Archer 1.0

Hermes

System Administrator's Guide

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Overview

Hermes is a desktop file transfer client that allows users to transfer data files between the user's computer, an SRB, or a server supporting GridFTP. In the ARCHER context it is used primarily to upload data onto an SRB for management with XDMS.

Hermes is distributed as a single Java archive file (.jar). This file can be run directly by users to launch the application.

Hermes supports four transfer protocols: SRB, GSIFTP, FTP and SFTP. It supports MyProxy, Shibboleth and GSI authentication.

Note: Only the SRB protocol and MyProxy authentication have been tested by the ARCHER project.

Prerequisites

Hermes can be run on any Java-enabled platform, including Windows, Linux, and Macintosh.

Hermes requires that a Java Virtual Machine (JVM) 1.5 or later be present. This includes:

- J2SE 5.0
- Java SE 6

The Java Development Kit (JDK) version is not required.

Java SE can be downloaded from `http://java.sun.com/javase/downloads/index.jsp`.

Note: If multiple versions of the JVM are installed, ensure that the correct version is on the PATH. An incorrectly set PATH can prevent Hermes from starting.

Warning

Testing of Hermes by the ARCHER team uncovered a number of issues with serious ramifications for security when used in conjunction with XDMS. Since Hermes is an unrestricted file transfer client, users who have access to it have direct access to the XDMS project area, negating the XDMS model of data ingestion and curation. In particular:

1. Hermes does not enforce XDMS's model of data ingestion and curation. Users can maliciously or accidentally move, edit or delete files that are within the "project area".
2. Hermes does not update the ICAT when files in the project area are modified, so if users modify files in the project area, the ICAT will become out of sync with the state of the SRB.
3. Hermes does not respect XDMS's model of user permissions. Users who are defined as having "read only" access within XDMS may be able to modify files they shouldn't.

If users attempt to modify files within the project area using ARCHER Hermes 1.0, data integrity will be compromised.

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Installing Hermes

To install the Hermes Java archive (.jar), simply copy it into an appropriate directory.

MyProxy authentication

To use MyProxy authentication, you must install the MyProxy server certificate.

1. Obtain the MyProxy server certificate. In the standard ARCHER Data Services configuration, it is a file with a name like `6f449ce6.0` in `/etc/grid-security/certificates` on the MyProxy machine.
2. Copy it to `.globus/certificates` under the user's home directory. On Windows XP, this corresponds to `C:\Documents and Settings\username\.globus\certificates`.

GSI authentication

To use GSI authentication, you need to install a user certificate.

1. Obtain a user certificate for the target server. Using ARCHER Data Services, you can use `cert_tool`. See the ARCHER Data Services System Administrator's Guide for more information.
2. Copy it to `.globus/certificates` under the user's home directory. On Windows XP, this corresponds to `C:\Documents and Settings\username\.globus\certificates`.

Note: GSI authentication was not tested in the ARCHER project.

Shibboleth authentication

To use Shibboleth authentication, you do not need any certificates, but the user must have a user ID in the Australian Access Federation (AAF). International Shibboleth federationsare not supported.

Note: Shibboleth authentication was not tested in the ARCHER project.

Starting Hermes

Run Hermes from the command line as follows (Windows XP):

```
c:\hermes> java -jar hermes.jar
```

Troubleshooting

If an "OutOfMemoryError" exception is displayed, increase the amount of heap space as follows:

```
c:\hermes> java -Xmx128m hermes.jar
```

Most other errors are caused by the wrong version of Java being used. You can check the version of Java being used as follows:

```
c:\hermes> java -version
java version "1.6.0_05"
```

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Configuration

When Hermes is run for the first time, the New Connection window is automatically displayed. See the Hermes section of the ARCHER Toolset End User Guide for information on configuration settings.

Configuration settings are stored in `~/.hermes-filesystems` and `~/.hermes-icat`. On Windows XP, this corresponds to `"C:\Documents and Settings\username\.hermes-filesystems"` and `"C:\Documents and Settings\username\.hermes-icat"` .

Development and known issues

Hermes was developed by James Cook University for the ARCHER project. Its source code is released under the GNU General Public License.

Further development of Hermes is maintained at
http://sourceforge.net/projects/commonsvfsgrid/.

The current list of known defects is stored at
http://sourceforge.net/tracker/?func=browse&group_id=227912&atid=1072871.

Source code for the ARCHER 1.0 release can be downloaded at SourceForge:
https://commonsvfsgrid.svn.sf.net/svnroot/commonsvfsgrid/Hermes/tags/Hermes-1.0rc2.

Javadoc documentation are available at http://www.archer.edu.au/downloads.