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SFTP Poller

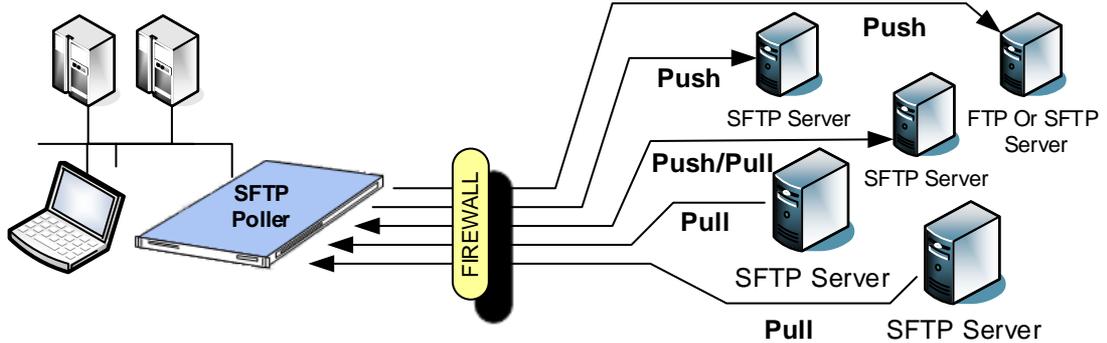
Application Guide

Version 3.5 March 2020

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Introduction

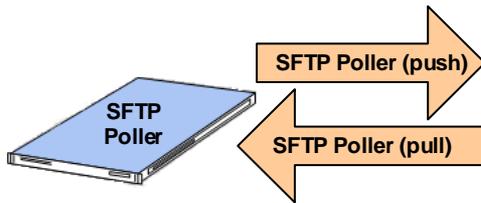
The SFTP Poller was created by Layer3 Systems to provide support for the movement of files between broadcasters. FTP (and SFTP) had long been the standard means of moving files between co-operating broadcasting companies. The SFTP Poller provides an automated, extensible system that securely and reliably transfers files capable of running 24 hours per day 7 days per week. It can be provided as a fully managed service to minimise work load on your staff.



Automated

The SFTP Poller is designed to solve the problem of automatically transferring files, repeatedly, reliably and securely between systems and networks owned by independent companies.

- Centralised Operation
- Reduces staff workload
- Audit Trail
- Runs 24 hour everyday
- Simplifies file transfer
- Managed service

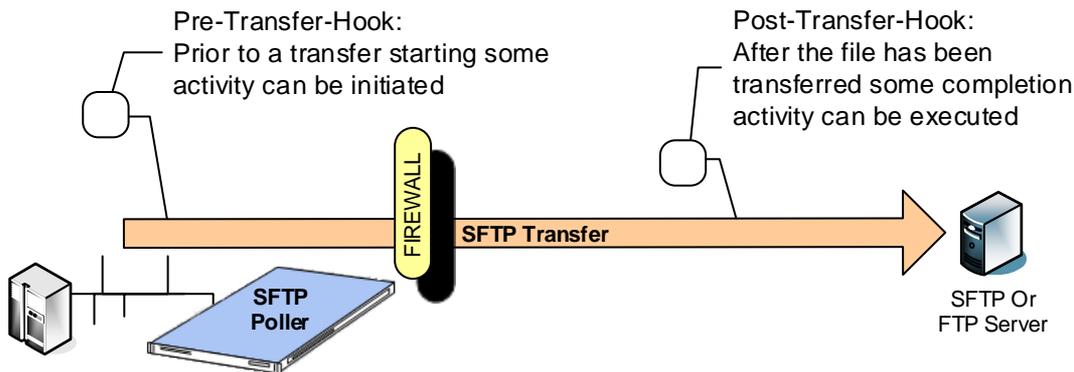


Expecting staff, no matter how diligent or expert they may be, to repeatedly transfer files quickly becomes unworkable. In a busy environment people may forget to carry out the work and may fail to keep proper logs of their activity.

For a business environment where file transfer is part of the organisation's critical operation, highly reliable, automated, secure file transfer with a proper audit trail of activity is a crucial feature.

Extensible

Part of the design concept for the SFTP Poller is to provide a means to interface with your existing systems. We achieve a good degree of extensibility by using pre-transfer and post-transfer hooks. This gives the ability to integrate the SFTP Poller into your workflow so that it becomes an active part of your overall system, helping to automate and simplify operation.



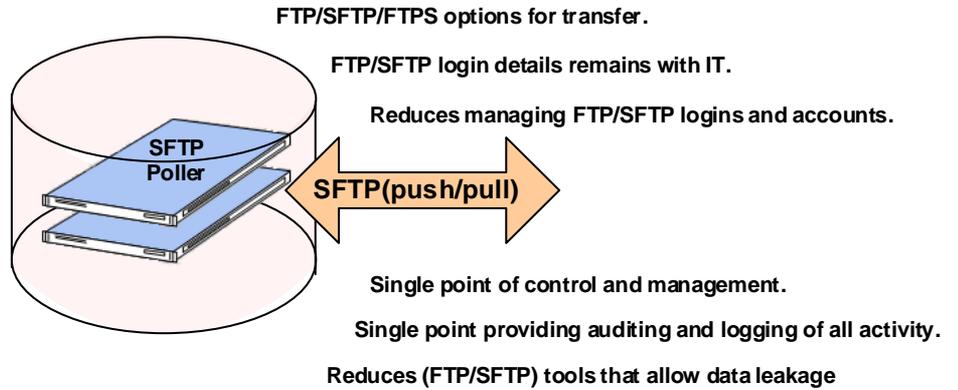
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Secure

The SFTP Poller enhances security by taking away from the ordinary user the need to access remote systems. Logins and passwords are centralised and remain under the control of IT staff.

Thus login and password ID's need not be administered for the user, the user does not have yet more logins to manage and they are not vulnerable to having a login identity stolen.

The SFTP Poller can work from within the users internal network or more securely from within a DMZ , depending on the degree of security required. If located within the users network, then a simple file share can be setup to give users access to folders where files may be dropped off for delivery or picked up once they have come in from remote hosts . If located within a DMZ the SFTP Poller can be used to pass files back into the internal network onto a standard server where users may access a shared directory structure from their workstations. SFTP Poller can be configured to use FTP or the more secure variants FTPS and SFTP , these versions of the protocol further secure transfers by ensuring that file transfer is fully encrypted.



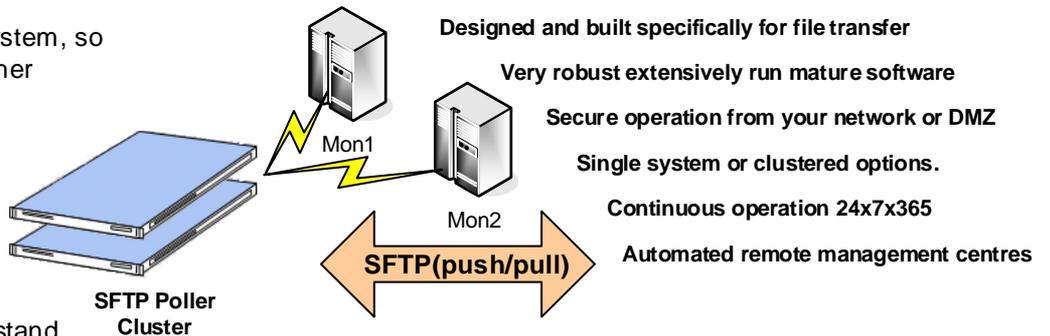
Reliable

The SFTP Poller reliably moves files, generating an email audit trail and detailed transfer logs. The system is designed to run continuously, checking regularly to see if there are any files to transfer. The system does not take breaks or go on holiday, so it can be relied upon to be there working all the time.

It is implemented as a separate system, so it is not prone to upgrades from other software causing problems.

It is inaccessible to the average user, so cannot get reconfigured accidentally.

The SFTP Poller is designed and implemented in house by our own experienced engineers that understand networks and file transfer.



It is "Transactional" in that it guarantees that a file will arrive intact or an error message will explain any fault . A great deal of the power of the software is that it can cope with the many complex faults that transferring files can throw up, providing clear diagnostics that save time and money in resolving problems.

Our support and managed services allows us to monitor for problems and rapidly resolve them before they become a major concern.

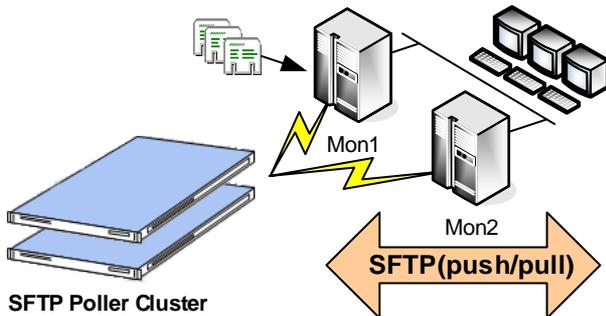
The system can be clustered so that there are multiple SFTP Pollers running, if one system fails then the other system picks up seamlessly. This removes extended down time and allows repairs to take place reducing costly disruption.

Our software has been running since 1995 in some highly demanding environments. Our highly resilient (**High Availability**) version runs on multiple hardware and provides continued operation in the face of hardware failure.

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Managed

One of the benefits of the way that the SFTP Poller works is that the device can be supported as a fully managed service. Layer3 Systems Limited provides a complete one stop solution in design, integration and on going support that reduces the workload on your company minimises total cost of ownership. Our support service uses a state of the art multi data centre support system, allowing us to remotely and securely manage an SFTP Poller.



- Fully managed design and support service
- One stop solution from design through operation
- Secure multi data centre support system
- Continuous 24x7 system monitoring and management
- Support for third party problem rectification

We provide continuous 24 hour support and monitoring for your SFTP Poller, often detecting problems on third party networks and resolving issues long before many IT departments are able to focus on a problem. Very often the biggest challenge in handling user driven SFTP is that any fault will always appear to be the local system or network. Users are not always able to determine if a fault is related to the Internet or a remote system and so invariably are forced to ask the IT department for help. The FTP Poller and our managed service take these problems away from your IT department, this saves your company time and money.

Designed for the Internet

The SFTP Poller is designed to connect to FTP or SFTP servers that are part of your network, such as remote Branch sites, or remote servers that belong to your clients, partners, or customers. Because it uses standard **SFTP/FTP** protocol it will work with any SFTP or FTP server anywhere on the Internet. The modular design of the SFTP Poller allows us to support **SFTP** and **FTP**. This enables mixed mode transfers where one leg of the transfer might use SFTP and another leg could use FTP. It can be securely implemented over VPN's via the Internet. Giving a completely secure inter company site transfer capability. It is designed to "reach" out of your secure network and deliver or retrieve files, this model matches exactly what an ordinary user does when they use the Internet, so it should require no special changes to your firewall.

Designed to Scale

The SFTP Poller does not have a graphical front end nor does it have a large per user license issue. Its written in a light weight language and designed to run as efficiently on a relatively small Linux based server/appliance as on a full cluster.

It will handle the transfer of thousands of files per day and run continuously without human intervention for months. With the addition of an SFTP/FTP server built into the server, the system can become one of many identical nodes located at multiple sites or offices. This gives the ability to easily implement automatic file transfer between remote sites.

Reliable and Robust Software

The software was designed to run in a networked environment and was written in PERL, principally for use on a Unix or Linux based system. The combination of these elements give us a reliable system that will continue to operate reliably without intervention for months or sometimes years on end.

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Operation

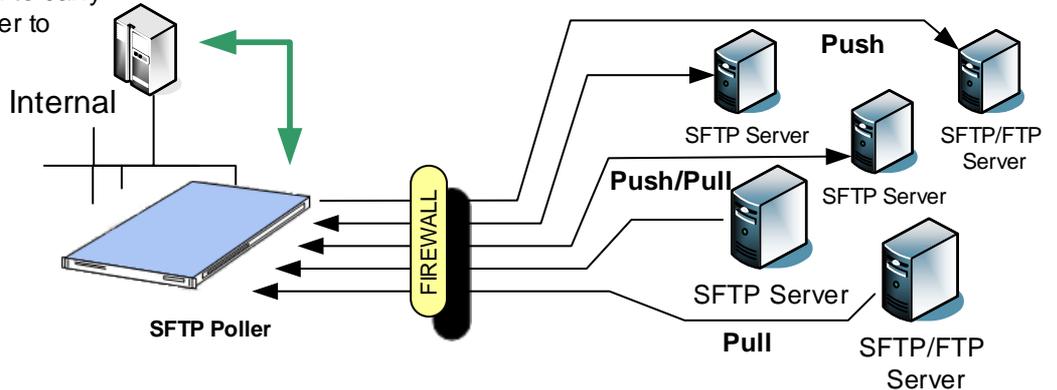
The SFTP Poller can provide the automated means to transfer files in a number of ways. From the internal file server via the local SFTP Poller to a remote SFTP server (push). From a remote SFTP server to the local SFTP Poller (pull) into the internal file server. Or from one remote SFTP server to another remote SFTP or FTP server (server to server). Whilst we describe SFTP transfers using the default SFTP protocol, each transfer may be implemented using FTP, SFTP or FTPS to further increase security through encryption. For the ultimate in non stop operation and High Availability, the SFTP Poller can be implemented as a cluster.

An SFTP Poller can be configured to carry out a mixture of push, pull or server to server transfers as required.

Pollers work on file names, recognising files within a given directory that need to be transferred.

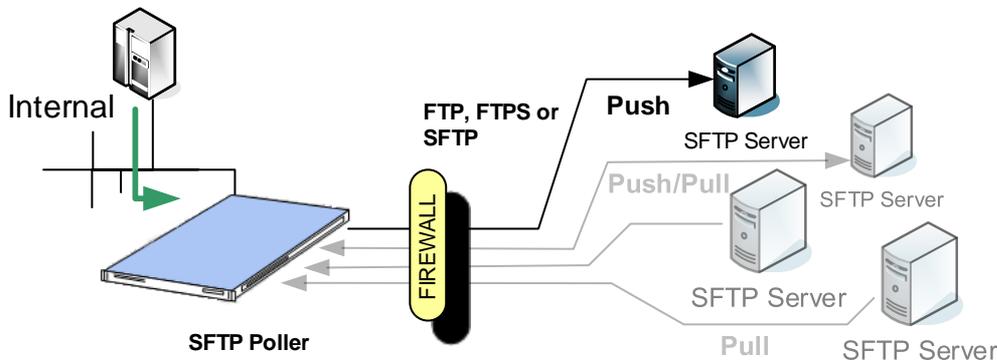
Multiple pollers can operate at the same time on the same server, this can be used to implement a frequent service for small files and possibly a less frequent service for bigger files.

Diagnostics and an audit trail are produced per transfer - error and success messages can be emailed out to designated email groups.



Local to Server

Files are transferred from the local server to the destination server.

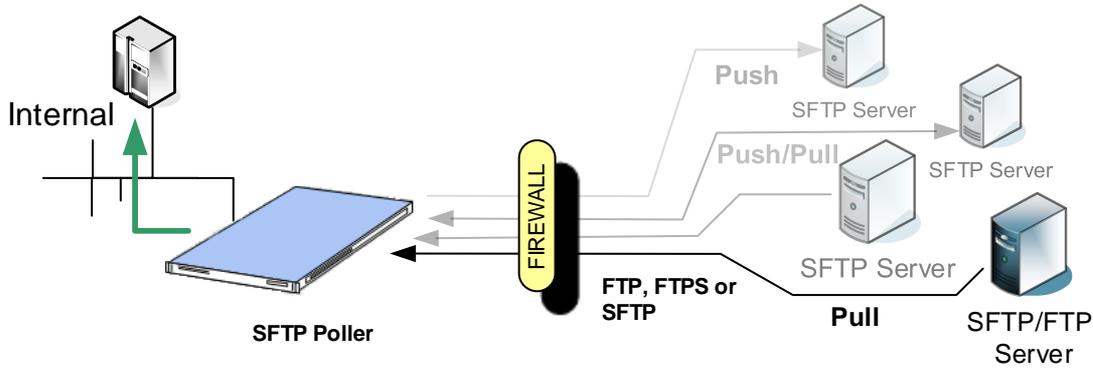


In this scenario a user on a workstation drops a completed file onto a share directory on an internal server. The Poller checks for the presence of a file at regular timed intervals, for example every 10 minutes. Once a file is detected the SFTP Poller connects out from your network via the firewall or router and delivers the file onto a remote SFTP server.

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Server to local

Files are transferred from the remote source server to the local internal server.

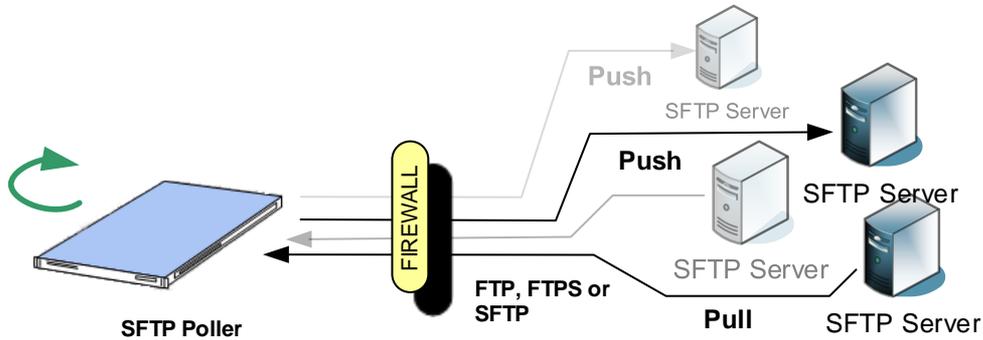


The Poller connects to the remote SFTP/FTP server and checks for the presence of a file at regular timed intervals, for example every 10 minutes.

Once a file is detected the SFTP Poller “SFTP gets” the file and copies it onto a local share on the internal system, making it available for a user on a workstation.

Server to Server

Files are transferred from the source remote server to the destination remote server



Files are picked up from the source server, held temporarily on the local server and then forwarded to the destination server. This provides a very simple way to mirror the contents of directories or to update multiple servers with latest copies of files.

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Network Security

The SFTP Poller can be implemented within a network in a number of ways. This section considers the benefits of the two most common ways to implement SFTP Poller inside a network; the Internal Model and the DMZ Model.

In its simplest (Internal Model) form it can be connected into the internal network like any other file server. This is fine for operation where you wish to transfer files out of the network to remote SFTP/FTP servers, and similarly picking up files from remote systems will work perfectly well. It would be secured from the outside by your firewall.

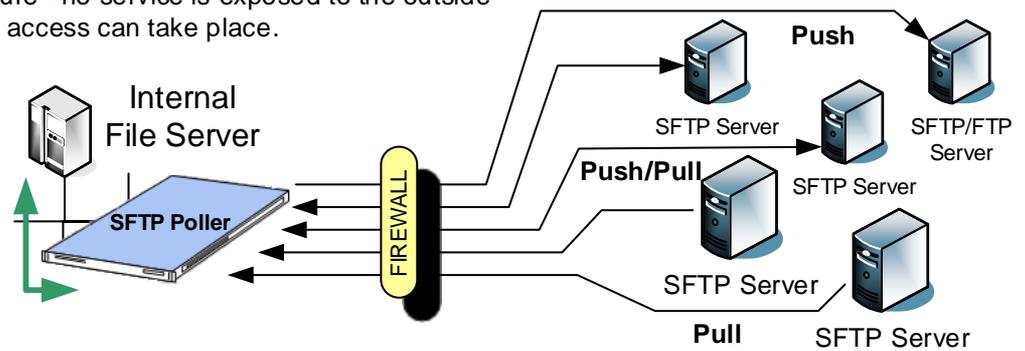
However to increase security, and reduce attack from your internal network, it is worthwhile locating the SFTP Poller into a DMZ. This then also makes it possible to give external access to the SFTP Poller, allowing it to run an SFTP server so your customers can directly pick up files from you. (Ideally with an SFTP Poller.)

Internal Model

In this example the SFTP Poller sits inside the user network. It uses the internal file server as a source and destination for files, it can then “reach” out to access and transfer files to and from remote sites. The SFTP Poller initiates and controls all transfers, either pushing files out or pulling files in, external systems cannot access the SFTP Poller.

This is the same as how a normal user accesses the Internet from within your network, and is therefore just as secure - no service is exposed to the outside world and therefore no unauthorised access can take place.

This can be inflexible though. If there are multiple co-operating sites and none have a DMZ then there would be no way for any site to safely access any other. This can be resolved by having a centralised Internet based SFTP server acting as a hub.



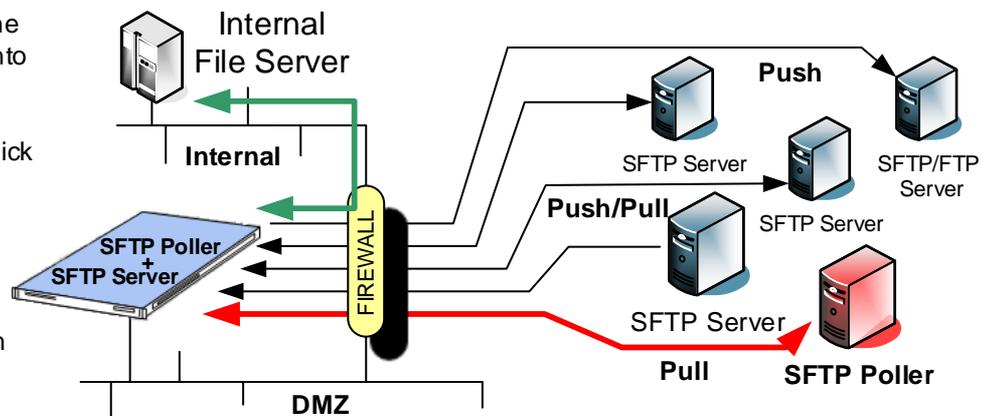
DMZ Model

In this example the SFTP Poller sits in the DMZ. The Poller can push or pull files onto or from remote servers in the usual way. The poller also accesses the internal file server inside the network as a place to pick up and drop off files locally.

Users on the inside network simply access the local server to drop off or pick up files.

This gives a high degree of flexibility with a reasonable amount of security. The firewall ensures that the SFTP Poller in the DMZ can only access the SFTP service on the internal server.

This model gives the added benefit that the SFTP Poller can also act as an SFTP server. This makes it possible for other SFTP Pollers on remote sites (or any other SFTP client) to access files available from this site. The SFTP Poller provides the service of moving files between the internal network server and the public facing DMZ based SFTP Poller/SFTP Server. This maintains good security but enhances flexibility and cooperative working with other companies.

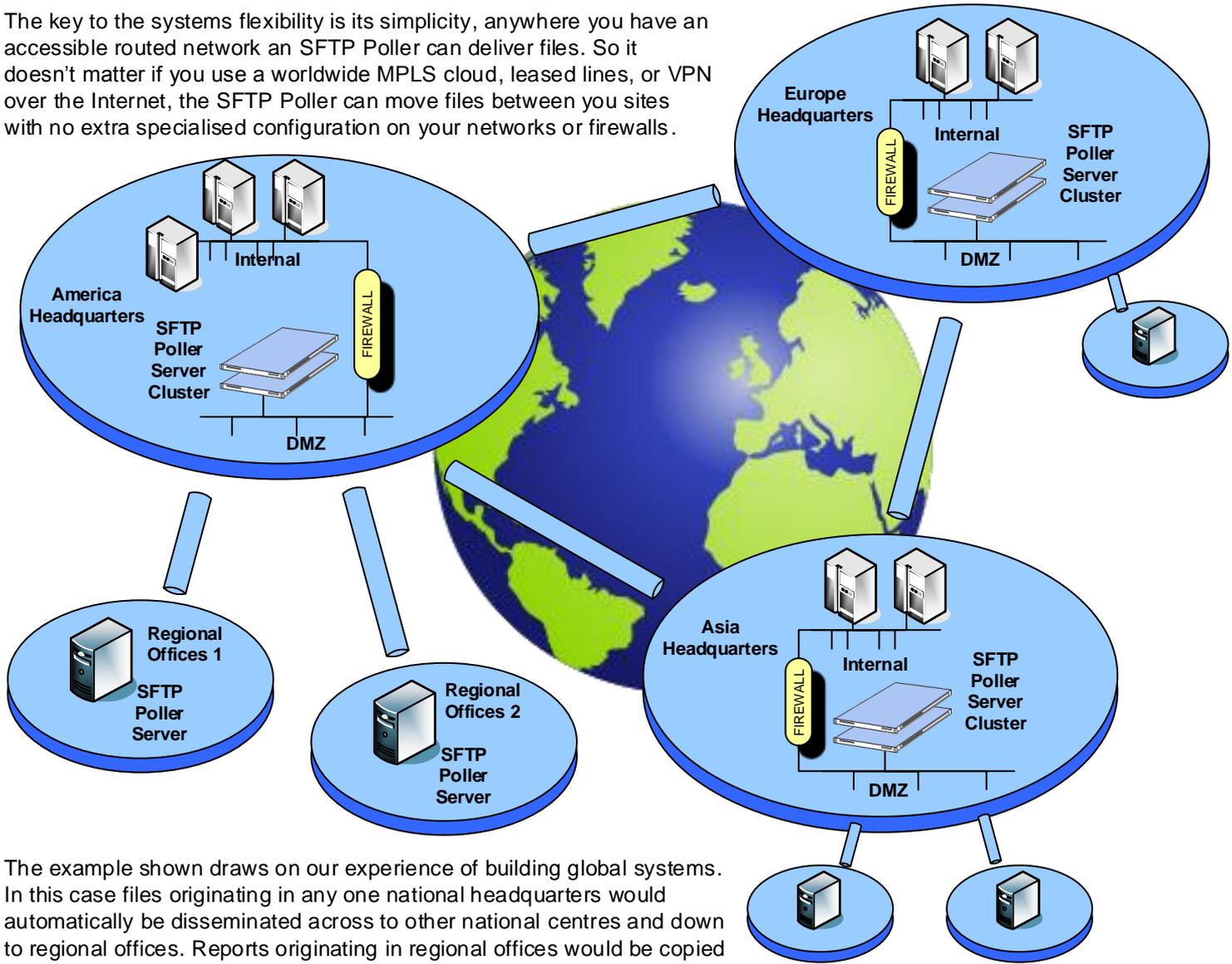


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Enterprise Design

The SFTP Poller can be scaled to provide enterprise level solutions that can support world wide activity. The system can be relied upon to disseminate files as part of global workflow, enabling systems and colleagues around the world to focus on carrying out useful work instead of distributing files.

The key to the systems flexibility is its simplicity, anywhere you have an accessible routed network an SFTP Poller can deliver files. So it doesn't matter if you use a worldwide MPLS cloud, leased lines, or VPN over the Internet, the SFTP Poller can move files between you sites with no extra specialised configuration on your networks or firewalls.



The example shown draws on our experience of building global systems. In this case files originating in any one national headquarters would automatically be disseminated across to other national centres and down to regional offices. Reports originating in regional offices would be copied back up the tree to international headquarters.

More Information

If you would like more details of the SFTP Poller or would like to discuss arranging a demonstration please contact us on: **020 8769 4484**

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