GV File

Trial Installation Guide Linux

Version History

Table 1: Version Table

Date	Version	Released by	Reason for Change
10/07/2014	1.0	Andy Gingell	Initial release
13/11/2014	1.1	Jeremy Courtney	Title change
13/3/2015	2.0	Andy Gingell	Revised edit for V2.*.*.*
08/09/2015	2.1	Andy Gingell	Edit for XF rebrand
26/01/2016	2.2	Greg Emerson	Completed rebrand
21/12/2016	2.3	Jon Metcalf	Update Support web links
09/01/2019	3.0	Jon Metcalf	GV rebrand
24/03/2021	3.1	Jon Metcalf	Post Belden rebrand

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1. Introduction

1.1 Purpose

The purpose of this document is to demonstrate how to successfully install and license the GV File Trial software. By following this guide all the GV File applications and services will be installed on to a single host machine.

1.2 Assumptions

- The host machine has at least the minimum specification, including a GPU with the correct GPU driver installed.
- The host machine should be able to be accessed using the local display, keyboard and mouse, or remote console access to the Host machine is available.
- The Trial installation offers a 15 day license which can only be used once on any one server.
- Output files will contain a visible GV File banner.

1.3 Definitions, Acronyms and Abbreviations

Table 2: Table of Terminology

Term	Definition
API	**Application Programming Interface**. An API specifies how some software components should interact with each other.
APT	**Advanced Packing Tool**
Destination folder	Folder where finished jobs are written to (access and authorisation is required).
FIMS	**Framework for Interoperable Media Services**. A framework of service definitions for implementing media related operations using a Service Orientated Architecture (SOA).
GPU	**Graphical Processing Unit**. They are very efficient at manipulating computer graphics, and their highly parallel structure makes them more effective than general-purpose CPUs for algorithms where processing of large blocks of data is done in parallel.
Install / Installation	Installation of the services within the GV File framework
Locking code	Lock code base on specified locking criteria
License file	Defines the quantity of products available
License Server	Manages product licenses
XF	**xFile** – former name of GV File
Profile (default/user)	Describes a collection of parameters for a given job. User defined profiles and a selection of read only default profiles are available.
REST	**Representational state transfer**. Rest is a simple way of sending and receiving data between client and server. A RESTful web service is a web API implemented using HTTP and REST principles. Request methods include GET, POST, PUT, DELETE.
GV File Browser	Service which provides access and directory listings for local and remote shares to the client. Enables the use of **browse** feature in the client.
GV File Deployment	A collection of GV File services which touch the actual media assets. This might be dictated by geographic location and/or SAN configuration. The services which touch the media are the GV File Node, GV File Browser and GV File Watcher.
GV File Node	Service which executes the jobs within the job queue. It performs all data processing (image/audio/metadata).
GV File Server	Service which orchestrates the framework and manages the products, profiles, licenses available within a given server. One server can manage multiple deployments.
GV File Watcher	Service to monitor watch folders and automatically add jobs to the job queue. Monitoring can be based on notification or polling.

Term	Definition
SOAP	**Simple Object Access Protocol.** SOAP is a method of transferring messages, or small amounts of information, over the Internet. SOAP messages are formatted in XML and are typically sent using HTTP (hypertext transfer protocol).
Source file	Location of the source file. Path can be entered explicitly or via the **browse** feature (access and authorisation is required).
SUDO	**Super User Do**
YUM	**Yellow Dog Update Manager**

2. Hardware and Software Requirements

Please refer to the website for details of the hardware and software required to run GV File.

Links to the appropriate Data Sheet:

Alchemist File:

Alchemist File Datasheet .pdf

Kronos File:

Kronos File - Datasheet.pdf

Quasar File

Quasar File - Datasheet.pdf

For more detailed info, please see the relevant Optimising Performance documents here:

Alchemist File:

Alchemist File - Optimizing Performance.pdf

Kronos File:

Kronos File - Optimizing Performance.pdf

2.1 Software Prerequisites specific to Linux Installation

Whilst installing, the GV File services will need to run an update tool, such as YUM (Yellow Update Manager) or APT (Advanced Package Tool*),* to access and manage the installation of required software dependencies. Your choice of update tool will depend on your Linux distribution.

The GV File services are installed as **root** user. Customers can either log on as **root** or configure **sudo** to carry out the installation and management (**sudo** will allow specific users to run as **root** temporarily).

In order to run the GV File Client on a Linux host machine, the machine will need to have a suitable X Windows session running.

3. GV File Architecture

3.1 Overview

The GV File framework benefits from a Service Orientated Architecture (SOA). This SOA design philosophy aids your ability to develop your installation and allow it to grow as your needs evolve.

The minimum required services are:

- GV File Client
- GV File Server
- GV File Node (minimum of one)

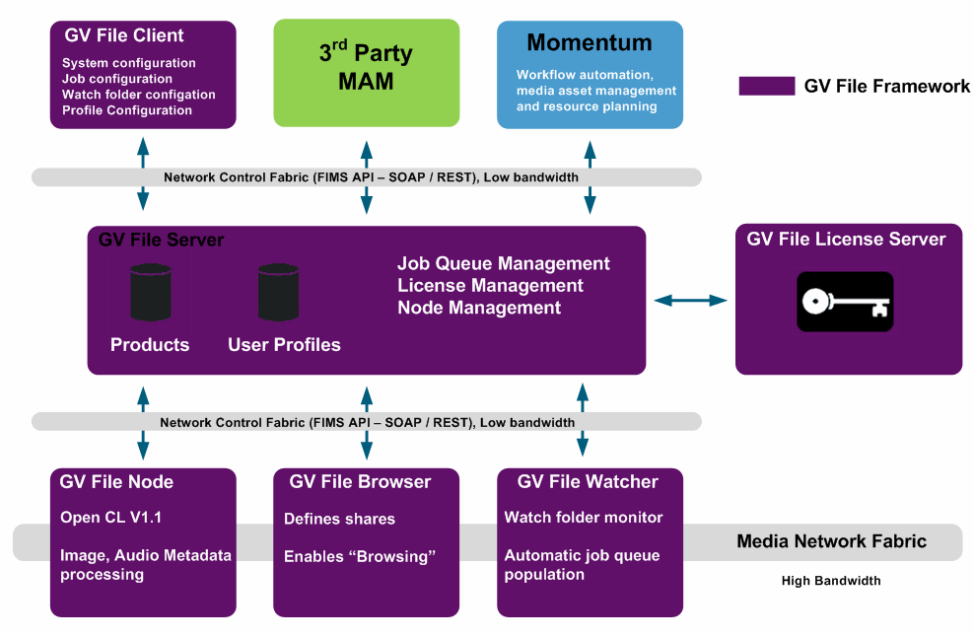
Optional Services are:

- GV File Browser
- GV File Watcher

Without the GV File Browser installed and started the **Browse** feature will not work in the GV File Client.

Without the GV File Watcher installed and started the **Watch Folders** feature will not work.

GV File Framework



3.2 Deployment Components

The GV File installer will install all services and the client application onto a single host machine. The package comprises of:

- GV File Client (Client application)
- GV File Server (Service)
- GV File Node (Service)
- GV File Browser (Service)
- GV File Watcher (Service)
- License Server (Service)

GV File Client:

is the application used to connect to the GV File server. It will be installed automatically as part of the install process locally on the host machine.

It is possible to run a Client on a remote computer which is running a 64 bit version Microsoft Windows (Win 7 / Win 8 / Win 10 / Win Server 2008 / Win Server 2012 / Win Server 2016). However, a separate Client Installer will be required (not included in the Trial installer package). Customers will need to send a request to Customer Support in order to obtain the GV File Client Installer.

A Mac Client is also available, enabling the GV File system to be controlled via a remote Apple Mac workstation. Again this can be obtained by contacting GV Support.

Multiple Clients can be connected to a single server. The client offers intelligent profile creation, job creation, visibility of available products (and associated quantity of licenses), framework configuration and status.

GV File Server

is the service responsible for the main orchestration of the framework. It organizes the various deployments and their associated services. It manages the job queue, the license server and all job profiles (user and default) for the available GV File products. Job priority can be specified with jobs of an equal priority executed on a first come, first served basis. For a job to start a GV File Node and license must be available.

GV File Node

is the service which transforms/converts the video/audio and metadata. For successful operation an OpenCL V1.1 environment is required. This can be achieved using single or multiple GPUs within a host machine.

Details of supported GPUs can be found in the appropriate Datasheet on the website (see section 2 above).

Multiple GPUs within a host machine can be used to increase the speed of processing up to real time.

Dependant on the network topology, this service may require authorisation to access the media on specified shares.

GV File Browser

is a service which provides access and directory listings for local and remote shares to the client. This enables the “browsing” feature within the client and enhances the user experience when creating new jobs.

Dependant on the network topology, this service may require authorisation to access the media on specified shares.

GV File Watcher

is a service which monitors user specified Watch Folders and automatically adds jobs to the job queue when their contents changes. Monitoring can be based on file system notifications or dedicated polling. The user specifies a Profile to be applied to each asset which is copied to a Watch Folder. The processed asset is then written to the associated Drop Folder. Filters and output filenames can be assigned to each Watch Folder.

Dependant on the network topology, this service may require authorisation to access the media on specified shares.

License Service

is the service that manages licensing of the with the GV File framework.

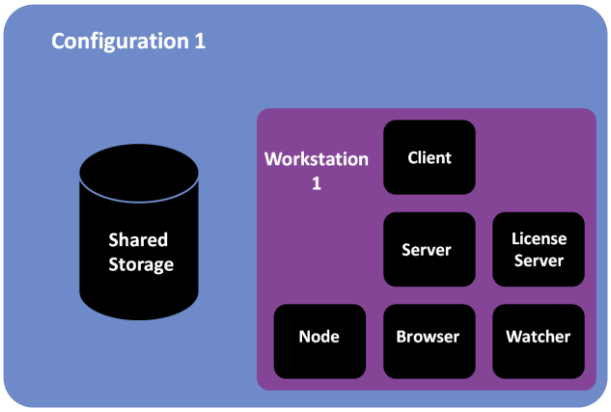
In the case of the GV File Trial, the License Server and License will be automatically installed on the Host Machine as part of the install process.

4. Trial Framework Topology

The GV File software framework benefits from a Service Orientated Architecture (SOA) which has been engineered to support a range of deployments from a single node through to a cluster of nodes within a data centre.

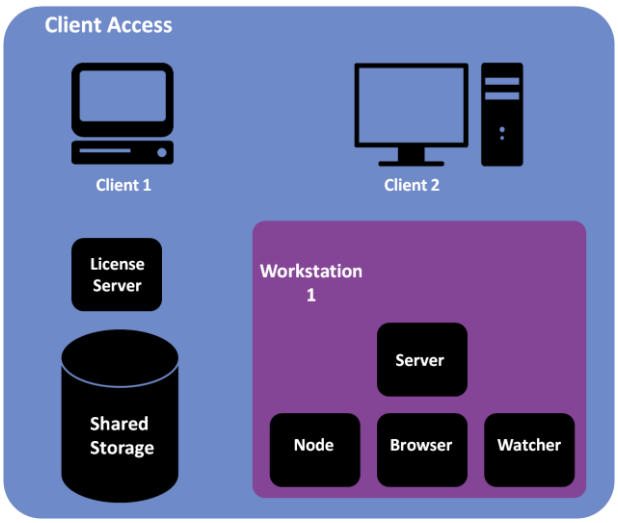
This SOA design philosophy aids your ability to evolve your installation and allow it to grow as your needs change. Whether you want a centralized job queue managing many processing nodes, or prefer singular job queues managing individual nodes, the framework can accommodate your requirements.

The trial employs the following configuration:



4.1 Use of the Client

The Client can be installed directly on the workstation/server or it can run remotely on a desktop/laptop. Any number of clients can access a single GV File Server.



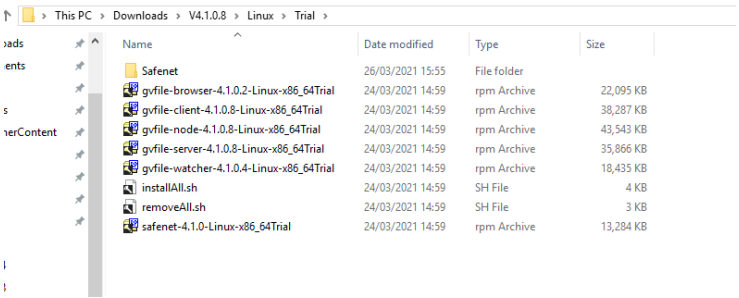
4.2 Considerations for Trial Installations

Key Considerations:

1. GV File Node must have one or more GPUs offering an OpenCL environment.
2. GV File Node, Watcher and Browser all require authorisation to access the media files.
3. GV File Node requires high bandwidth access to shares.

5. Package Contents

Download and unzip the GV File Trial package set. It will comprise of:



6. Software Installation

The GV File services are installed as **root** user. Customers can either log on as **root** or configure **sudo** to carry out the installation and management (**sudo** will allow specific users to run as **root** temporarily).

6.1 Installing the GV File Services

1. Logon to the host machine using a terminal emulator such as **putty**.
2. Create a temporary directory for the GV File package

   For example:

   ```
   /var/tmp/snell
   ```

   and then copy the downloaded GV File Trial zip file to that directory.
3. Change directory to:

   ```
   /var/tmp/snell
   ```

   and then unzip the GV File Trial zip file.

4. To Install all the GV File packages and the license server use the following:

   ```
   [root]# sh installAll.sh
   ```

   At the end of the script you will be asked if you wish to start all the services, respond with **Y** for yes.

5. List each of the GV File services using the following:

   ```
   chkconfig --list | grep -i snell
   chkconfig --list | grep -i Safenet
   ```

6.2 Installing the GV File Client

1. The GV File package set contains both Linux and Windows 64-bit compatible GV File clients. The Linux client has been installed on to the host machine as part of step 4 above. If you require a remote client (this is necessary when decoding or encoding Apple ProRes files) then copy the appropriate GV File Client installer on to a remote workstation.

2. Install the Linux 64-bit GV File Client:

   Open a terminal session and type the command:

   ```
   yum –y install GV File-client-x.x.x.x-Linux-x86_64Trial.rpm
   ```

3. Firewall configuration: there are no **iptables** requirements for a single system deployment with a local GV File Client. However, if you are using a remote GV File Client then the **iptables** will need to be adjusted to allow the client to connect to port 35061 (TCP) on the machine hosting the GV File Server.

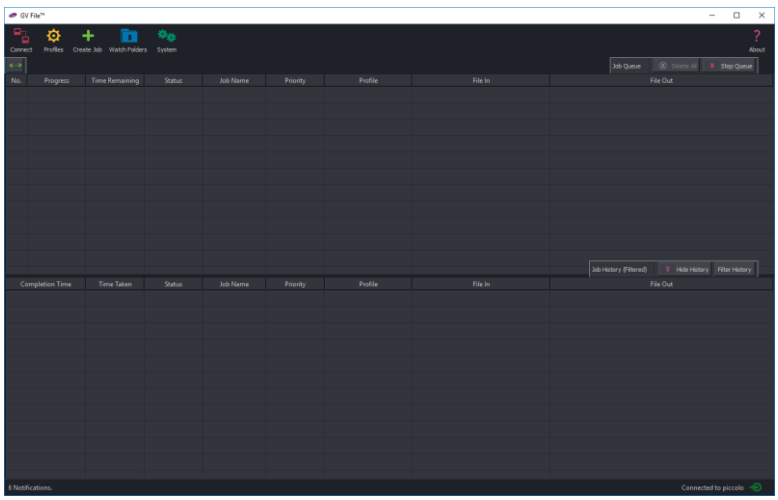
7. Trial Operation

1. Launch the **GV File Client.**

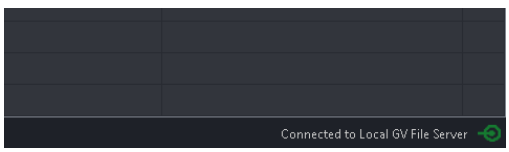
   To start a Linux GV File Client, open a terminal session and type: **GV File_client**

   To start a Windows GV File Client, go to the desktop and double-click on the **GV File** icon.

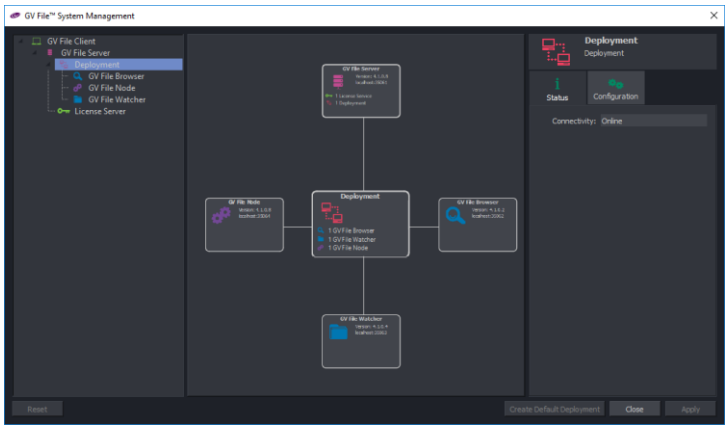
   The GV File Client will now open.



2. The client will automatically **connect** to the **Server.** This can be confirmed by looking at the bottom right corner of the client. Successful connection should look like this:



3. Check the default deployment has been successfully configured. Click on the **System** icon, followed by **Deployment.** The Deployment should appear like this:



Key points of interest:

Connect is used to define the xFile Server you wish to connect to.

Profiles is used to configure **User Profiles**.

Create Job is used to add a new job to the job queue.

Watch Folders is used to manage Watch Folder configuration.

System is used to configure, manage and maintain the xFile deployments and services.

About informs the user of the client version and copyright notices.

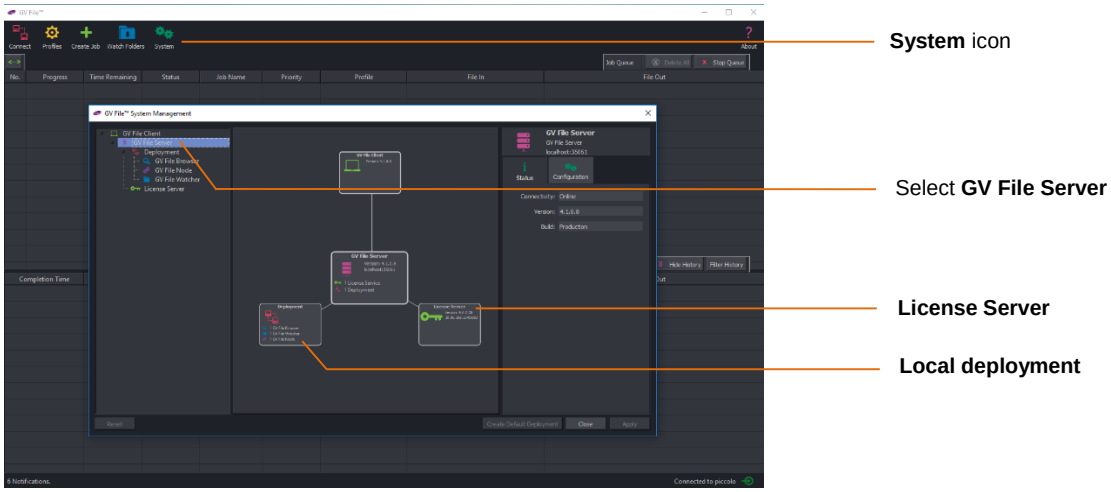
Connection to is used to indicate Server connection success (green) or failure (red).

8. Trial Service Status

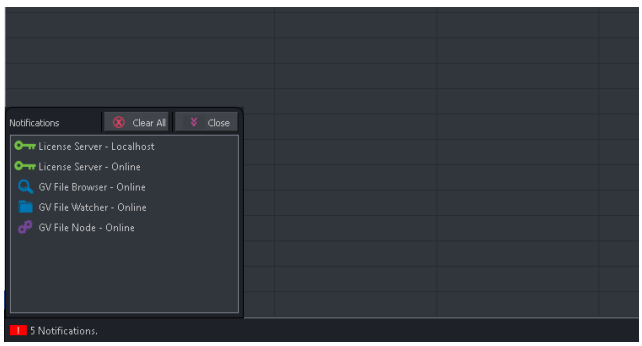
Click on the **System** button to view a pictorial view of the configured system. As all the services for the Trial are installed on one server the system will automatically configure a **Default** deployment and configure all the services.

Click on the **system** icon to open the system management window.

Now click on the **Deployment**. The output from the selection is displayed below. Note the deployment status is **Online**.



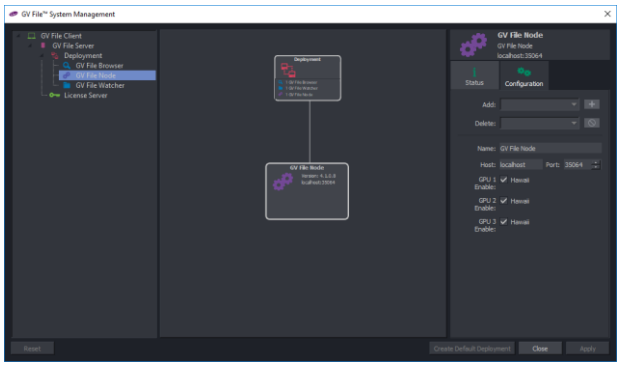
You can also do a quick service status check of the service by clicking on the **Notification** button located in the bottom left of the connected screen.



8.1 Node Configuration

GPUs can be enabled and disabled by changing the configuration of the **GV File Node**. To access this control, click on the **Configuration** tab of the Node on the **System page.**

The Node's Status tab will show the status of each GPU installed into the host machine. Using this status information the user can decide which GPUs to disable/enable.



Typical reasons for disabling a GPU might be:

- A low specification GPU is installed to drive a monitor
- The system has a mixture of GPUs installed and the user wants to maximise performance.

Remember!

Multiple GPUs should be matched.

If different GPUs are used, higher specification GPUs will only operate at the speed of the lowest specification GPU. It is recommended only GPUs from the same vendor are used within a host machine.

9. Remote Shares

For information regarding Remote Shares, please consult the appropriate User Guide, available from the website here:

Alchemist-XF

https://www.grassvalley.com/cgi-bin/url_res3.pl?nexturl=/docs/Manuals/media_conversion/alchemist_file/Alchemist_File_User_Guide_v4.0.0.20.pdf

Kronos-XF

https://www.grassvalley.com/cgi-bin/url_res3.pl?nexturl=/docs/Manuals/media_conversion/kronos_file/Kronos_File_User_Guide_v4.0.0.20.pdf

Quasar-XF

https://www.grassvalley.com/cgi-bin/url_res3.pl?nexturl=/docs/Manuals/media_conversion/quasar_file/Quasar_File_User_Guide_v4.0.0.20.pdf

10. Programs and Features Listing

To view the combined GV File services type the following:

```
-sh-4.1# rpm -qa | grep -i GV File
```

This will return GV File Services details:

GV File-node-x.x.x-x.x86_64

GV File-server-x.x.x-x.x86_64

GV File-watcher-x.x.x-x.x86_64

GV File-browser-x.x.x-x.x86_64

GV File-client-x.x.x-x.x86_64

To view the GV File License Server details, type:

```
-sh-4.1# rpm -qa |grep -i Safenet
```

This will return GV File License Server details:

safenet-x.x.x-x.x86_64

NOTE: This print out reflects a host machine that has all the GV File services installed on it. Depending on topology in use this may vary.

11. Services Listing

To check the status of each service, type:

```
-sh-4.1# service GV File_server status
-sh-4.1# service GV File_node status
-sh-4.1# service GV File_watcher status
-sh-4.1# service GV File_browser status
```

NOTE: The services are configured to start automatically if the server is restarted.

To check the License Server status type:

```
-sh-4.1# service safenet status
```

Extracted Output:-

Sentinel RMS Development Kit 8.5.1.2009 Application Monitor

Copyright (C) 2011 SafeNet, Inc.

[Contacting Sentinel RMS Development Kit server on host "localhost"]

|- Feature Information

|- Feature name : "Alchemist_OD_Base"

|- Feature version : "1.0.0.0"

|- License type : "Trial License"

|- Trial period : 15

|- Feature Information

|- Feature name : "Alchemist_OD_Feature"

|- Feature version : "2.0.0.0"

|- License type : "Trial License"

|- Trial period : 15

|- Feature Information

|- Feature name : "Quasar_OD_Base"

|- Feature version : "1.0.0.0"

|- License type : "Trial License"

|- Trial period : 15

|- Feature Information

|- Feature name : "Quasar_OD_Feature"

|- Feature version : "2.0.0.0"

|- License type : "Trial License"

|- Trial period : 15

12. Uninstalling the GV File Services

1. Logon to the host machine using a terminal emulator such as **putty**.

2. Change directory to the temporary area where the GV File Trial package was unzipped during installation.

3. To remove all the GV File packages and the license server use the following:

```
[root]# sh removeAll.sh
```

Appendix A. Package Download

The GV File software package is downloaded from the SAM store.

Using your internet browser go to: http://store.s-a-m.com/xFile

Scroll down the page and select the GV File product you wish to trial. Please note all product trials use the same GV File trial installer, which will install all products. Each product can be used for 15 days.

Add the **GV File Product** to your Cart, go to the Cart and checkout.

You will have to register or login if you're returning customer, and complete the order.

Once an order has been placed, you will be given access to a download package within the Downloads section of the SAM Store.

Download and store the software package on your server you wish to install.

Appendix B. Communication Matrix – IP table Information.

Table 3: GV File Service Names and Communication Matrix

Source Service	Source Port	Destination Service	Destination Port	TCP/UDP
GV File Client	HIGH PORT	GV File Server	35061,35060	TCP
GV File Client	HIGH PORT	GV File Watcher	35063	TCP
GV File Server	HIGH PORT	GV File Browser	35062	TCP
GV File Server	HIGH PORT	GV File Watcher	35063, 35069	TCP
GV File Server	HIGH PORT	GV File Node	35064	TCP
GV File Server	HIGH PORT	License Server	5093	UDP
GV File Node	HIGH PORT	License Server	5093	UDP

Here is a table that shows the GV File connectivity if the services are distributed. The above table gives the required details to configure the firewalls of all machines in your system.

- If all services are installed on one server, then no Firewall configuration is required.
- If you have a GV File client installed on a remote machine, then the Firewall will need to be open between the GV File Client and the GV File Server, and the GV File Client and the GV File Watcher, as detailed above.