” on page 91](#)

## Understanding the Appliance Upgrade Process

The process of upgrading Micro Focus appliances is illustrated in [Figure 10-1 on page 77](#).

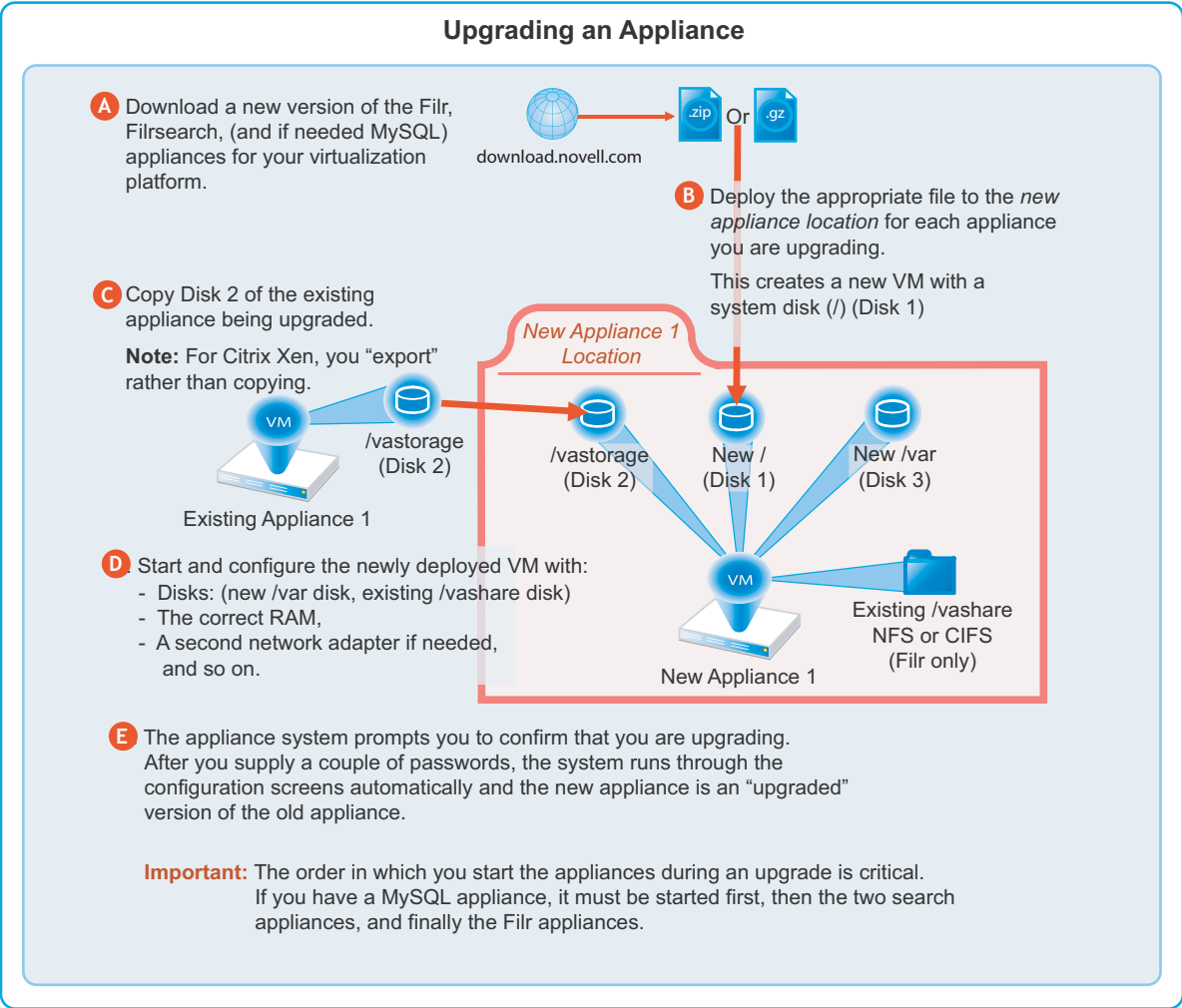
---

**NOTE:** Upgrade processes are unchanged from Filr 2.0. If you performed upgrades to Filr 2.0, you might find the graphical overview in [Figure 10-1](#) has all the information that you need to proceed.

On the other hand, if you are unsure about any part of the upgrade process, the sections that follow the graphic should provide the guidance you need.

---

Figure 10-1 Overview of the Appliance Upgrade Process



# Downloading and Preparing Software for the Upgrades

Download and prepare the software for your virtualization platform as described in the following sections:

## VMWare

- 1 [Download the Filr software](#) shown below to your management workstation.

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a software-download link.

Appliance Type	Filename
Filr	Filr.x86_64-version.ovf.zip
Search	Filrsearch.x86_64-version.ovf.zip
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.ovf.zip

- 2 Extract each `.ovf.zip` file on your management workstation until an *ApplianceType-version* folder appears.
- 3 Launch the vSphere Client and navigate to the datastore where you plan to host the upgraded VMs.
- 4 Create a folder for each appliance that you plan to upgrade.  
Name each folder with a name that is easily associated with (but not the same as) the VM name of the associated appliance being upgraded.  
Consider including information in the names that easily identifies the appliance type and other information, such as the IP address.  
For example,
  - ♦ v3-filr-1-30-192.168.1.61
  - ♦ v3-filr-2-30-192.168.1.62
  - ♦ v3-filrsearch-1-30-192.168.1.71
  - ♦ v3-filrsearch-2-30-192.168.1.72
- 5 Continue with [“Copying Each Appliance’s /vstorage Disk \(Disk 2\)” on page 80.](#)

## Hyper-V

- 1 Log in to the Hyper-V host server either locally or from a remote workstation using Remote Desktop.
- 2 [Download the Filr software](#) shown below to the location where you plan to host your upgraded VMs.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a software-download link.

---

Appliance Type	Filename
Filr	Filr.x86_64-version.vhd.zip
Search	Filrsearch.x86_64-version.vhd.zip
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.vhd.zip

- 3 Extract each `.vhd.zip` file in the directory where you downloaded it until an *ApplianceType-version.vhd* archive file appears.
- 4 Create a new directory for each virtual machine you are upgrading.  
As a best practice, name these directories with names that are easily associated with, but not the same as the VM name of each appliance being upgraded.  
Consider including information in the names that easily identifies the appliance type and other information, such as the IP address.  
For example,
  - ♦ v3-filr-1-30-192.168.1.61
  - ♦ v3-filr-2-30-192.168.1.62
  - ♦ v3-filrsearch-1-30-192.168.1.71
  - ♦ v3-filrsearch-2-30-192.168.1.72

- 5 Move the *filr-version.vhd* archive file to the first Filr appliance-type folder and then copy the file to the remaining Filr appliance type folders.
- 6 Move the *filrsearch-version.vhd* archive file to the first Filrsearch appliance-type folder and then copy the file to the second Filrsearch folder.
- 7 (Optional) If you are deploying a MySQL appliance rather than using an in-house SQL server, move the *mysql-version.vhd* archive file to the MySQL appliance folder.
- 8 Continue with [“Copying Each Appliance’s /vstorage Disk \(Disk 2\)” on page 80](#).

## Xen

- 1 Log in to the Xen VM host server either locally or from a remote workstation.  
If you are connecting from a remote Linux workstation, use the following command:

```
ssh -X root@host_ip_address
```

The -X in the command is required for the GUI installation program upon which the steps in this section are based.

- 2 [Download the Filr software](#) shown below to the Xen VM host server in the location where you plan to host your upgraded VMs.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

Appliance Type	Filename
Filr	Filr.x86_64-version.xen.tar.gz
Search	Filrsearch.x86_64-version.xen.tar.gz
MySQL (only if no in-house SQL server is available)	MySQL.x86_64-version.xen.tar.gz

- 3 Untar each \*.gz file in the directory where you downloaded it.

You can use the following command to untar the file:

```
tar -Sxvzf ApplianceType.x86_64-version.xen.tar.gz
```

An *ApplianceType-version* directory is created for each appliance type.

- 4 Copy and rename the *ApplianceType-version* directories until you have one directory for each appliance that you are upgrading.

Also, consider including information in the directory names that easily identifies the appliance type and other information, such as the IP address.

For example,

- ♦ filr-1-30-192.168.1.61
- ♦ filr-2-30-192.168.1.62
- ♦ filrsearch-1-30-192.168.1.71
- ♦ filrsearch-2-30-192.168.1.72

---

**IMPORTANT:** Only change the directory names.

Do not change the names of the *.raw* or *.xenconfig* files within the directories that you have copied and renamed.

---

For example:

1. Rename the *Filr-version* directory to *filr-1-30-192.168.1.61*.

2. Copy the `filr-1-30-192.168.1.61` directory and rename it to `filr-1-30-192.168.1.62`, and so on until you have a directory for each appliance you are upgrading.
3. In a similar manner, copy and rename the `Filrsearch-version` directory until you have two Filrsearch appliances.
4. If you need a MySQL appliance, follow the same methodology.
- 5 Continue with [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 80](#).

## Citrix Xen

- 1 On a workstation with Citrix XenCenter installed, [download the Filr software](#) shown below.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

Appliance Type	Filename
Filr	<code>Filr.x86_64-version.xva.tar.gz</code>
Search	<code>Filrsearch.x86_64-version.xva.tar.gz</code>
MySQL (only if no in-house SQL server is available)	<code>MySQL.x86_64-version.xva.tar.gz</code>

- 2 Using a program such as 7-Zip, extract each `.xva.tar.gz` file on your management workstation until an `ApplianceType-version` folder appears.
- 3 Continue with [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 80](#).

## Copying Each Appliance’s /vastorage Disk (Disk 2)

---

### IMPORTANT

- ♦ VMware requires shutting down an appliance before copying a disk.

This doesn’t mean that the entire service must be down while disk copying takes place.

If you have a Filr-clustered deployment, you can minimize service interruption by shutting down one Filr or Filrsearch appliance, copying the disk, restarting the appliance and continuing with the next appliance.

- ♦ On Citrix Xen you “export” rather than copying Disk 2.
- 

Copying each appliance’s disk is at the heart of the upgrade process because it uses the corresponding “old” appliance’s configuration settings on Disk 2 to create an upgraded version of the appliance with minimal input on your part.

Disk copying can take a while, depending on disk size and the VM host environment.



Therefore, we recommend keeping service downtime to a minimum by making the copies while the Filr system is still running.

- 1 Using the tools provided by your hypervisor, copy the /vastorage (second disk) to its associated folder or directory that you created for your upgraded appliances in [“Downloading and Preparing Software for the Upgrades” on page 77](#).

## Upgrading the VMs

- ♦ [“Shutting Down the Appliances” on page 81](#)
- ♦ [“Upgrading VMware VMs” on page 81](#)
- ♦ [“Upgrading Hyper-V VMs” on page 84](#)
- ♦ [“Upgrading and Deploying Xen VMs” on page 85](#)
- ♦ [“Upgrading Citrix Xen VMs” on page 89](#)

## Shutting Down the Appliances

- 1 Shut down all of your existing appliances in the [shut down order that you identified earlier](#):
- 2 Continue with the instructions for your VM platform:
  - ♦ [VMware](#)
  - ♦ [Hyper-V](#)
  - ♦ [Xen](#)
  - ♦ [Citrix Xen](#)

## Upgrading VMware VMs

Complete the steps in [Table 10-1](#) for each appliance that you are upgrading

*Table 10-1 Upgrading a VMware VM*

Page, Dialog, or Option	Do This
	<b>1 - Launching the vSphere Client.</b>
	1. On your management workstation, start the vSphere Client.
vSphere Client	<b>2 - Deploying the OVF Template and naming the VM.</b>
	1. Click <b>File &gt; Deploy OVF Template</b> .
Deploy OVF Template	1. Click <b>Browse</b> .
Open	1. For the appliance type you are deploying, navigate to the contents of the folder that you downloaded and extracted in <a href="#">“Downloading and Preparing Software for the Upgrades” on page 77</a> . 2. Select and open the .ovf file.

Page, Dialog, or Option	Do This
Deploy OVF Template	<ol style="list-style-type: none"> <li>1. Name the appliance with the same name of the folder that you created for this upgraded appliance in <a href="#">Step 4 on page 78</a>.</li> <li>2. Click <b>Next</b>.</li> <li>3. Choose the datastore and folder were you <a href="#">copied the appliance's Disk 2</a>.</li> <li>4. Click <b>Next</b> to accept the default for the disk format.</li> <li>5. Do not select <b>Power on after deployment</b>.</li> <li>6. Click <b>Finish</b>.</li> </ol> <p>The boot disk is created and the appliance is deployed as specified to this point.</p>
<b>3 - Editing the VM settings.</b>	
vSphere Client	<ol style="list-style-type: none"> <li>1. In the vSphere Client, right-click the VM you just deployed and select <b>Edit Settings</b>.</li> </ol> <p>The Virtual Machine Properties dialog displays.</p>
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Set the <b>Memory</b> and <b>CPU</b> settings to match the appliance you are replacing, or increase them as planned.</li> </ol>
<b>4 - Configuring disk 2 (/vstorage)</b>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Hard Disk</b>, click <b>Next</b> and select <b>Use an existing Virtual disk</b>.</li> <li>2. Click <b>Next &gt; Browse</b>, then navigate to and select the copy of disk 2 that you made for this appliance.</li> <li>3. Click <b>Next &gt; Next &gt; Finish</b>.</li> </ol>
<b>5 - Adding and Configuring disk 3 (/var)</b>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>

Page, Dialog, or Option	Do This
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Hard Disk</b>.</li> <li>2. Click <b>Next &gt; Next</b>.</li> <li>3. Adjust the <b>Disk Size</b> to the same size as disk 3 (/var) on the appliance you are replacing.</li> <li>4. Under <b>Disk Provisioning</b>, select either: <ul style="list-style-type: none"> <li>♦ <b>Thick Provision Eager Zeroed</b></li> <li>or</li> <li>♦ <b>Support clustering features such as Fault Tolerance</b></li> </ul> <p>Depending on the VMware version that you are running.</p> </li> <li>5. Under <b>Location</b>, select <b>Specify a datastore or Datastore cluster</b></li> <li>6. Click <b>Browse</b>.</li> <li>7. Select the datastore and folder for this appliance.</li> <li>8. Click <b>OK</b>.</li> <li>9. Click <b>Next</b>.</li> <li>10. Under the <b>Virtual Device Node</b> section, select <b>SCSI (2:0)</b>.</li> <li>11. Click <b>Next</b>.</li> <li>12. Click <b>Finish</b>.</li> <li>13. If you need to add network adapters, continue with <a href="#">6 - (Optional) Adding a Network Adapter</a>.</li> </ol> <p>Otherwise, click <b>OK</b>, return to <a href="#">“2 - Deploying the OVF Template and naming the VM.” on page 81</a>, and deploy the next appliance that you have planned for</p> <p>When all of your planned appliances have been deployed, continue with <a href="#">“Deploying the Upgraded (Replacement) VMs” on page 90</a>.</p>
<b>6 - (Optional) Adding a Network Adapter</b> <p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ NFS mount or CIFS access to the /vashare mount point.</li> <li>♦ Security of Memcached.</li> </ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Ethernet Adapter</b>.</li> <li>2. Click <b>Next</b>.</li> <li>3. Under <b>Network Connection</b>, select the secondary network associated with the Filr installation.</li> <li>4. Click <b>Next &gt; Finish &gt; OK</b>.</li> </ol>
vSphere Client	<ol style="list-style-type: none"> <li>1. Repeat the steps in this table from <a href="#">2 - Deploying OVF Template</a> until all of your planned appliances have been deployed, then continue with <a href="#">“Deploying the Upgraded (Replacement) VMs” on page 90</a>.</li> </ol>

## Upgrading Hyper-V VMs

Complete the steps in [Table 10-2](#) for each appliance that you are upgrading.

**Table 10-2** *Upgrading a Hyper-V VM*

Page, Dialog, or Option	Do This
<b>1 - Open Hyper-V Manager.</b>	
Hyper-V Host Server	1. Open the Hyper-V Manager.
<b>2 - Create a new VM.</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In the left pane, right-click the server where you have planned to create the new virtual machine, then click <b>New &gt; Virtual Machine</b>.</li> </ol> <p>The New Virtual Machine Wizard displays.</p> <ol style="list-style-type: none"> <li>2. Click <b>Next</b>.</li> </ol>
Specify Name and Location	<ol style="list-style-type: none"> <li>1. Name the appliance with the name of the directory that you created for it in <a href="#">Step 4 on page 78</a>.</li> <li>2. Click <b>Next</b>.</li> </ol>
Specify Generation	<ol style="list-style-type: none"> <li>1. Make sure that <b>Generation 1</b> is selected.</li> <li>2. Click <b>Next</b>.</li> </ol>
<b>3 - Specify memory</b>	
Assign Memory	<ol style="list-style-type: none"> <li>1. In the <b>Startup RAM</b> field, specify the same amount of memory (in MB) of the appliance that you are replacing, or increase the memory as planned.</li> <li>2. Click <b>Next</b>.</li> </ol>
<b>4 - Assign network adapter</b>	
Configure Networking	<ol style="list-style-type: none"> <li>1. On the Configure Networking page, select the networking card for this VM.</li> <li>2. Click <b>Next</b>.</li> </ol>
<b>6 - Identify the system disk</b>	
Connect Virtual Hard Disk	<ol style="list-style-type: none"> <li>1. Select <b>Use an existing virtual hard disk</b>.</li> <li>2. Browse to and select the <code>.vhd</code> file in the folder you created for this appliance.</li> <li>3. Click <b>Open</b>.</li> <li>4. Click <b>Next</b>.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Click <b>Finish</b>.</li> </ol> <p>The VM is created and appears in the list of Virtual Machines.</p>
<b>7 - Specify processors</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In Hyper-V Manager, right-click the VM that you just created.</li> <li>2. Click <b>Settings</b>.</li> </ol>

Page, Dialog, or Option	Do This
Processor	<ol style="list-style-type: none"> <li>1. Click <b>Processor</b>.</li> <li>2. In the <b>Number of virtual processors</b> field, specify the number of processors for this VM.</li> <li>3. Click <b>Next</b>.</li> </ol>
<b>8 - Use existing copy of hard disk 2 (/vastorage).</b>	
Settings for VM on Host Server	<ol style="list-style-type: none"> <li>1. Add the copy you made of disk 2 to this VM.</li> <li>2. When you have added the disk, review the VM summary information and click <b>Finish</b>.</li> </ol>
<b>9 - Add hard disk 3 (/var).</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In Hyper-V Manager, right-click the VM that you just created.</li> <li>2. Click <b>Settings</b>.</li> <li>3. Create a new blank virtual disk the same size as disk 3 on the appliance you are upgrading.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Review the summary information.</li> <li>2. Click <b>Finish &gt; OK</b></li> </ol>
<b>10 - (Optional) Add a Network Adapter</b>	
	<ol style="list-style-type: none"> <li>1. If the appliance you are upgrading has a secondary network adapter, add that now.</li> </ol>
Hyper-V Manager	<b>11 - Repeat until all VMs have upgraded copies</b> <ol style="list-style-type: none"> <li>1. Repeat the steps in this table until all of your planned appliances have been deployed, then continue with <a href="#">“Deploying the Upgraded (Replacement) VMs” on page 90</a>.</li> </ol>

## Upgrading and Deploying Xen VMs

**IMPORTANT:** Unlike the other virtualization platforms, which you power on and deploy separately from the upgrade process, upgraded Xen VMs power on automatically when the upgrade process completes. You must then deploy the appliance before continuing with the next one.

Therefore, it is critical that you make sure to follow the [deployment order](#) that you identified earlier.

Complete the steps in [Table 10-3](#) for each appliance that you are upgrading and deploying.

**Table 10-3** *Upgrading and Deploying a Xen VM*

Page, Dialog, or Option	Do This
<b>1 - Launch the installer.</b>	
Terminal prompt on Xen VM Host Server	<ol style="list-style-type: none"> <li>1. Run the following command to launch the GUI configuration menu:   <pre>vm-install</pre> <p>The Create a Virtual Machine wizard is displayed.</p> </li> </ol>

Page, Dialog, or Option	Do This
Create a Virtual Machine	1. Click <b>Forward</b> .
Install an Operating System?	1. Select <b>I have a disk or disk image with an installed operating system</b> . 2. Click <b>Forward</b> .
Type of Operating System	1. Select <b>SUSE Linux Enterprise Server 11</b> . 2. Click <b>Forward</b> .
<b>2 - Name the VM.</b>	
Summary	1. Click <b>Name of Virtual Machine</b> .
Name of Virtual Machine	1. In the <b>Name</b> field, type the name of the appliance.  Use the name of the corresponding directory that you prepared for the appliance in <a href="#">Step 4 on page 79</a> . 2. (Optional) In the <b>Description</b> field, type additional information about the appliance. 3. Click <b>Apply</b> .
<b>3 - Specify the RAM and Virtual Processors.</b>	
Summary	1. Click <b>Hardware</b> .
Hardware	1. Change the <b>Initial Memory</b> and <b>Maximum Memory</b> set the amount of memory (in MB) to match that of the VM you are upgrading. 2. Change the <b>Virtual Processors</b> setting to match the number of the VM you are upgrading. 3. Click <b>Apply</b> .
<b>4 - Configure the boot disk</b>	
Summary	1. Click <b>Disks</b> .
Disks	1. Click the <b>Harddisk</b> button.
Virtual Disk	1. Click the <b>Browse</b> button.
Locate Disk or Disk Image.	1. Navigate to the contents of the folder for the appliance you are creating. 2. Select the <code>.raw</code> file. 3. Click <b>Open</b> .
Virtual Disk	1. Click <b>OK</b> .
<b>5 - Configure disk 2 (/vastorage)</b>	
Disks	1. Click the <b>Harddisk</b> button.
Virtual Disk	1. Click the <b>Browse</b> button.
Locate Disk or Disk Image.	1. Select the <code>.raw</code> file for Disk 2. 2. Click <b>Open</b> .

Page, Dialog, or Option	Do This
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click in the <b>Source</b> field.</li> <li>2. Press the End key.</li> <li>3. Use the Backspace key to erase the filename so that the path ends with the forward slash (/) that follows the appliance's folder name.</li> <li>4. Type a name of the copy of disk 2 for this appliance.</li> <li>5. When you finish linking to the disk, click <b>OK</b>.</li> </ol>
<b>6 - Configure disk 3 (/var)</b>	
Disks	<ol style="list-style-type: none"> <li>1. Click the <b>Harddisk</b> button.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click the <b>Browse</b> button.</li> </ol>
Locate Disk or Disk Image.	<ol style="list-style-type: none"> <li>1. Select the <code>.raw</code> file.</li> <li>2. Click <b>Open</b>.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>1. Click in the <b>Source</b> field.</li> <li>2. Press the End key.</li> <li>3. Use the Backspace key to erase the filename so that the path ends with the forward slash (/) that follows the appliance's folder name.</li> <li>4. Type a disk name that reflects the appliance name and that this is disk 3. For example, Filr-192.168.1.61-disk-3.</li> <li>5. Do not change the <b>Storage Format</b>.</li> <li>6. Change the <b>Size</b> field value to match the size of disk 3 in the appliance you are upgrading.</li> <li>7. Click <b>OK</b>.</li> </ol>
Disks	<ol style="list-style-type: none"> <li>1. Click <b>Apply</b>.</li> <li>2. If you need to add network adapters, continue with <a href="#">"7 - (Optional) Add a Network Adapter."</a> Otherwise, click <b>OK</b> and continue with <a href="#">"8 - Deploy the Appliance."</a></li> </ol>
<b>7 - (Optional) Add a Network Adapter</b>	
<p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ NFS mount or CIFS access to the /vashare mount point.</li> <li>♦ Security of Memcached.</li> </ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>	
Summary	<ol style="list-style-type: none"> <li>1. Click <b>Network Adapters</b>.</li> </ol>
Network Adapters	<ol style="list-style-type: none"> <li>1. Click <b>New</b>.</li> </ol>
Virtual Network Adapter	<ol style="list-style-type: none"> <li>1. Specify the settings for the adapter.</li> <li>2. Click <b>Apply</b>.</li> </ol>

Page, Dialog, or Option	Do This
Network Adapters	1. Click <b>Apply</b> .
Summary	1. Click <b>OK</b> . The virtual machine is created, the appliance starts, and the configuration process begins.
Console	<b>8 - Deploy the Appliance</b> 1. Access the appliance's console. 2. When prompted, enter the root and vaadmin passwords for the appliance being replaced. The upgrade process proceeds automatically. 3. When the appliance displays the final screen in the console window, open your management browser and log in to the appliance on port 9443 as the vaadmin user.
Port 9443 Admin Console	1. Depending on the appliance type you are upgrading, check the following: <ul style="list-style-type: none"> <li>♦ <b>MySQL (optional) :</b> <ol style="list-style-type: none"> <li>1. Click the phpMyAdmin icon.</li> <li>2. Verify that the database is populated as expected.</li> </ol> </li> <li>♦ <b>Filrsearch:</b> <ol style="list-style-type: none"> <li>1. Click the Filrsearch configuration icon.</li> <li>2. Ensure that all of the settings are in place as expected.</li> <li>3. If the configuration wizard displays, there was a problem with the configuration.</li> <li>4. Resolve the configuration issues, then click Finish to reconfigure the system.</li> </ol> </li> <li>♦ <b>Filr:</b> <ol style="list-style-type: none"> <li>1. Click the Filr configuration icon.</li> <li>2. Ensure that all of the settings are in place as expected.</li> <li>3. If the configuration wizard displays, there was a problem with the configuration.</li> <li>4. Resolve the configuration issues, then click Finish to reconfigure the system.</li> </ol> <p>Common configuration issues include:</p> <ul style="list-style-type: none"> <li>♦ If your system is not using DNS, the most likely problem is unresolvable DNS names and missing /etc/hosts entries.</li> <li>♦ If the appliance doesn't have access to the database, ensure that all of the settings are as expected.</li> </ul> </li> </ul>



Page, Dialog, or Option	Do This
<b>11 - Upgrade the Next Appliance</b>	
	<ol style="list-style-type: none"> <li>Return to the top of the table and repeat the process for the next appliance in your list.</li> </ol> <p>When all of your appliances are running, continue with <a href="#">“Performing Post-Upgrade Tasks.”</a></p>

## Upgrading Citrix Xen VMs

**Table 10-4** Upgrading a Citrix Xen VM

Page, Dialog, or Option	Do This
<b>1 - Launch XenCenter.</b>	
Management Workstation	<ol style="list-style-type: none"> <li>Start XenCenter.</li> </ol>
XenCenter	<ol style="list-style-type: none"> <li>Connect to the Citrix XenServer where you are deploy the upgraded appliances.</li> <li>Right-click the server and select <b>Import</b>.</li> </ol>
<b>2 - Import the system disk</b>	
Locate the File you want to import	<ol style="list-style-type: none"> <li>Browse to and select the <code>.xva</code> file on your management workstation for the appliance that you are upgrading.</li> <li>Click <b>Open</b>.</li> <li>Click <b>Next</b>.</li> </ol>
Select the location where the imported VM will be placed	<ol style="list-style-type: none"> <li>Select the XenServer.</li> <li>Click <b>Next</b>.</li> </ol>
Select target storage	<ol style="list-style-type: none"> <li>Select the storage repository for the VM.</li> <li>Click <b>Import</b>.</li> </ol>
<b>3 - Select the network adapter</b>	
Select network to connect VM	<ol style="list-style-type: none"> <li>Select the virtual network adapter.</li> <li>Click <b>Next</b>.</li> </ol>
Review the import settings	<ol style="list-style-type: none"> <li>Deselect <b>Start VM(s) after import</b>.</li> <li>Click <b>Finish</b>.</li> </ol> <p><b>IMPORTANT:</b> Depending on network latency and other factors, it can take a while to import the system disk.</p>
<b>4 - Specify Memory</b>	
	<ol style="list-style-type: none"> <li>If you need to adjust the memory to the amount of memory, select the newly created VM in the left pane.</li> <li>Click the <b>Memory</b> tab.</li> <li>Click <b>Edit</b>, change the setting, and click <b>OK</b>.</li> </ol>
<b>5 - Specify Processors</b>	

Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"> <li>1. If you need to adjust the CPUs, right-click the newly created VM in the left pane.</li> <li>2. Select <b>Properties</b>.</li> <li>3. Click <b>CPU</b>, change the setting, and click <b>OK</b>.</li> </ol>
	<b>6 - Link to Disk 2 (/vastorage)</b>
	<ol style="list-style-type: none"> <li>1. With the newly created VM selected in the left pane, add the copy of disk 2 for this appliance.</li> </ol>
	<b>8 - Add Disk 3 (/var)</b>
Virtual Disks	<ol style="list-style-type: none"> <li>1. Click <b>Add....</b></li> </ol>
Add Virtual Disk	<ol style="list-style-type: none"> <li>1. Type a disk name that reflects the appliance name and that this is disk 3. For example, Filr-1-disk-3.</li> <li>2. Change the <b>Size</b> field value to match that of the appliance you are replacing.</li> <li>3. Click <b>Add</b>.</li> </ol>
	<b>9 - (Optional) Add a Network Adapter</b>
	<p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ NFS mount or CIFS access to the /vashare mount point.</li> <li>♦ Security of Memcached.</li> </ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>
	<ol style="list-style-type: none"> <li>1. With the newly created VM selected in the left pane, click the <b>Networking</b> tab.</li> <li>2. Select the secondary network associated with the Filr installation..</li> </ol>
XenCenter	<ol style="list-style-type: none"> <li>1. Repeat the steps in this table until all of your planned appliances have been upgraded, then continue with <a href="#">“Deploying the Upgraded (Replacement) VMs” on page 90</a>.</li> </ol>

## Deploying the Upgraded (Replacement) VMs

### IMPORTANT

- ♦ Make sure that you deploy (Start and configure) your appliances one at a time.

Attempting to start and configure multiple upgraded appliances at the same time causes timing, synchronization, and other problems.

- ♦ Also make sure that you deploy the appliances in the [deployment order](#) that you identified earlier:
  1. MySQL (if applicable)
  2. Filrsearch
  3. Filr

- 1 Power on the first (or next) appliance in your [deployment order](#) list.
- 2 Access the appliance's console.

- 3 When prompted, enter the root and vaadmin passwords for the appliance being replaced.  
The upgrade process proceeds automatically.
- 4 When the appliance displays the final screen in the console window, open your management browser and log in to the appliance on port 9443 as the vaadmin user.
- 5 Depending on the appliance type you are upgrading, check the following:

MySQL (optional)	Filrsearch	Filr
<ol style="list-style-type: none"> <li>1. Click the phpMyAdmin icon.</li> <li>2. Verify that the database is populated as expected.</li> </ol>	<ol style="list-style-type: none"> <li>1. Click the Filrsearch configuration icon.</li> <li>2. Ensure that all of the settings are in place as expected.</li> <li>3. If the configuration wizard displays, there was a problem with the configuration.  Resolve the configuration issues, then click <b>Finish</b> to reconfigure the system.</li> </ol>	<ol style="list-style-type: none"> <li>1. Click the Filr configuration icon.</li> <li>2. Ensure that all of the settings are in place as expected.</li> <li>3. If the configuration wizard displays, there was a problem with the configuration.  Resolve the configuration issues, then click <b>Finish</b> to reconfigure the system.</li> </ol> <p>Common configuration issues include:</p> <ul style="list-style-type: none"> <li>♦ If your system is not using DNS, the most likely problem is unresolvable DNS names and missing <code>etc/hosts</code> entries.</li> <li>♦ If the appliance doesn't have access to the database, ensure that all of the settings are as expected.</li> </ul>

- 6 When the appliance is running, deploy the next appliance.
- 7 When all of your appliances are running, continue with [“Performing Post-Upgrade Tasks.”](#)

## Performing Post-Upgrade Tasks

After upgrading to a new version of Filr, you should perform the following tasks to ensure a fully functional Filr system:

- ♦ [“\(Optional\) Enable Net Folder Sharing” on page 92](#)
- ♦ [“Re-Enabling SSH on the Filr Search and Database Appliances” on page 92](#)
- ♦ [“Reset Non-Standard MySQL Ports” on page 92](#)
- ♦ [“Install Your New Filr License” on page 92](#)

## (Optional) Enable Net Folder Sharing

Folder sharing is a new feature in Filr 3.0 with an Advanced-Edition license installed.

If you have Net Folders where you want users to be able to share folders as well as files, you must grant folder sharing rights using the [Recipient can share folders in this Net Folder with:](#) option as documented in “[Grant Rights dialog](#)” in the *Filr 3.3: Administrative UI Reference*.

## Re-Enabling SSH on the Filr Search and Database Appliances

If you enabled SSH on the search or database appliances before upgrading your Filr system, it is disabled after upgrading, and you need to re-enable it. For more information about how to enable SSH, see “[Managing System Services](#)” in the *Filr 3.3: Administrative UI Reference*.

## Reset Non-Standard MySQL Ports

If you are using a MySQL appliance and have set non-standard MySQL port settings, you must reset the port for each Filr appliance using the Port 9443 administration utility.

## Install Your New Filr License

Upgraded Filr appliances have a 60-day evaluation license installed.

To prevent a service interruption, you must install your new license by following the instructions in “[Installing/Updating the Filr License](#)” in the *Filr 3.3: Administrative UI Reference*.

# Upgrading an All-in-One (Small) Deployment

Before upgrading a Filr deployment, you must ensure certain requirements are met. See “[Before You Upgrade!](#)” on page 92 and then complete the instructions in the following sections in order:

- ♦ “[Small Filr Upgrade Process Overview](#)” on page 93
- ♦ “[Downloading and Preparing Software](#)” on page 94
- ♦ “[Copying Each Appliance’s /vastorage Disk \(Disk 2\)](#)” on page 95
- ♦ “[Upgrading the VMs](#)” on page 96
- ♦ “[Deploying the Upgraded Filr VM](#)” on page 104
- ♦ “[Performing Filr Post-Upgrade Tasks](#)” on page 105

## Before You Upgrade!

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**NOTE:** As an additional resource to the information in this section, [TID 7017288](#) has a “Pre-Flight Checklist” that can help you ensure a successful upgrade.

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Failure to comply with the following critical points could result in a non-functional Filr system.

- ♦ **Review the Release Notes:** Check “[Upgrade Notes](#)” and “[Upgrade](#)” known issues in the *Filr 3 Release Notes* before you start the upgrade process.
- ♦ **Ensure that the VM host has enough unformatted disk space:**
  - ♦ **System Disk (/):** A 20 GB disk is created automatically.

- ♦ **Disk 2 (/vastorage):** You make a copy of the appliance's Disk 2.
- ♦ **Each Disk 3 (/var):** You create this disk. The recommended size is 4 GB plus 3 times the appliance's RAM allocation.
- ♦ **Check the version:** Make sure that the existing appliance is running version 2.0 with the latest patches applied (see “[Managing Field Test Patches](#)” in the *Filr 2.0: Administration Guide*)
- ♦ **Remove VMware Snapshots:** Before copying Disk 2, make sure to remove all VMware snapshots so that the /vastorage disk has the correct disk file and latest configuration settings.
- ♦ **If the appliance has two network adapters:** Do the following:
  1. Download the `networkprep.zip` file from the Filr software downloads page.
  2. Enable SSH on the appliance, as described in “[Managing System Services](#)” in the *Filr 3.3: Administrative UI Reference*.
  3. Using an SSH client (such as WinSCP), log in to the appliance as the `root` user.
  4. Copy the `networkprep.zip` file that you downloaded to the `/root/` directory on the appliance.
  5. Unzip the `networkprep.zip` file:
 

```
unzip networkprep.zip
```

 The `networkprep` folder is created.
  6. Change to the `network prep` folder:
 

```
cd /root/networkprep
```
  7. Run the script:
 

```
sh run-networkprep.sh
```
  8. Close the remote SSH connection to the appliance.

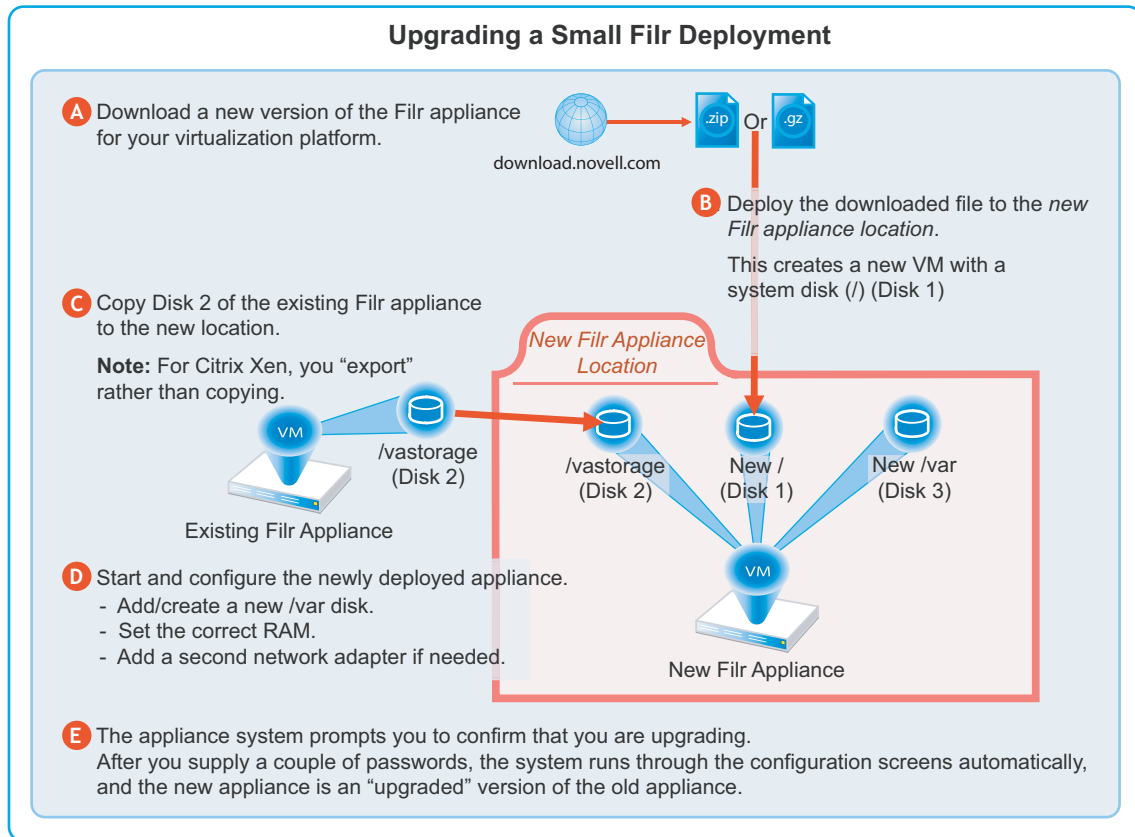
After ensuring that you have met the prerequisites and cautions above, complete the instructions in the following sections in order.

- ♦ “[Small Filr Upgrade Process Overview](#)” on page 93
- ♦ “[Downloading and Preparing Software](#)” on page 94
- ♦ “[Copying Each Appliance's /vastorage Disk \(Disk 2\)](#)” on page 95
- ♦ “[Upgrading the VMs](#)” on page 96
- ♦ “[Deploying the Upgraded Filr VM](#)” on page 104
- ♦ “[Performing Filr Post-Upgrade Tasks](#)” on page 105

## Small Filr Upgrade Process Overview

If you have upgraded a small Filr deployment before, the following reminder might be all you need.

**Figure 10-2** Overview of the Small Filr Appliance Upgrade Process



## Downloading and Preparing Software

Download and prepare the software for your virtualization platform as described in the following sections:

### VMWare

- 1 [Download the Filr appliance software](#) to your management workstation.

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**IMPORTANT:** Registration with Micro Focus is required to receive an email with a software-download link.

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- 2 Extract the .ovf.zip file on your management workstation until a *Filr-version* folder appears.
- 3 Launch the vSphere Client and navigate to the datastore where you plan to host the upgraded VM.
- 4 Create a folder for the new appliance with a name that is easily associated with (but not the same as) the VM name of the appliance being upgraded.
- 5 Continue with [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)”](#) on page 95.

### Hyper-V

- 1 Log in to the Hyper-V host server either locally or from a remote workstation using Remote Desktop.
- 2 [Download the Filr appliance software](#) to the location where you plan to host your upgraded VMs.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a software-download link.

---

- 3 Extract the `.vhd.zip` file in the directory where you downloaded it until an `Filr-version.vhd` archive file appears.
- 4 Create a directory for the new appliance with a name that is easily associated with, but not the same as the VM name of the appliance being upgraded.
- 5 Move the `Filr-version.vhd` archive file to the folder you just created.
- 6 Continue with [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 95.](#)

## Xen

- 1 Log in to the Xen VM host server either locally or from a remote workstation.  
If you are connecting from a remote Linux workstation, use the following command:  

```
ssh -X root@host_ip_address
```

  
The `-X` in the command is required for the GUI installation program upon which the steps in this section are based.
- 2 [Download the Filr appliance software](#) to the Xen VM host server in the location where you plan to host your upgraded VM.

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

- 3 Untar the `*.gz` file in the directory where you downloaded it.  
You can use the following command to untar the file:  

```
tar -Sxvzf Filr.x86_64-version.xen.tar.gz
```

  
A `Filr-version` directory is created.
- 4 Continue with [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 95.](#)

## Citrix Xen

- 1 On a workstation with Citrix XenCenter installed, [download the Filr appliance software](#).

---

**IMPORTANT:** Registration with Micro Focus is required to receive an email with a download link.

---

- 2 Using a program such as 7-Zip, extract each `.xva.tar.gz` file on your management workstation until a `Filr-version` folder appears.
- 3 Continue with [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 95.](#)

## Copying Each Appliance’s /vastorage Disk (Disk 2)

---

### IMPORTANT

- ♦ VMware requires shutting down an appliance before copying a disk.

This means that Filr services will be down while disk copying takes place.

- ♦ On Citrix Xen you “export” rather than copying Disk 2.

- 1 Using the tools provided by your hypervisor, copy the /vastorage (second disk) to its associated folder or directory that you created for your upgraded appliances in [“Downloading and Preparing Software” on page 94](#).

## Upgrading the VMs

### Shutting Down the Appliance

- 1 Shut down the Filr appliance using the [Port 9443 Appliance Console](#).
- 2 Continue with the instructions for your VM platform:
  - ♦ [Upgrading a Filr VMware VM](#)
  - ♦ [Upgrading a Filr Hyper-V VM](#)
  - ♦ [Upgrading and Deploying a Filr Xen VM](#)
  - ♦ [Upgrading Citrix Xen VMs](#)

### Upgrading a Filr VMware VM

Complete the steps in [Table 10-5](#).

**Table 10-5** *Upgrading the Filr VMware VM*

Page, Dialog, or Option	Do This
	<b>1 - Launching the vSphere Client.</b>  1. On your management workstation, start the vSphere Client.
vSphere Client	<b>2 - Deploying the OVF Template and naming the VM.</b>  1. Click <b>File &gt; Deploy OVF Template</b> .
Deploy OVF Template	1. Click <b>Browse</b> .
Open	1. Navigate to the contents of the folder that you downloaded and extracted in <a href="#">Step 4 on page 94</a> .  2. Select and open the .ovf file.
Deploy OVF Template	1. Name the appliance with the same name of the folder that you created for this upgraded appliance in <a href="#">Step 4 on page 94</a> .  2. Click <b>Next</b> .  3. Choose the datastore and folder where you <a href="#">copied the appliance's Disk 2</a> .  4. Click <b>Next</b> to accept the default for the disk format.  5. Do not select <b>Power on after deployment</b> .  6. Click <b>Finish</b> .  The boot disk is created and the appliance is deployed as specified to this point.
	<b>3 - Editing the VM settings.</b>



Page, Dialog, or Option	Do This
vSphere Client	<ol style="list-style-type: none"> <li>1. In the vSphere Client, right-click the VM and select <b>Edit Settings</b>.</li> </ol> <p>The Virtual Machine Properties dialog displays.</p>
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Set the <b>Memory</b> and <b>CPU</b> settings to match the appliance you are replacing, or increase them as planned.</li> </ol>
<b>4 - Configuring disk 2 (/vastorage)</b>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Hard Disk</b>, click <b>Next</b> and select <b>Use an existing Virtual disk</b>.</li> <li>2. Click <b>Next &gt; Browse</b>, then navigate to and select the copy of disk 2 that you made for this appliance.</li> <li>3. Click <b>Next &gt; Next &gt; Finish</b>.</li> </ol>
<b>5 - Adding and Configuring disk 3 (/var)</b>	
Virtual Machine Properties	<ol style="list-style-type: none"> <li>1. Click <b>Add</b>.</li> </ol>
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Hard Disk</b>.</li> <li>2. Click <b>Next &gt; Next</b>.</li> <li>3. Adjust the <b>Disk Size</b> to the same size as disk 3 (/var) on the appliance you are replacing.</li> <li>4. Under <b>Disk Provisioning</b>, select either: <ul style="list-style-type: none"> <li>♦ <b>Thick Provision Eager Zeroed</b></li> <li>or</li> <li>♦ <b>Support clustering features such as Fault Tolerance</b></li> </ul> <p>Depending on the VMware version that you are running.</p> </li> <li>5. Under <b>Location</b>, select <b>Specify a datastore or Datastore cluster</b></li> <li>6. Click <b>Browse</b>.</li> <li>7. Select the datastore and folder for this appliance.</li> <li>8. Click <b>OK</b>.</li> <li>9. Click <b>Next</b>.</li> <li>10. Under the <b>Virtual Device Node</b> section, select <b>SCSI (2:0)</b>.</li> <li>11. Click <b>Next</b>.</li> <li>12. Click <b>Finish</b>.</li> <li>13. If you need to add network adapters, continue with <a href="#">6 - (Optional) Adding a Network Adapter</a>.</li> </ol> <p>Otherwise, click <b>OK</b> and skip to continue with <a href="#">“Deploying the Upgraded Filr VM” on page 104</a>.</p>

Page, Dialog, or Option	Do This
<b>6 - (Optional) Adding a Network Adapter</b>	
You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:	
<ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ Security of Memcached.</li> </ul>	
<b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.	
Virtual Machine Properties	1. Click <b>Add</b> .
Add Hardware	<ol style="list-style-type: none"> <li>1. Select <b>Ethernet Adapter</b>.</li> <li>2. Click <b>Next</b>.</li> <li>3. Under <b>Network Connection</b>, select the secondary network associated with the Filr installation.</li> <li>4. Click <b>Next &gt; Finish &gt; OK</b>.</li> </ol>
vSphere Client	1. Continue with <a href="#">"Deploying the Upgraded Filr VM" on page 104</a> .

## Upgrading a Filr Hyper-V VM

Complete the steps in [Table 10-6](#).

**Table 10-6** Upgrading a Filr Hyper-V VM

Page, Dialog, or Option	Do This
<b>1 - Open Hyper-V Manager.</b>	
Hyper-V Host Server	1. Open the Hyper-V Manager.
<b>2 - Create a new VM.</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In the left pane, right-click the server where you have planned to create the new virtual machine, then click <b>New &gt; Virtual Machine</b>.</li> </ol> <p>The New Virtual Machine Wizard displays.</p> <ol style="list-style-type: none"> <li>2. Click <b>Next</b>.</li> </ol>
Specify Name and Location	<ol style="list-style-type: none"> <li>1. Name the appliance with the name of the directory that you created for it in <a href="#">Step 4 on page 95</a>.</li> <li>2. Click <b>Next</b>.</li> </ol>
Specify Generation	<ol style="list-style-type: none"> <li>1. Make sure that <b>Generation 1</b> is selected.</li> <li>2. Click <b>Next</b>.</li> </ol>
<b>3 - Specify memory</b>	
Assign Memory	<ol style="list-style-type: none"> <li>1. In the <b>Startup RAM</b> field, specify the same amount of memory (in MB) of the appliance that you are replacing, or increase the memory as planned.</li> <li>2. Click <b>Next</b>.</li> </ol>

Page, Dialog, or Option	Do This
<b>4 - Assign network adapter</b>	
Configure Networking	<ol style="list-style-type: none"> <li>1. On the Configure Networking page, select the networking card for this VM.</li> <li>2. Click <b>Next</b>.</li> </ol>
<b>6 - Identify the system disk</b>	
Connect Virtual Hard Disk	<ol style="list-style-type: none"> <li>1. Select <b>Use an existing virtual hard disk</b>.</li> <li>2. Browse to and select the .vhd file in the folder you created for this appliance.</li> <li>3. Click <b>Open</b>.</li> <li>4. Click <b>Next</b>.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Click <b>Finish</b>.</li> </ol> <p>The VM is created and appears in the list of Virtual Machines.</p>
<b>7 - Specify processors</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In Hyper-V Manager, right-click the VM that you just created.</li> <li>2. Click <b>Settings</b>.</li> </ol>
Processor	<ol style="list-style-type: none"> <li>1. Click <b>Processor</b>.</li> <li>2. In the <b>Number of virtual processors</b> field, specify the number of processors for the VM.</li> <li>3. Click <b>Next</b>.</li> </ol>
<b>8 - Use existing copy of hard disk 2 (/vstorage).</b>	
Settings for <i>VM on Host Server</i>	<ol style="list-style-type: none"> <li>1. Add the copy you made of disk 2 to this VM.</li> <li>2. When you have added the disk, review the VM summary information and click <b>Finish</b>.</li> </ol>
<b>9 - Add hard disk 3 (/var).</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. In Hyper-V Manager, right-click the VM that you just created.</li> <li>2. Click <b>Settings</b>.</li> <li>3. Create a new blank virtual disk the same size as disk 3 on the appliance you are upgrading.</li> </ol>
Summary	<ol style="list-style-type: none"> <li>1. Review the summary information.</li> <li>2. Click <b>Finish &gt; OK</b></li> </ol>
<b>10 - (Optional) Add a Network Adapter</b>	
	<ol style="list-style-type: none"> <li>1. If the appliance you are upgrading has a secondary network adapter, add that now.</li> </ol>
<b>11 - Deploy the upgraded appliance</b>	
Hyper-V Manager	<ol style="list-style-type: none"> <li>1. Continue with <a href="#">“Deploying the Upgraded Filr VM” on page 104</a>.</li> </ol>

## Upgrading and Deploying a Filr Xen VM

Complete the steps in [Table 10-7](#).

**Table 10-7** Upgrading and Deploying a Filr Xen VM

Page, Dialog, or Option	Do This
<b>1 - Launch the installer.</b>	
Terminal prompt on Xen VM Host Server	<ol style="list-style-type: none"> <li>Run the following command to launch the GUI configuration menu:   <pre>vm-install</pre> <p>The Create a Virtual Machine wizard is displayed.</p> </li> </ol>
Create a Virtual Machine	<ol style="list-style-type: none"> <li>Click <b>Forward</b>.</li> </ol>
Install an Operating System?	<ol style="list-style-type: none"> <li>Select <b>I have a disk or disk image with an installed operating system</b>.</li> <li>Click <b>Forward</b>.</li> </ol>
Type of Operating System	<ol style="list-style-type: none"> <li>Select <b>SUSE Linux Enterprise Server 11</b>.</li> <li>Click <b>Forward</b>.</li> </ol>
<b>2 - Name the VM.</b>	
Summary	<ol style="list-style-type: none"> <li>Click <b>Name of Virtual Machine</b>.</li> </ol>
Name of Virtual Machine	<ol style="list-style-type: none"> <li>In the <b>Name</b> field, type the name of the appliance.             Use the name of the corresponding directory that you prepared for the appliance in <a href="#">Step 2 on page 95</a>.         </li> <li>(Optional) In the <b>Description</b> field, type additional information about the appliance.</li> <li>Click <b>Apply</b>.</li> </ol>
<b>3 - Specify the RAM and Virtual Processors.</b>	
Summary	<ol style="list-style-type: none"> <li>Click <b>Hardware</b>.</li> </ol>
Hardware	<ol style="list-style-type: none"> <li>Change the <b>Initial Memory</b> and <b>Maximum Memory</b> set the amount of memory (in MB) to match that of the VM you are upgrading.</li> <li>Change the <b>Virtual Processors</b> setting to match the number of the VM you are upgrading.</li> <li>Click <b>Apply</b>.</li> </ol>
<b>4 - Configure the boot disk</b>	
Summary	<ol style="list-style-type: none"> <li>Click <b>Disks</b>.</li> </ol>
Disks	<ol style="list-style-type: none"> <li>Click the <b>Harddisk</b> button.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>Click the <b>Browse</b> button.</li> </ol>
Locate Disk or Disk Image.	<ol style="list-style-type: none"> <li>Navigate to the contents of the folder for the appliance you are creating.</li> <li>Select the <code>.raw</code> file.</li> <li>Click <b>Open</b>.</li> </ol>
Virtual Disk	<ol style="list-style-type: none"> <li>Click <b>OK</b>.</li> </ol>
<b>5 - Configure disk 2 (/vastorage)</b>	

Page, Dialog, or Option	Do This
Disks	1. Click the <b>Harddisk</b> button.
Virtual Disk	1. Click the <b>Browse</b> button.
Locate Disk or Disk Image.	1. Select the <code>.raw</code> file for Disk 2. 2. Click <b>Open</b> .
Virtual Disk	1. Click in the <b>Source</b> field. 2. Press the End key. 3. Use the Backspace key to erase the filename so that the path ends with the forward slash (/) that follows the appliance's folder name. 4. Type a name of the copy of disk 2 for this appliance. 5. When you finish linking to the disk, click <b>OK</b> .
<b>6 - Configure disk 3 (/var)</b>	
Disks	1. Click the <b>Harddisk</b> button.
Virtual Disk	1. Click the <b>Browse</b> button.
Locate Disk or Disk Image.	1. Select the <code>.raw</code> file. 2. Click <b>Open</b> .
Virtual Disk	1. Click in the <b>Source</b> field. 2. Press the End key. 3. Use the Backspace key to erase the filename so that the path ends with the forward slash (/) that follows the appliance's folder name. 4. Type a disk name that reflects the appliance name and that this is disk 3. For example, Filr-192.168.1.61-disk-3. 5. Do not change the <b>Storage Format</b> . 6. Change the <b>Size</b> field value to match the size of disk 3 in the appliance you are upgrading. 7. Click <b>OK</b> .
Disks	1. Click <b>Apply</b> . 2. If you need to add network adapters, continue with <a href="#">“7 - (Optional) Add a Network Adapter.”</a> Otherwise, click <b>OK</b> and continue with <a href="#">“8 - Deploy the Appliance.”</a>
<b>7 - (Optional) Add a Network Adapter</b>	
<p>You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>◆ Appliance administration.</li> <li>◆ Security of Memcached.</li> </ul> <p><b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.</p>	
Summary	1. Click <b>Network Adapters</b> .

Page, Dialog, or Option	Do This
Network Adapters	1. Click <b>New</b> .
Virtual Network Adapter	1. Specify the settings for the adapter. 2. Click <b>Apply</b> .
Network Adapters	1. Click <b>Apply</b> .
Summary	1. Click <b>OK</b> .  The virtual machine is created, the appliance starts, and the configuration process begins.
Console	<b>8 - Deploy the Appliance</b>  1. Access the appliance's console. 2. When prompted, enter the root and vaadmin passwords for the appliance. The upgrade process proceeds automatically. 3. When the appliance displays the final screen in the console window, open your management browser and log in to the appliance on port 9443 as the vaadmin user.
Port 9443 Admin Console	1. Check the following: <ul style="list-style-type: none"> <li>♦ <b>MySQL (optional) :</b> <ul style="list-style-type: none"> <li>♦ Click the phpMyAdmin icon.</li> <li>♦ Verify that the database is populated as expected.</li> </ul> </li> <li>♦ <b>Filr:</b> <ul style="list-style-type: none"> <li>♦ Click the Filr configuration icon.</li> <li>♦ Ensure that all of the settings are in place as expected.</li> <li>♦ If the configuration wizard displays, there was a problem with the configuration.</li> <li>♦ Resolve the configuration issues, then click Finish to reconfigure the system.</li> </ul> Common configuration issues include: <ul style="list-style-type: none"> <li>♦ If your system is not using DNS, the most likely problem is unresolvable DNS names and missing /etc/hosts entries.</li> <li>♦ If the appliance doesn't have access to the database, ensure that all of the settings are as expected.</li> </ul> </li> </ul> 2. When the appliance is running, continue with " <a href="#">Performing Filr Post-Upgrade Tasks</a> ."

## Upgrading Citrix Xen VMs

Complete the steps in [Table 10-8](#).

**Table 10-8** Upgrading a Citrix Xen VM

Page, Dialog, or Option	Do This
<b>1 - Launch XenCenter.</b>	
Management Workstation	1. Start XenCenter.
XenCenter	1. Connect to the Citrix XenServer where you planned to deploy Filr. 2. Right-click the server and select <b>Import</b> .
<b>2 - Import the system disk</b>	
Locate the File you want to import	1. Browse to and select the .xva file on your management workstation. 2. Click <b>Open</b> . 3. Click <b>Next</b> .
Select the location where the imported VM will be placed	1. Select the XenServer. 2. Click <b>Next</b> .
Select target storage	1. Select the storage repository for the VM that you used in <a href="#">Step 2 on page 95</a> . 2. Click <b>Import</b> .
<b>3 - Select the network adapter</b>	
Select network to connect VM	1. Select the virtual network adapter. 2. Click <b>Next</b> .
Review the import settings	1. Deselect <b>Start VM(s) after import</b> . 2. Click <b>Finish</b> .  <b>IMPORTANT:</b> Depending on network latency and other factors, it can take a while to import the system disk.
<b>4 - Specify Memory</b>	
	1. If you need to adjust the memory to the amount of memory, select the newly created VM in the left pane. 2. Click the <b>Memory</b> tab. 3. Click <b>Edit</b> , change the setting, and click <b>OK</b> .
<b>5 - Specify Processors</b>	
	1. If you need to adjust the CPUs, right-click the newly created VM in the left pane. 2. Select <b>Properties</b> . 3. Click <b>CPU</b> , change the setting, and click <b>OK</b> .
<b>6 - Link to Disk 2 (/vastorage)</b>	
	1. With the newly created VM selected in the left pane, add the copy of disk 2 for this appliance.
<b>8 - Add Disk 3 (/var)</b>	
Virtual Disks	1. Click <b>Add....</b>

Page, Dialog, or Option	Do This
Add Virtual Disk	<ol style="list-style-type: none"> <li>1. Type a disk name that reflects the appliance name and that this is disk 3. For example, Filr-1-disk-3.</li> <li>2. Change the <b>Size</b> field value to match that of the appliance you are replacing.</li> <li>3. Click <b>Add</b>.</li> </ol>
<b>9 - (Optional) Add a Network Adapter</b>  You can add a network adapter if your Filr deployment accesses a separate network for one or more of the following reasons: <ul style="list-style-type: none"> <li>♦ Appliance administration.</li> <li>♦ Security of Memcached.</li> </ul> <b>IMPORTANT:</b> Bonding or teaming NICs is not supported with Filr.	
	<ol style="list-style-type: none"> <li>1. With the newly created VM selected in the left pane, click the <b>Networking</b> tab.</li> <li>2. Select the secondary network associated with the Filr installation..</li> </ol>
XenCenter	<ol style="list-style-type: none"> <li>1. Continue with <a href="#">“Deploying the Upgraded Filr VM” on page 104</a>.</li> </ol>

## Deploying the Upgraded Filr VM

- 1 Power on the appliance.
- 2 Access the appliance's console.
- 3 When prompted, enter the root and vaadmin passwords for the appliance.  
The upgrade process proceeds automatically.
- 4 When the appliance displays the final screen in the console window, open your management browser and log in to the appliance on port 9443 as the vaadmin user.
- 5 Check the following:
  - ♦ **MySQL :**
    - ♦ Click the phpMyAdmin icon.
    - ♦ Verify that the database is populated as expected.
  - ♦ **Filr:**
    - ♦ Click the Filr configuration icon.
    - ♦ Ensure that all of the settings are in place as expected.
    - ♦ If the configuration wizard displays, there was a problem with the configuration.
    - ♦ Resolve the configuration issues, then click Finish to reconfigure the system.
 Common configuration issues include:
    - ♦ If your system is not using DNS, the most likely problem is unresolvable DNS names and missing /etc/hosts entries.
    - ♦ If the appliance doesn't have access to the database, ensure that all of the settings are as expected.
- 6 When the appliance is running, continue with [“Performing Post-Upgrade Tasks.”](#)



## Performing Filr Post-Upgrade Tasks

After upgrading to a new version of Filr, you should perform the following tasks to ensure a fully functional Filr system:

- ♦ [“\(Optional\) Enable Net Folder Sharing” on page 105](#)
- ♦ [“Install Your New Filr License” on page 105](#)

### (Optional) Enable Net Folder Sharing

Folder sharing is a new feature in Filr 3.0 with an Advanced-Edition license installed.

If you have Net Folders where you want users to be able to share folders as well as files, you must grant folder sharing rights using the [Recipient can share folders in this Net Folder with:](#) option as documented in [“Grant Rights dialog”](#) in the *Filr 3.3: Administrative UI Reference*.

### Install Your New Filr License

Upgraded Filr appliances have a 60-day evaluation license installed.

To prevent a service interruption, you must install your new license by following the instructions in [“Installing/Updating the Filr License”](#) in the *Filr 3.3: Administrative UI Reference*.



# 11 Updating to Filr 3.3

Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later. Previous upgrade methods do not apply to Filr 3.3. Note the following:

- ♦ **No Separate Hypervisor-specific Downloads:** The virtual machine configurations are not impacted.

For information about using the Online Update feature, see “[Using the Online Update dialog](#)” in the *Filr 3.3: Administrative UI Reference*.

---

## IMPORTANT

- ♦ We recommend that you schedule online updates only for updating non-interactive patches on Filr Appliance 3.1.1 or later.
- ♦ If you change the IP address of the proxy server that is configured on the Filr Appliances, then you must update the proxy server configuration on the Filr Appliances before registering and applying the online updates:
  1. On the Filr Appliance, use the Yast Proxy Management tool to reconfigure the proxy server.
  2. Launch a new terminal.
  3. Run the following command to restart the datamodel services:

```
rcnovell-datamodel restart
```
  4. Run the following command to restart the jetty services:

```
rcnovell-jetty restart
```

---

Review the following sections:

- ♦ “[Updating an All-in-One \(Small\) Deployment](#)” on page 107
- ♦ “[Updating a Large Filr Deployment](#)” on page 108

## Updating an All-in-One (Small) Deployment

- 1 Ensure that the version of the Filr appliance is 3.0 or later.
- 2 Log in to the Filr Appliance Configuration Console ([https://appliance\\_ip\\_or\\_dns:9443](https://appliance_ip_or_dns:9443)) as vaadmin.
- 3 Click **Online Update**.
- 4 In the Patches drop-down option, select **Needed Patches** and ensure that the Filr 3.3 patch update is listed.
- 5 Click **Update Now**.
- 6 In the Update Now dialog, do the following:
  - 6a In the Apply drop-down option, select **All Needed Patches**.
  - 6b Select both the **Automatically agree with all license agreements** and the **Automatically install all interactive patches** options.

---

**IMPORTANT:** The Filr 3.3 update is an interactive update and requires you to select both the options before you run the update. If you do not select these options, the update process fails. However, the progress bar incorrectly displays that the update is in progress.

---

- 7 Click **OK**.

A progress bar displays the status of the update. After the update completes, select the **Installed Patches** option in the drop-down and verify that the Filr 3.3 patch is listed there.

## Updating a Large Filr Deployment

---

**IMPORTANT:** Before you apply this update on any appliance, you must stop the Filr service on all the Filr appliances in order to avoid interruptions to the service when it is restarted.

---

Perform the following steps on every Filr appliance in the cluster:

- 1 Ensure that the version of the Filr appliance is 3.0 or later.
- 2 Log in to the Filr Appliance Configuration Console ([https://appliance\\_ip\\_or\\_dns:9443](https://appliance_ip_or_dns:9443)) as vaadmin.
- 3 Click **Online Update**.
- 4 In the Patches drop-down option, select **Needed Patches** and ensure that the Filr 3.3 patch update is listed.
- 5 Click **Update Now**.
- 6 In the Update Now dialog, do the following:
  - 6a In the Apply drop-down option, select **All Needed Patches**.
  - 6b Select both the **Automatically agree with all license agreements** and the **Automatically install all interactive patches** options.

---

**IMPORTANT:** The Filr 3.3 update is an interactive update and requires you to select both the options before you run the update. If you do not select these options, the upgrade process fails. However, the progress bar incorrectly displays that the upgrade is in progress.

---

- 7 Click **OK**.

A progress bar displays the status of the update. After the update completes, select the **Installed Patches** option in the drop-down and verify that the Filr 3.3 patch is listed there.

# 12 Setting Up Sharing

---

**IMPORTANT:** Filr 3.3 is available as an online update to Filr 3.0, MySQL 3.0, and Filr Search 3.0 appliances or later.

- ♦ **To Install a New Filr 3.3 Appliance:** You must install and configure Filr 3.0, and then apply the 3.3 updates. To apply the Filr 3.3 updates, see [Chapter 11, “Updating to Filr 3.3,” on page 107](#).

---

Before users can share, they must have sharing enabled for them at the Filr system level, either individually or as a member of a group.

After that, sharing of My Files is enabled by default, but sharing in Net Folders requires additional steps.

Use the following sections as a guide through the process of setting up sharing.

- ♦ [“Enabling Users to Share” on page 109](#)
- ♦ [“Do Not Enable Sharing for All Internal Users and All External Users” on page 114](#)
- ♦ [“System-Level Sharing Must Be Configured First” on page 115](#)
- ♦ [“My Files Sharing Is Automatic” on page 115](#)
- ♦ [“Net Folder Sharing Must Be Explicitly Allowed At Two Levels” on page 116](#)

## Enabling Users to Share

- ♦ [“Best Practices for Setting Up Sharing” on page 109](#)
- ♦ [“General Order for Setting Up Sharing” on page 110](#)
- ♦ [“Enabling Sharing for Specific Net Folders” on page 114](#)

## Best Practices for Setting Up Sharing

- ♦ **Enable Sharing for the Filr System:** You must enable the sharing feature before any sharing can take place on the Filr system.

As a best practice, enable sharing in an unrestricted way for those users and groups that will be allowed to share.

- ♦ **If Needed, Restrict My Files Sharing:** Enabling sharing automatically lets all users share files in their My Files area, including in their Home folder and in personal storage.

You can restrict My Files sharing on a per-user basis if desired.

- ♦ **Carefully Restrict Net Folder Sharing:** Net Folder sharing must be explicitly allowed for each Net Folder.

---

**IMPORTANT:** Make sure that only those who need to share a Net Folder’s contents are granted sharing rights on that Net Folder.

For example, Group A is granted rights to share files in Net Folder A. User A (a member of Group A) then shares a file with User B (a member of Group B). Because the file contains sensitive information, User A doesn’t grant User B permission to reshare the file.

As long as User B doesn't have rights to share files in Net Folder A, there is no problem.

However, if Group B also has permission to share Net Folder A's files, then User B can reshare the file even though User A assumed otherwise.

---

## General Order for Setting Up Sharing

When you set up sharing for your Filr site, complete the necessary steps in the following order:

- 1 Set up sharing for the entire Filr site (as described in [“Enabling Sharing in Filr” on page 110](#)).
- 2 Configure sharing for individual users (as described in [“Restricting Personal Storage Sharing” on page 113](#)).

After you have enabled sharing for the entire Filr system, you can fine-tune share rights throughout the site on the user level.

For example, if you want only a few groups of users to be allowed to share with external users, you first need to enable sharing to external users at the site level. After you have enabled it at the site level, you can then remove this ability from the users who you do not want to have this ability.

- 3 Set up sharing for specific Net Folders (as described in [“Enabling Sharing for Specific Net Folders” on page 114](#)).

Users who are given share rights on a specific Net Folder are able to share files within that Net Folder that they have rights to at least view on the file system.

## Enabling Sharing in Filr


After you set up sharing for the entire Filr site, all users by default are granted rights to share files in the My Files area (this includes files in the Home folder and files in personal storage), with the site-wide access rights that you specify. If you want only certain users to be allowed to share files from their My Files area, you must enable sharing for the entire site as described in this section. Then you must restrict sharing privileges at the user level, as described in [“Restricting Personal Storage Sharing” on page 113](#).

- 1 Log in to the Filr site as the Filr administrator.
  - 1a Launch a web browser.
  - 1b Specify one of the following URLs, depending on whether you are using a secure SSL connection:

```
http://Filr_hostname:8080
https://Filr_hostname:8443
```

Replace *Filr\_hostname* with the hostname or fully qualified domain name of the Filr server that you have set up in DNS.

Depending on how you have configured your Filr system, you might not be required to enter the port number in the URL. If you are using NetIQ Access Manager, the Filr login screen is not used.

- 2 Click the **admin** link in the upper-right corner of the page, then click the **Administration Console** icon .
- 3 Under **System**, click **Share Settings**.

The Share Settings page is displayed.

Share Settings

**Rights**    Whitelist / Blacklist

☒ Allow all users to share with groups that have been imported from LDAP

Select a user or group to add to the list and then grant share rights.

User or Group:

Name	Rights	Type
No one has been selected.		

- 4 Select **Allow all users to share with groups that have been imported from LDAP** to enable users to share with LDAP groups.

If you select this option, groups that were imported from the LDAP directory are displayed in the **Share with** field when users are sharing an item (as described in “[Sharing Files and Folders](#)” in the [Filtr 3.3: User Access Guide](#)). All users in the LDAP group then have access to the item that was shared.

## Enabling Users and Groups for Net Folder Sharing

- 1 To enable sharing for all internal users on the Filr site, go to the **User or Group** field, begin typing `All Internal Users`, then select it when it appears in the drop-down list.

or

To enable sharing on a per-user or per-group basis, go to the **Select user/group** field, begin typing the name of the user or group for whom you want to grant share rights, then select the name when it appears in the drop-down list.

The Edit Share Rights dialog box is displayed. Select from the following options:

**Re-share items:** When users share a file or folder, they can give the users they are sharing with the ability to re-share the file or folder. The user receiving the share can share the file only if that user has been given administrative rights to share the file or folder.

---

**IMPORTANT:** When selecting this option, be aware that if one user's access rights to an item are removed, it does not remove the access rights of the user with whom the item was re-shared.

For example, suppose User A shares an item with User B and grants re-share rights. User B then shares the item with User C. If User A revokes User B's access rights to the item, User C continues to have access to the shared item.

---

**Share with Internal users:** Allows users to share items with internal users.

**Share with “All Internal Users” group:** Allows users to perform a mass share to all internal users by sharing with the `All Internal Users` group.

**Share with External users:** Allows users to share items with users external to the organization. Users external to the organization receive an email notification with a link to the shared item, and they can then log in to the Filr site. For more information, see “[Sharing with People Outside Your Organization](#)” in the [Filtr 3.3: User Access Guide](#).

**Share with Public:** Allows users to make items publicly available. This means that anyone with the correct URL to the shared item can access the shared item without logging in to the Filr site.

In addition to selecting this option, you also need to enable Guest access to the Filr site if you want to allow users to share items with the public. For information about how to enable Guest access to the Filr site, see

**Share using File Link:** Allows users to share a link to a file in Filr. Any user with the link can then access the file. However, the file is not displayed in the Public area, so users must have direct access to the link in order to access the file.

---

**NOTE:** If you select this option, users can share a link of the Filr file even with email addresses that are listed in the **Blacklist** field.

---

For more information about File Links, see “[Distributing a Link to a File](#)” in the [Filr 3.3: User Access Guide](#).

- 2 (Optional) Click the **Whitelist / Blacklist** tab to configure which email addresses and domains users can share with when sharing externally.

Share Settings

Rights **Whitelist / Blacklist**

Specify email addresses and domains that may (whitelist) or may not (blacklist) be shared with as external shares.

**Mode**

- ☒ No restrictions - Lists are ignored
- ☐ Whitelist - Email addresses and domains that may be shared with
- ☐ Blacklist - Email addresses and domains that may not be shared with

**Email addresses**

Add... Delete

**Domains**

Add... Delete

☐ Delete shares that don't meet the criteria

The following options are available when configuring a whitelist or blacklist for sharing:

**No restrictions:** Select this option to disregard any email addresses or domains that might already exist in the **Email addresses** and **Domains** fields. Selecting this option means that users can share with any email address.

**Whitelist:** Select this option to allow sharing only with email addresses and domains that have been specified in the **Email addresses** and **Domains** fields.

**Email addresses:** Click **Add**, specify the email address that you want to add to the whitelist or blacklist, then click **OK**.

**Blacklist:** Select this option to disallow sharing with any email addresses and domains that have been specified in the **Email addresses** and **Domains** fields.

Repeat this process to add multiple email address.



---

**NOTE:** If a user has **Share using File Link** rights, the user can share links of Filr files even with the blacklisted email addresses.

---

**Domains:** Click Add, specify the domain that you want to add to the whitelist or blacklist (for example, `yahoo.com`), then click **OK**.

Repeat this process to add multiple domains.

**Delete shares that don't meet the criteria:** Select this option to delete all existing shares in the Filr system that do not match the criteria you set.

For example, if you selected **Blacklist** and then specified `yahoo.com` in the **Domains** field, selecting this option would delete all Filr shares made to Yahoo email addresses.

- 3 Click **OK**.

## Restricting Personal Storage Sharing

After you have enabled sharing of files for the entire Filr system (as described in “[Enabling Sharing in Filr](#)” on page 110), you can restrict shared-access right granting on an individual-user basis.

You cannot grant individual users more rights than are currently defined for the site-wide setting.

To restrict share rights for specific users:

- 1 Log in to the Filr site as the Filr administrator.


- 1a Launch a web browser.

- 1b Specify one of the following URLs, depending on whether you are using a secure SSL connection:

```
http://Filr_hostname:8080
https://Filr_hostname:8443
```

Replace `Filr_hostname` with the hostname or fully qualified domain name of the Filr server that you have set up in DNS.

Depending on how you have configured your Filr system, you might not be required to enter the port number in the URL. If you are using NetIQ Access Manager, the Filr login screen is not used.

- 2 Click the **admin** link in the upper-right corner of the page, then click the **Administration Console** icon .
- 3 Under **Management**, click **Users**.
- 4 Select the users whose sharing rights you want to manage, then click **More > Workspace Share Rights**.

Set User Workspace Sharing Rights (1 users)

Allow Sharing with:	Allow	Clear
Internal Users	<input checked="" type="radio"/>	<input type="radio"/>
External Users	<input checked="" type="radio"/>	<input type="radio"/>
Public	<input checked="" type="radio"/>	<input type="radio"/>
Filtr Link	<input checked="" type="radio"/>	<input type="radio"/>

---

	Allow	Clear
Allow Re-Sharing of granted rights	<input checked="" type="radio"/>	<input type="radio"/>

OK Cancel

- 5 Select the radio button in the **Clear** column next to the sharing right that you want to remove from the user or group, then click **OK**.

or

If you have already removed a share right and you want to add it again, select the radio button in the **Allow** column next to the sharing right that you want to add to the user or group, then click **OK**.

## Enabling Sharing for Specific Net Folders

- 1 Ensure that you have configured sharing as described in [“Enabling Sharing in Filr” on page 110](#).
- 2 Configure sharing for the Net Folder as described in ).

## Do Not Enable Sharing for All Internal Users and All External Users

Prior to the release of Filr 2.0, the documentation stated that enabling sharing for `All Internal Users` and `All External Users` was an acceptable method of enabling sharing on the system.

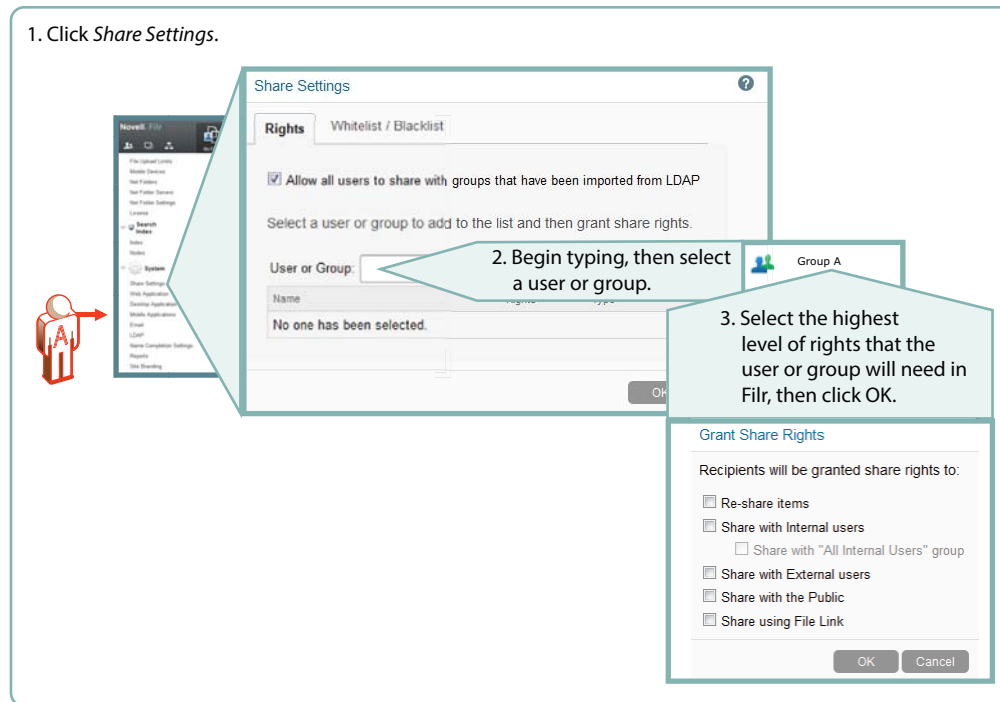
Unfortunately, this shortcut results in significant system overhead and often leads to serious performance degradation.

We strongly recommend that you enabling sharing only for specific users and/or groups, as outlined in the sections that follow.

# System-Level Sharing Must Be Configured First

The first step in allowing Filr sharing to take place is to list the users and groups who are allowed to share in the Share Settings dialog. When you add the user or group, you also specify the upper limits of possible sharing rights for them. You can further restrict the rights, but you can't expand them beyond this limit.

**Figure 12-1** Setting Up System-Level Sharing Rights

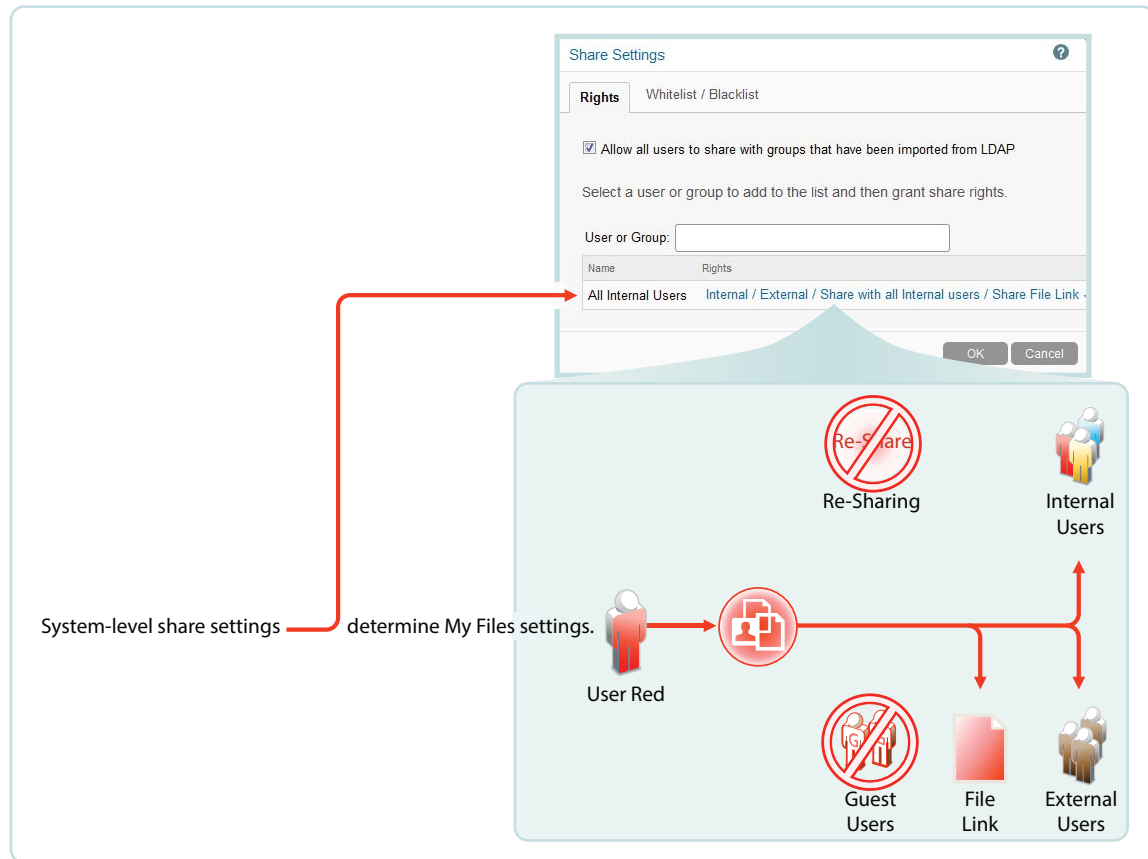


## My Files Sharing Is Automatic

After sharing is enabled at the system level for users individually or as members of groups, then if those users have personal storage enabled, they can share their files and folders within the limitations set for the system.

Administrators can disable sharing of files and folders in My Files on an individual user basis.

**Figure 12-2** My Files Share Settings



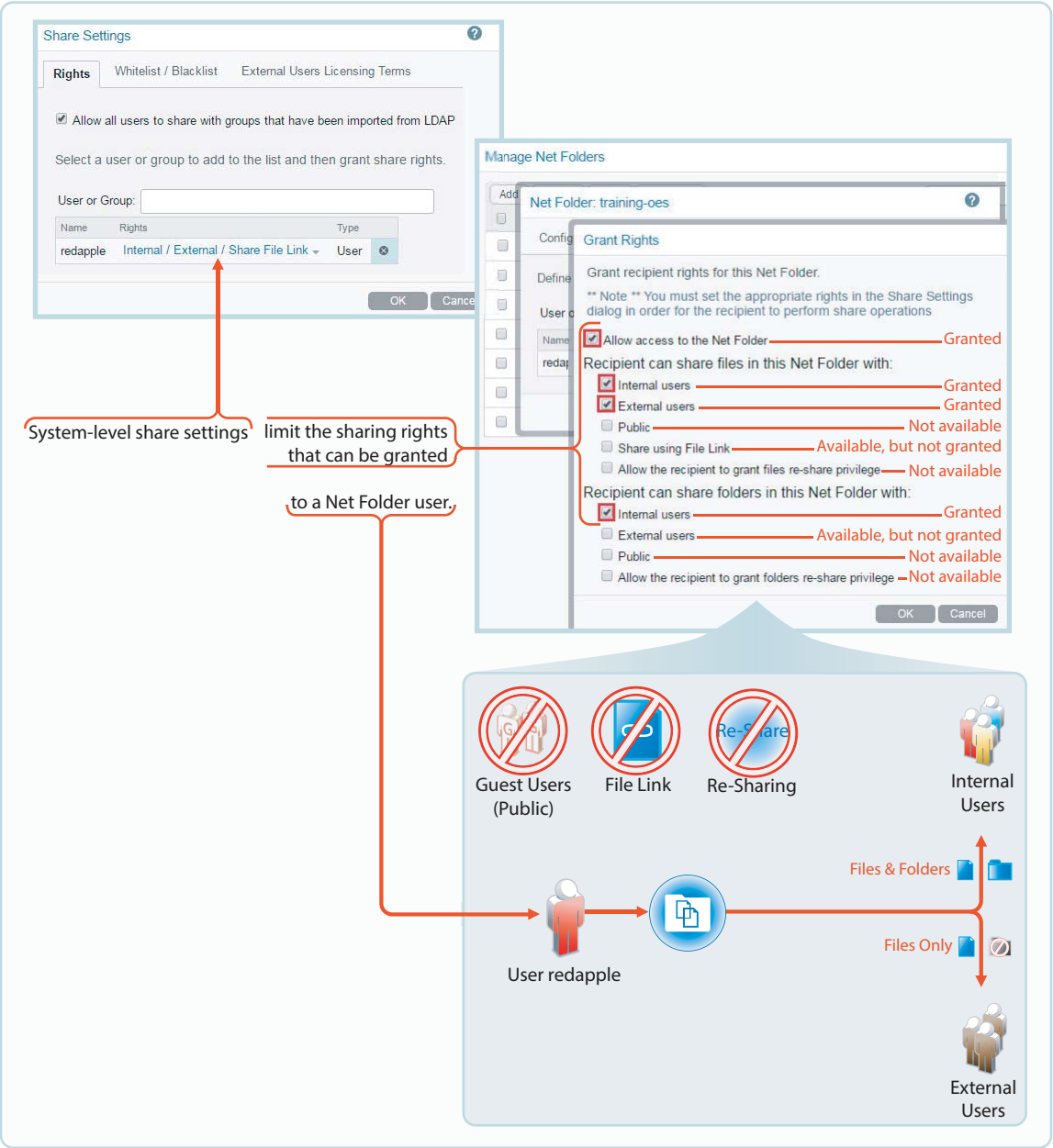
## Net Folder Sharing Must Be Explicitly Allowed At Two Levels

Before the users or groups listed in the Share Settings dialog can share files and folders in their assigned Net Folders, they must have sharing enabled on those Net Folders.

When enabling Net Folder access for a user or group, a Filr administrator can only assign up to the maximum sharing rights that are set at the system level.

In [Figure 12-3](#), user red can only be assigned sharing rights that are allowed at the system level.

Figure 12-3 An Example of Net Folder Sharing





# Appendixes

The following:

- ♦ [Appendix A, “Access Manager \(NAM\) and Filr Integration,” on page 121](#)
- ♦ [Appendix B, “All-in-One \(Small\) Deployment—Creating,” on page 129](#)
- ♦ [Appendix C, “MySQL Appliance—Configuring \(Alternate Practice\),” on page 131](#)
- ♦ [Appendix D, “Non-Expandable Deployment—Creating,” on page 133](#)
- ♦ [Appendix E, “OES 2015 NSS AD as a Net Folder Server,” on page 135](#)
- ♦ [Appendix F, “SCSI Controller Type—Changing on VMware,” on page 137](#)
- ♦ [Appendix G, “Troubleshooting the Filr Installation and Upgrade,” on page 139](#)
- ♦ [Appendix H, “Third-Party Materials,” on page 141](#)





# A Access Manager (NAM) and Filr Integration

You can configure NetIQ Access Manager (NAM) to act as Proxy service for a Filr site. This helps you provide the ease of single sign-on and establish a trusted relationship with the Access Gateway. Using Micro Focus Filr in conjunction with NetIQ Access Manager adds enterprise-level security to your Filr system.

---

**NOTE:** Guest users cannot access Filr through NAM.

---

Review the following sections:

- ♦ [“Overview” on page 121](#)
- ♦ [“Configuring Filr Ports” on page 122](#)
- ♦ [“Downloading and Installing the Filr Authentication Plugin” on page 122](#)
- ♦ [“Configuring the NAM Identity Server” on page 122](#)
- ♦ [“Configuring a Reverse-Proxy Single Sign-On Service for Micro Focus Filr” on page 124](#)

## Overview

To integrate Filr with NAM, you must configure the NetIQ Access Manager Identity Server, the Access Gateway, and configure protected resources for a Micro Focus Filr server.

- ♦ [“Filr 3.1 and NAM” on page 121](#)

## Filr 3.1 and NAM

The integration of Filr 3.1 with NAM allows both LDAP and non-LDAP (local and external) users to log in to Filr through NAM. However, guest users cannot access Filr 3.1 through NAM.

To integrate Filr 3.1 with NAM for non-LDAP users, you must create new classes, methods, and contracts in NAM. For LDAP users, you can either use the predefined NAM classes, methods, and contracts, or create new ones. If you have both LDAP and non-LDAP users, then you can create a new class, method, and contract to support the authentication for both LDAP and non-LDAP users.

Filr 3.1 introduces a new authentication plugin to enable both LDAP and non-LDAP (local and external) users to log in to Filr through NAM. To download and install the authentication plugin, see [“Downloading and Installing the Filr Authentication Plugin” on page 122](#).

Filr 3.1 requires Access Manager 4.2 or later. For information about NetIQ Access Manager, see the [Access Manager Documentation website](#).

# Configuring Filr Ports

Use the following port configuration when NetIQ Access Manager is fronting your Filr system:

- ♦ HTTP Port: 80
- ♦ Secure HTTP Port: 443

You must configure the port on the **Reverse Proxy** and **Network** page of the Port 9443 Appliance Console. For more information, see “[Reverse Proxy Configuration Settings](#)” and “[Network Configuration](#)” in the *Filr 3.3: Administrative UI Reference*.

## Downloading and Installing the Filr Authentication Plugin


To enable Filr 3.1 users to access the Filr services through NetIQ Access Manager (NAM), Filr provides an authentication plugin that you must download and install on the NAM server that you want to use as a proxy server.

**To download and install the plugin:**

- 1 Open a browser on your administrative workstation and access the Port 9443 Appliance Console on the first Filr appliance using the following URL:

`https://Filr_IP_Address:9443`

Where *Filr\_IP\_Address* is the IP address of the Filr appliance.

- 2 Click the **Configuration**  and then click **Reverse Proxy**.
- 3 In the NetIQ Access Manager Integration section, click **Filr Plugin for NAM** to download the `FilrAuthClass.jar` file.
- 4 Copy the `FilrAuthClass.jar` file to the following locations on the NAM server:
  - ♦ **Linux:** `/opt/novell/nids/lib/webapp/WEB-INF/lib`
  - ♦ **Windows:** `C:\Program Files (x86)\Novell\Tomcat\webapps\nidp\WEB-INF\classes`
- 5 Run the following commands to restart the Identity Server and the Access Gateway:
  - ♦ **Identity Server:** `/etc/init.d/novell-idp restart`
  - ♦ **Access Gateway:** `/etc/init.d/novell-mag restart`

## Configuring the NAM Identity Server

- ♦ “[Configuring the Identity User Store](#)” on page 122
- ♦ “[Creating the Authentication Class](#)” on page 123
- ♦ “[Creating the Authentication Method](#)” on page 123
- ♦ “[Creating the Authentication Contract](#)” on page 123

## Configuring the Identity User Store

Configure an identity user store to which the Filr users should authenticate. See “[Configuring Identity User Stores](#)” in the *NetIQ Access Manager Administration Guide*.

## Creating the Authentication Class

Authentication classes let you define ways of obtaining end-user credentials.

Perform the following steps to create a class:

- 1 Log in to the NAM Administration Console.
- 2 Click **Devices > Identity Server > Servers > Edit > Local > Classes**.
- 3 Click **New** to launch the Create Authentication Class wizard, then fill in the following fields:
  - ♦ **Display name:** Specify a name for the class.
  - ♦ **Java class:** Select **Other**.
  - ♦ **Java class path:** Specify `com.novell.nam.authentication.FilrAuthClass`.
- 4 Click **Next** and then click **New** to add the following properties for the class:
  - ♦ **Property Name:** Specify `FilrWsURL`.
  - ♦ **Property Value:** Specify the HTTP or HTTPS URL of the Filr server in the format:  
`http(s)://IP_Address_of_Filr_Server:port_number`.
- 5 Continue with [Creating the Authentication Method](#).

## Creating the Authentication Method

Authentication methods let you associate authentication classes with user stores.

- 1 Log in to the NAM Administration Console.
- 2 click **Devices > Identity Server > Servers > Edit > Local > Methods**.
- 3 Click **New** to launch the Create Authentication Method wizard, then fill in the following fields:
  - ♦ **Display name:** Specify a name for the method.
  - ♦ **Class:** Specify the name of the class that you created in [Creating the Authentication Class](#).
  - ♦ **Identifies User:** Ensure that this option is selected.
  - ♦ **User stores:** Add user stores to search. You can select from the list of all the user stores you have set up. If you have several user stores, the system searches through them based on the order specified here. If a user store is not moved to the User stores list, users in that user store cannot use this method for authentication.
- 4 Continue with [Creating the Authentication Contract](#).

## Creating the Authentication Contract

Authentication contracts define how authentication occurs. Perform the following steps to create a new contract with the authentication method you created in [Creating the Authentication Method](#).

- 1 Log in to the NAM Administration Console.
- 2 click **Devices > Identity Server > Servers > Edit > Local > Contracts**.
- 3 Click **New** to launch the Create Authentication Method Wizard, then fill in the following fields:
  - ♦ **Display name:** Specify a name for the contract.
  - ♦ **Methods:** Add the authentication methods that you created before from the list of the available methods.

- 4 To save the configuration changes, click **Devices** > **Identity Servers**, then click **Update All**.
- 5 Continue with [“Configuring a Reverse-Proxy Single Sign-On Service for Micro Focus Filr” on page 124](#).

## Configuring a Reverse-Proxy Single Sign-On Service for Micro Focus Filr

The Access Gateway can be configured as a reverse proxy server that provides single sign-on to Filr and restricts access to the Filr server by securely providing credential information for authenticated users.

To configure a reverse-proxy single sign-on service for Filr, complete the following tasks:

- ♦ [“Creating a New Reverse Proxy” on page 124](#)
- ♦ [“Configuring the Proxy Service” on page 124](#)
- ♦ [“Creating Policies” on page 125](#)
- ♦ [“Configuring Protected Resources” on page 126](#)
- ♦ [“Configuring a Rewriter Profile” on page 127](#)

### Creating a New Reverse Proxy

You must ensure that the Reverse Proxy that you use for integrating NAM with Filr listens on the default HTTP (port 80) and HTTPS (port 443) ports.

Before you can configure the proxy service, you need to create a new reverse proxy. See [“Configuring a Reverse Proxy” in the NetIQ Access Manager Administration Guide](#).

### Configuring the Proxy Service

- 1 In the NAM Administration Console, click **Devices** > **Access Gateways** > **Edit**, then click the name of the reverse proxy that you created in [“Creating a New Reverse Proxy” on page 124](#).
- 2 In the **Reverse Proxy List**, click **New** and then fill in the following fields:
  - Proxy Service Name:** Specify a display name for the proxy service.
  - Published DNS Name:** Specify the publicly-available DNS name for accessing your Filr site. This DNS name must resolve to the IP address you set up as the listening address. For example, `filr.doc.provo.microfocus.com`.
  - Web Server IP Address:** Specify the IP address of the Filr server.
  - Host Header:** Select **Forward Received Host Name**.
  - Web Server Host Name:** Because of your selection in the **Host Header** field, this option is dimmed.
- 3 Click **OK**.
- 4 Click the newly added proxy service, then select the **Web Servers** tab.
- 5 Change the **Connect Port** to the default HTTP or HTTPS Filr web service port.
- 6 Click **OK**.
- 7 Continue with [“Creating Policies” on page 125](#).

## Creating Policies

You need to create two policies: LDAP Identity Injection and X-Forwarded-Proto:

- ♦ [“Creating the LDAP Identity Injection Policy” on page 125](#)
- ♦ [“Creating the X-Forwarded-Proto HTTP Header Policy” on page 125](#)

### Creating the LDAP Identity Injection Policy

- 1 In the NAM Administration Console, click **Policies > Policies**.
- 2 Select the policy container, then click **New**.
- 3 Specify `ldap_auth` as the name for the policy, select **Access Gateway: Identity Injection** for the type, then click **OK**.
- 4 (Optional) Specify a description for the injection policy. This is useful if you plan to create multiple policies to be used by multiple resources.
- 5 In the **Actions** section, click **New**, then select **Inject into Authentication Header**.
- 6 Fill in the following fields:
  - User Name:** If users are provisioned with `cn` or `uid` attributes, select **Credential Profile**, then select **LDAP Credentials:LDAP User Name**. In the **Refresh Data Every** drop-down, select **Session**.
  - Password:** Select **Credential Profile**, then select **LDAP Credentials:LDAP Password**.
- 7 Leave the default value for the **Multi-Value Separator**, which is comma.
- 8 Click **OK**.
- 9 To save the policy, click **OK**, then click **Apply Changes**.

For more information on creating such a policy, see “Configuring an Authentication Header Policy” in the [NetIQ Access Manager Administration Guide](#).

### Creating the X-Forwarded-Proto HTTP Header Policy

If your network provides HTTPS (secure) connections between browsers and NAM but HTTP (insecure) connections between NAM and Filr, we strongly recommend creating an X-Forwarded-Proto HTTP Header Policy as a best practice.

- 1 In the NAM Administration Console, click **Policies > Policies**.
- 2 Select the policy container, then click **New**.
- 3 Specify `x-forward` as the name for the policy, select **Access Gateway: Identity Injection** for the type, then click **OK**.
- 4 (Optional) Specify a description for the injection policy. This is useful if you plan to create multiple policies to be used by multiple resources.
- 5 In the **Actions** section, click **New**, then select **Inject into Custom Header**.
- 6 Fill in the following fields:
  - Custom Header Name:** Specify `X-Forwarded-Proto` as the name.
  - Value:** Select **String Constant** in the drop-down, then specify `https`.
- 7 Leave the other settings at the defaults.
- 8 Click **OK**.

- 9 To save the policy, click **OK**, then click **Apply Changes**.

For more information on creating such a policy, see “Configuring an Authentication Header Policy” in the *NetIQ Access Manager Administration Guide*.

## Configuring Protected Resources

You must create two protected resources: a protected resource for HTML content and a public protected resource for web services.

- 1 Create a protected resource for HTML content:

- 1a In the **Protected Resource List**, click **New**. Specify a name, then click **OK**.
- 1b (Optional) Specify a description for the protected resource. You can use it to briefly describe the purpose for protecting this resource.
- 1c Select the contract that uses the FilrAuth method.
- 1d In the **URL Path List**, add the following paths for HTML content:

```
/*  
/ssf/*
```

- 1e Click **OK**.

- 2 Create a public protected resource for Web Services:

- 2a In the **Protected Resource List**, click **New**. Specify `public` for the name, then click **OK**.
- 2b (Optional) Specify a description for the protected resource. You can use it to briefly describe the purpose for protecting this resource.
- 2c For the **Contract**, select **None**.
- 2d Click **OK**.
- 2e In the **URL Path List**, remove the `/*` path and add the following paths for public content:

```
/ssf/atom/*  
/ssf/ical/*  
/ssf/ws/*  
/ssf/rss/*  
/ssr/*  
/rest/*  
/  
/dave/*  
/my_files/*  
/net_folders/*  
/shared_with_me  
/desktopapp/*  
/ssf/e/*  
/ssf/static/*  
/ssf/gwt/*  
/ssf/s/*  
/ssf/s/readFile/share/*  
/ssf/applets/*
```

- 2f Click **OK**.

- 3 Assign the X-Forwarded-Proto Header policy to both protected resources that you created:
  - 3a Click **Access Gateways** > **Edit** > [Name of Reverse Proxy] > [Name of Proxy Service] > **Protected Resources**.
  - 3b For each Filr protected resource, click the **Identity Injection** link, select the **x-forwarded** policy that you created, click **Enable**, then click **OK**.
  - 3c Click **OK**.
- 4 Assign the Identity Injection policy to the HTML protected resource that you created.
  - 4a Click **Access Gateways** > **Edit** > [Name of Reverse Proxy] > [Name of Proxy Service] > **Protected Resources**.
  - 4b For each Filr protected resource, click the **Identity Injection** link, select the **Idap\_auth** policy that you created, click **Enable**, then click **OK**.
  - 4c Click **OK**.
- 5 In the **Protected Resource List**, ensure that the protected resources that you created are enabled.
- 6 To apply your changes, click **Devices** > **Access Gateways**, then click **Update All**.

## Configuring a Rewriter Profile

- 1 Click **Devices** > **Access Gateways** > **Edit** > [Name of Reverse Proxy] > [Name of Proxy Service] > **HTML Rewriting**.
- 2 In **HTML Rewriter Profile List**, click **New**.
- 3 Specify a name for the profile, select **Word** as the search boundary, then click **OK**.
- 4 In the **And Document Content-Type Header Is** section, click **New**, then specify the following type:  
`application/rss+xml`
- 5 In the **Variable or Attribute Name to Search for Is** section, click **New**, then specify the following as the variable to search for:  
`value`
- 6 Click **OK**.
- 7 In the Protected Resource List, ensure that the protected resources you created are enabled.
- 8 To apply your changes, click **Devices** > **Access Gateways**, then click **Update All**.





# B All-in-One (Small) Deployment—Creating

To create an all-in-one deployment, you install one Filr appliance. By default Filr also includes the MySQL database and Filrsearch functions.

## Ensuring All-in-One Suitability

With few exceptions, small deployments are only suitable for proof-of-concept deployments, which, by definition, do not require extensive planning.

For a production deployment, you should use the [Filr 3.3 Planning Your Filr Deployment—Best Practices](#) guide and associated planning worksheets to gauge whether a small deployment could meet your organization's production needs.

The Micro Focus best practice recommendation is always an expandable deployment, which is the focus of this guide.

## All-in-One System Requirements

Most of the requirements in [Chapter 3, “System Requirements,” on page 13](#) apply to small deployments.

However, minimum RAM and CPU recommendations are increased to handle the database and search functions running in addition to Filr.

- ♦ 12 GB of RAM (16 GB is recommended)
- ♦ 4 CPUs.

80% of the RAM should be dedicated to the Java heap.

For information about adjusting the Java heap settings, see “[Changing JVM Configuration Settings](#)” in the [Filr 3.3: Administrative UI Reference](#).

## All-in-One Deployment


To deploy an all-in-one Filr appliance, complete the instructions in the following sections:

**Table B-1**

Section	Additional Information
<a href="#">Chapter 5, “Downloading and Preparing the Filr Software,” on page 27</a>	You only need to download the Filr software for your virtualization platform.
<a href="#">Chapter 6, “Deploying the Virtual Machines,” on page 31</a>	Follow the instructions in the section for your virtualization platform.
<a href="#">Chapter 7, “Starting and Configuring the Appliances,” on page 45</a>	Follow the instructions in the referenced section, then continue with

# Setting Up an All-in-One (small) Filr Appliance

Table B-2 Logging in and Setting Up a Small Filr Appliance

Page, Dialog, or Option	Do This
	<ol style="list-style-type: none"><li>1. Open a <a href="#">management browser on your administrative workstation</a> and access the Port 9443 Administration Utility on the Filr appliance using the following URL:  <code>https://filr_IP_Address:9443</code>  Where <i>IP_Address</i> is the IP address of the Filr appliance.</li></ol>
Filr Appliance Sign In	<ol style="list-style-type: none"><li>1. Log in as the <code>vaadmin</code> user with the password that you set for the appliance in <a href="#">"Vaadmin password and confirmation:"</a> on page 47.</li></ol>
Filr Appliance Tools	<ol style="list-style-type: none"><li>1. Click the Configuration icon  to launch the <b>Filr Configuration Wizard</b>.</li></ol>
Filr Configuration Wizard	<ol style="list-style-type: none"><li>1. Click <b>Next</b>.</li></ol>
Database	<ol style="list-style-type: none"><li>1. Type and confirm a password for the filr user in the MySQL database.</li></ol>
Default Locale	<ol style="list-style-type: none"><li>1. Select your Locale from the dropdown list.</li><li>2. Change the <b>Administrator User ID</b> if you want to.  The User ID that you enter is also the password for the initial login for the Port 8443 administration console.</li><li>3. Click <b>Finish</b>.</li><li>4. Do not close or exit the browser page until the warning message disappears.</li></ol>

# C MySQL Appliance—Configuring (Alternate Practice)

Figure 8-3 illustrates that the MySQL appliance is configured to recognize the Filr appliances and allow them to connect before they are set up and deployed.

Figure C-1 Deploying MySQL

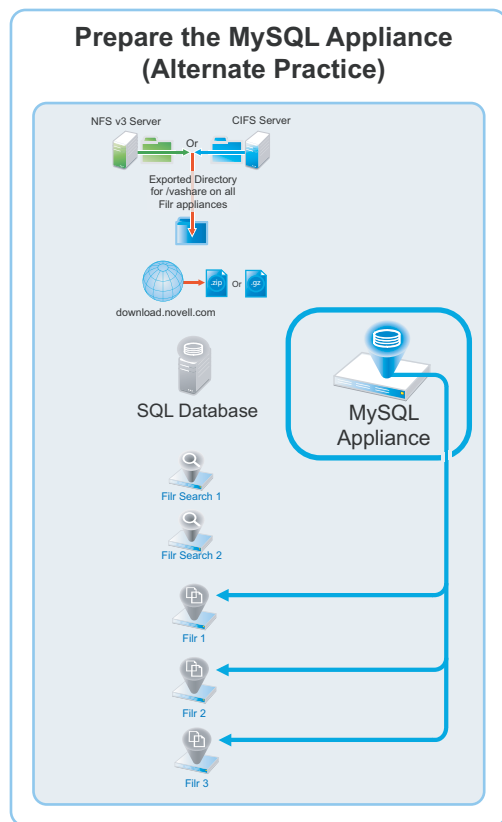


Table C-1 Configuring a MySQL Appliance

Page or Dialog	Do This
	<p><b>IMPORTANT:</b> The following steps assume that you installed and prepared a MySQL appliance as documented in the previous chapters, in addition to your Filr and Filrsearch appliances.</p>
	<ol style="list-style-type: none"> <li>Using a browser on your management workstation, access the Port 9443 Administration Utility on the MySQL appliance by entering the following URL:  <code>https://mysql_IP_Address:9443</code>  Where <i>IP_Address</i> is the IP address of the MySQL appliance.</li> </ol>

Page or Dialog	Do This
MySQL Appliance Sign In	1. Log in as the <code>vaadmin</code> user with the password that you set for the appliance in <a href="#">“Vaadmin password and confirmation:” on page 47</a> .
MySQL Tools	1. Click the <b>phpMyAdmin</b> button to launch the phpMyAdmin utility. 2. Log in as <code>root</code> with password <code>root</code> .
phpMyAdmin	1. Under <b>General Settings</b> , click <b>Change Password</b> . 2. Type and retype (confirm) a new password for the phpMyAdmin <code>root</code> user, then click <b>Go</b> . <b>IMPORTANT:</b> If you click the <b>Generate</b> button, the generated password takes precedence over your typed passwords. Be sure to note the generated password and use it when configuring Filr. 3. Click the <b>Users</b> tab.
Users Overview	1. Under <b>New</b> , click <b>Add User</b> .
Login Information	1. Type <code>filr</code> in the <b>User Name</b> field. <b>TIP:</b> You can specify any name for the user and associated database. If you specify a different name, then when you set up the Filr appliances, you will need to use that name instead of <code>filr</code> . 2. For the <b>Host</b> field, select <b>Use Host Table</b> . 3. In the <b>Host</b> field, type the IP addresses for each of the Filr appliances that you will configure. 4. In the <b>Password</b> and <b>Re-type</b> fields, type and re-type (confirm) a password for the new <code>filr</code> user, then scroll down. <b>IMPORTANT:</b> You will need this password when you configure the Filr appliances.
Database for user	1. Select <b>Create database with same name and grant all privileges</b> . 2. In the bottom right corner of the dialog, click <b>Go</b> . A <code>filr</code> user entry is added and the corresponding database is created.
Users Overview	1. Notice that the <code>filr</code> user is listed with the appliances’ IP addresses shown in the <b>Host</b> column. 2. Return to <a href="#">“Setting Up the Filr Appliances” on page 58</a> .

# D Non-Expandable Deployment—Creating

The steps required to create a non-expandable Filr deployment are almost identical to those for an expandable deployment.

Do the following:

1. Begin with [Chapter 2, “Planning Is Critical,” on page 11](#) and complete all of the instructions that apply to your virtualization platform and plans.
2. Skip [Chapter 4, “Setting Up Shared Storage,” on page 23](#).
3. Follow the instructions in the remaining sections as they apply.





# OES 2015 NSS AD as a Net Folder Server

Although both Filr 3.0 and OES 2015 NSS AD support SMB v2, Filr configures Net Folder connections that point to NSS AD servers to use the SMB v1 protocol.

If you have Net Folder Server connections that point to NSS AD servers, you should change Filr to use SMB v2 for the connections by doing the following:

- 1 Ensure that the OES 2015 NSS AD server has the latest patches applied.
- 2 If SSH is not enabled on the Filr appliance, do the following:
  - 2a Log in to the Filr appliance at [https://server\\_url:9443](https://server_url:9443) as the `vaadmin` user.
  - 2b Click **System Services**, then click **SSH** > **Action** > **Start**.
- 3 Using an SSH client, log in to the Filr appliance as the root user.
- 4 Run the following command:

```
/opt/novell/filr/bin/famtconfig -s ncifsSMB 2
```

- 5 Restart famtd by running the following command.

```
# rcnovell-famtd restart
```

---

**IMPORTANT:** If you do not restart famtd, then the SMB v1 protocol is used for connections made prior to doing [Step 4](#).

---

- 6 For large, clustered deployments, repeat these steps for all of the Filr servers in the cluster

---

**NOTE:** To reset the Filr connections with OES 2015 NSS AD servers from SMB v2 back to SMB v1, run the following commands:

```
/opt/novell/filr/bin/famtconfig -s ncifsSMB 1
```

```
# rcnovell-famtd restart
```

---





# F SCSI Controller Type—Changing on VMware

To change the SCSI controller type on a VMware-based appliance to **VMware Paravirtual**:

1. Finish the installation and power on the Filr system.
2. Ensure that the Filr system is running. (Log in as the Filr administrator, create a user, and log in as that user.)
3. Shut down each appliance in the Filr system. (For information about how to safely shut down an appliance, see “[Shutting Down and Restarting the Micro Focus Appliance](#)” in the [Filr 3.3: Administrative UI Reference](#).)
4. In VMware, change the controller to **VMware Paravirtual**.
5. Power on each appliance in the Filr system.



# G

## Troubleshooting the Filr Installation and Upgrade

- [“Unable to Access a Newly Installed Appliance” on page 139](#)
- [“The Upgrade Dialog Box Is Not Displayed during an Upgrade” on page 139](#)
- [“Rolling Back to the Previous Version after an Unsuccessful Upgrade” on page 140](#)

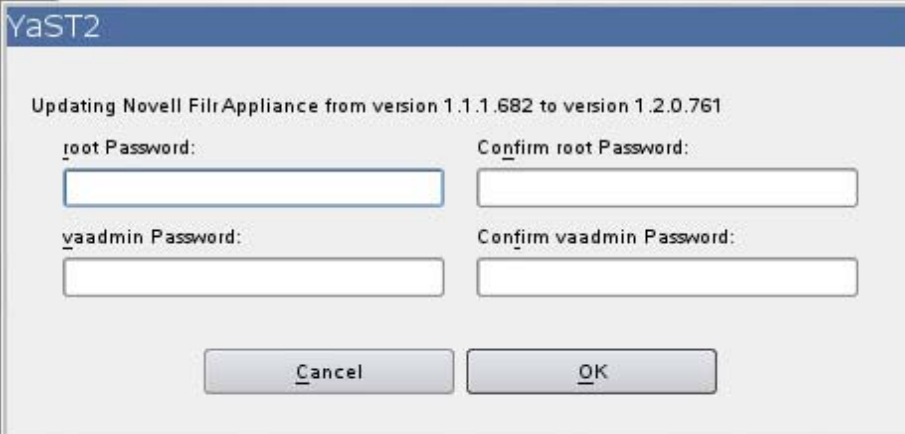
### Unable to Access a Newly Installed Appliance

If you are unable to access a newly installed appliance and you need to change appliance settings, such as the IP address, use the VACONFIG utility from the Filr command prompt.

For more information, see [“Using VACONFIG to Modify Network Information”](#) in the *Filr 3.3: Maintenance Best Practices Guide*.

### The Upgrade Dialog Box Is Not Displayed during an Upgrade

The following dialog box should be displayed when powering on the new appliance.



YaST2

Updating Novell Filr Appliance from version 1.1.1.682 to version 1.2.0.761

root Password:

Confirm root Password:

vaadmin Password:

Confirm vaadmin Password:

If it is not displayed, the data storage location was not successfully copied or attached to the new Filr system. Begin the upgrade process again and ensure that you have configured the new Filr system to point to the data storage location of the source Filr system.

# Rolling Back to the Previous Version after an Unsuccessful Upgrade

You can roll the Filr system back to the previous version if the upgrade is unsuccessful.

- ♦ [“Rolling Back a Small or Non-Clustered Filr System” on page 140](#)
- ♦ [“Rolling Back a Clustered Filr System” on page 140](#)

## Rolling Back a Small or Non-Clustered Filr System

You should have created a copy of the data storage location (`/vastorage`) to be used in the new Filr system (as described in [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 80](#)).

If you experience complications when upgrading the Filr system, your existing Filr system is still intact and you are able to power it on at any time.

## Rolling Back a Clustered Filr System

A clustered Filr system (multiple Filr appliances) consists of not only a data storage location (`/vastorage`), but also shared storage (`/vashare`).

- ♦ [“Rolling Back the Data Storage Location \(/vastorage\)” on page 140](#)
- ♦ [“Rolling Back the Shared Storage Location \(/vashare\)” on page 140](#)

## Rolling Back the Data Storage Location (/vastorage)

You should have created a copy of the data storage location (`/vastorage`) to be used in the new Filr system (as described in [“Copying Each Appliance’s /vastorage Disk \(Disk 2\)” on page 80](#)).

If you experience complications when upgrading the Filr system, the data storage location of your existing Filr system is still intact.

## Rolling Back the Shared Storage Location (/vashare)

After an unsuccessful upgrade, you can roll back the shared storage location (`/vashare`) to the previous version by reconfiguring clustering on the Filr server:

- 1 On the Filr appliance that you are rolling back to, log in as the Filr administrator.

`https://ip_address:9443`

Replace `ip_address` with the IP address of your Filr appliance.

- 2 Sign in to the Filr appliance using the `vaadmin` user and the password that you set during installation.

The Micro Focus Filr Appliance landing page is displayed.

- 3 Click the **Filr Server Configuration**  icon.

- 4 Click **Clustering**.

- 5 In the **Server Address** field, add the port number to the server address of each search index appliance.

For example, change `172.17.2.2` to `172.17.2.2:11211`



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`/opt/novell/filr/stellent-converter`

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