

DaFIS TP Connectivity Issues and Application Crashes

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Summary of contributing factors and suggested resolutions

Factor	Resolution
Mapping Q: drive to proxy server	Use AFS Client to map Q: drive
Installed AFS Client, but Q: still mapped to proxy server	Remap Q: to AFS Client
Some versions of AFS Client with OpenBSD firewalls cause slow file access to Q: drive	Turn on No Do Not Fragment in firewall
Some versions of AFS Client do not work well	Avoid versions later than 1.5.39
Oracle 10g client works better than Oracle 9i client	Run DaFIS TP installer to upgrade
DaFIS TP installer runs very slowly	Resolve Q: drive issues first, then run installer
DaFIS TP installer error message: <code>SQLNET.ORA file was not installed</code>	Resolve Q: drive issues first, then run installer
DaFIS TP installer doesn't work with Windows Vista	A&FS needs to provide an ISO to allow install from CD

Addressing these contributing factors has reduced the incidence of DaFIS TP connectivity issues and application crashes, but may not eliminate them entirely.

Mapping Q: Drive to Proxy Server

The AFS proxy servers – i.e., a mapping to `\\proxy-afs\desktop` - are not working properly. The poor response began in June. The Data Center – provider of the AFS service – has not been able to resolve the issue with poor response. Plans are underway to discontinue the AFS proxy service.

Do not use the AFS proxy servers for DaFIS TP access.

Instead, install the AFS Client and remap the Q: drive to use the AFS Client.

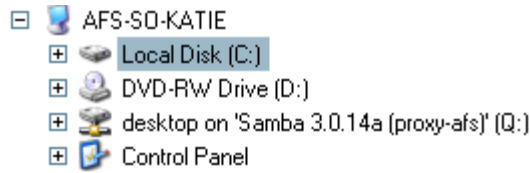
Instructions at <http://dafis.ucdavis.edu/install/afs/>

Installed AFS Client, but Q: Still Mapped to Proxy Server

After the AFS Client is installed, the Q: drive must be remapped to use the AFS Client. Otherwise, the proxy server will still be in use – and file access poor.

Use Windows Explorer to double-check the Q: drive mapping.

Mapped to proxy server (incorrect mapping) looks like this. Note that 'proxy-afs' is shown in the mapping. That is what indicates that the proxy server is still being used to map the Q: drive.



To remap using the AFS Client

- In Windows Explorer, right-click on the Q: drive and select **Disconnect**.
- Follow the instructions in Step 3 at <http://dafis.ucdavis.edu/install/afs/> to remap the Q: drive using the AFS Client

Mapped via AFS Client, global mapping method, looks like this – and verifies that the AFS Client is indeed being used. Don't be thrown off by the 'Disconnected Network Drive' – that is just the name appears in Windows Explorer when using the global mapping method.



Mapped via AFS Client, current user mapping method, looks similar to this – and verifies that the AFS Client is indeed being used. Note that part of the host name is included in the mapping – so the mapping on each computer will show its host name.



Some Versions of AFS Client with OpenBSD Firewalls Cause Slow File Access

AFS Client version 1.5.34 and higher apparently utilizes a packet size that may result in slow file access to the Q: drive for computers protected by an OpenBSD firewall. A maximum packet size up to and including 1431 bytes seem to work fine. Packet sizes larger than 1431 bytes reduce the throughput by a factor of about 10.

In A&FS, this configuration change resolved the slow file access

Previous OpenBSD pf setting `scrub in all random-id fragment reassemble`

New OpenBSD pf setting `scrub in all random-id fragment reassemble no-df`

Disclaimer: This turns off fragmentation reassembly for all traffic in the firewall, which opens some operating systems to various forms of attack via buffer overruns from purposely crafted bad packets. It also breaks other sorts of traffic – particularly on UNIX boxes that expect certain IP checksums. It may be best to use the alternate solution below; or only use OpenBSD configuration change temporarily to verify that packet size is an issue in your environment, then implement the alternate solution.

Another solution to this issue is to explicitly set the packet size used by the AFS Client. This requires a registry setting on each PC running the AFS Client. Instead of the default value of 0, enter an explicit RxMaxMTU value.

<http://dl.openafs.org/dl/openafs/1.5.34/winxp/relnotes-frames.htm>

Value: *RxMaxMTU*

Type: DWORD

Default: 0

Variable: rx_mtu

If set to anything other than 0, that value is used as the maximum send and receive MTU supported by the RX interface. The value below shows a RxMaxMTU setting of 1431 bytes.

Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\TransarcAFSDaemon\Parameters]

"RxMaxMTU"=dword:00000597

Some Later Versions of AFS Client Do Not Work Well

We've received reports that some later versions of the AFS Client do not work properly (cannot get the Q: drive mapped).

Version 1.5.39 is known to work and can be downloaded from

<http://www.openafs.org/release/openafs-1.5.39.html>

Oracle 10g Client Works Better than Oracle 9i Client

The Oracle client is used for DaFIS TP logins and database access. If DaFIS TP was installed prior to April 2008, the Oracle 9i client was installed. Although the Oracle 9i client should be completely compatible with the DaFIS TP application and the Oracle 10g database, it does not appear to work as well as the Oracle 10g client.

To upgrade to the Oracle 10g client, run the DaFIS TP installer. Instructions are at

http://dafis.ucdavis.edu/install/install/install_new.cfm

Important: If the Q: drive connectivity is normal, the DaFIS TP installer should run to completion in about **six** minutes. If the DaFIS TP installer is running slowly, resolve any issues with AFS client connectivity (i.e., Q: drive mapping – see resolutions listed above) and then try the DaFIS TP installer again. Also, if you encounter a partial or failed DaFIS TP install attempt, do an expert uninstall of DaFIS before running the installer a second time. Instructions for the expert uninstall are at

http://dafis.ucdavis.edu/install/install/install_remove.cfm

DaFIS TP Installer Runs Very Slowly

If the Q: drive connectivity is normal, the DaFIS TP installer should run to completion in about **six** minutes. If the DaFIS TP installer is running slowly, resolve any issues with AFS client connectivity (i.e., Q: drive mapping – see resolutions listed above) and then

try the DaFIS TP installer again. Also, if you encounter a partial or failed DaFIS TP install attempt, do an expert uninstall of DaFIS before running the installer a second time. Instructions for the expert uninstall are at

http://dafis.ucdavis.edu/install/install/install_remove.cfm

Note: If the DaFIS TP installer runs very slowly, file access when running DaFIS TP will also be slow – resulting in DaFIS TP application crashes. A slow install is an indication that AFS client connectivity issues need to be addressed.

DaFIS TP Installer Error Message: SQLNET.ORA file was not installed

If the Q: drive connectivity is normal, the DaFIS TP installer should run to completion in about six minutes. If the DaFIS TP installer is running slowly, you may get the an error message:

```
The UCD-localized SQLNET.ORA file was not installed. Destination
directory not found: C:\Oracle\DaFIS10g\network\admin
```

Resolve any issues with AFS client connectivity (i.e., Q: drive mapping – see resolutions listed above) and then try the DaFIS TP installer again. Also, if you encounter a partial or failed DaFIS TP install attempt, do an expert uninstall of DaFIS before running the installer a second time. Instructions for the expert uninstall are at

http://dafis.ucdavis.edu/install/install/install_remove.cfm

Note: If the DaFIS TP installer runs very slowly, file access when running DaFIS TP will also be slow – resulting in DaFIS TP application crashes. A slow install is an indication that AFS client connectivity issues need to be addressed.

DaFIS TP Installer Doesn't Work with Windows Vista

The DaFIS TP installer does not launch properly under Windows Vista. We are aware of this issue. We will be packaging an ISO of the installer and hope to have this available soon.

As a workaround,

- Copy the contents of Q:\DaFIS\Special\10g_Vista to a local drive
- Run the setup.exe located in that folder and follow the manual install instructions at http://dafis.ucdavis.edu/install/install/install_manual.cfm
- In addition to copying the ldap.ora file as described in the instructions, copy Q:\DaFIS\Special\extras\sqlnet10g.ora to the same directory as you copied the ldap.ora file and rename it to sqlnet.ora

Background

There are widespread reports of DaFIS TP connectivity issues and application crashes. These issues began in May 2007 and continue today. Some areas report few problems, others report multiple crashes per hour. In some cases things may be working well for one person in a department but poorly for a colleague in the same department. In some

cases a person may go days or weeks with relatively good performance and then hit a 'bad' day with multiple crashes throughout the day. The resolutions described in this document have helped reduce the incidence of crashes in many cases. Use all of the resolutions methods that apply to your environment.