UK Academic Community Directory Group

Tailoring Quipu’s logging

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ABSTRACT

This note makes recommendations on configuring the logging produced by Quipu DSAs in the UK academic pilot. A suggested location is given for the Quipu log files. In addition, advice is given on the suggested level of logging. This is critical, as it will allow UCL’s log processing scripts to be run unaltered. The comments in this note specifically apply to sites running the UK pilot default set-up, but should be meaningful to other sites running Quipu.

The log file locations and logging levels recommended herein are set up in the revised system configuration scripts, which will be available from early in May, 1990.

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1. Introduction

ISODE, and Quipu in particular, can be configured to produce a variety of log files, each with varying degrees of verbosity. Much of this logging is mainly useful for diagnostic purposes, both of the underlying protocol stack and of Quipu system itself.

However, Quipu also produces a considerable amount of logging which enables a system administrator to monitor usage of the Directory. Analysis of these logs allows the production of statistics of Directory usage. This note focuses on this type of logging.

2. Log files

This section very briefly outlines the purpose of each of the main types of logging.

2.1. Underlying protocol stack

By default, this logging is written to the terminal where the process was initiated. For processes started on system start-up from the **/etc/rc.local** file, this will be the system's console. It is possible to redirect this logging to a file or files by editing the **isotailor** file, which is by default in the **/usr/etc** directory. This is recommended. Details of how to make this change are given later.

2.2. DSA diagnostic logging

DSA diagnostic logging is by default written into a file called **dsap.log** in the **/usr/tmp** directory. This log file records, *inter alia:*

- o Information about DAP/DSP (de-)coding problems
- o Warnings about unknown attributes
- o DSA crash and restart information

2.3. DSA operation logging

Normal operational logging by a DSA is written by default to a file called quipu.log in the **/usr/tmp** directory. This records, *inter alia:*

- o Who has bound to the DSA, and using what protocols.
- o Each X.500 operation initiated and received by the DSA, and some details about that operation.
- o Each Quipu-specific operation initiated and received by the DSA, such as the Getedb operation used for replication of Quipu EDBs.

2.4. DUA operational logging

Some aspects of DUA operation may be logged to a file. (This logging is in addition to any interface-specific logging). The default directory is the **/usr/tmp** directory. The default filename has changed between versions of quipu. If there are no entries to the contrary in the configuration files, this logging may also get written to quipu.log.

3. Suggested modifications to the default set-up.

For a number of reasons, the default set-up is unsatisfactory.

- o It is undesirable to have potentially valuable diagnostic logging written to a terminal where it will be lost as the screen is scrolled.
- o The default logging directory should be more permanent than **/usr/tmp,** which may be cleared according to system rules which take no account of the importance of these logs. Since there is a requirement on pilot sites to report on usage of the Directory, it seems sensible that these files are written to a quipu-specific place.

The following sections detail the changes that need to be made to the ISODE and Quipu configuration files.

Note that some of these changes are already configured in the revised U.K. Pilot directory system configuration scripts (available early May 1990).

3.1. isotailor

The **isotailor** file is used for system-wide ISODE tailoring. By default, this file is in the **/usr/etc** directory. Two specific settings are advised here:

- i) Edit the **logpath** variable to point to a more suitable directory. Note that this variable should end in a trailing "/". Note that all ISODE protocol stack logging will now go to this directory (Quipu, FTAM, NTP, etc), unless further redirected by application specific tailoring.
- ii) Alter the filename where the logging is written to from standard output (indicated by a "-") to an appropriate choice. **isode.log** seems a reasonable suggestion. Note that the filename needs altering for all the protocol layers.

The relevant parts of the isotailor file should now look something like:

```
logpath:        /u2/isode/logs/
compatlevel:    exceptions
compatfile:     isode.log
addrlevel:      exceptions
addrfile:       isode.log
x25level:       exceptions
x25file:        isode.log
tsaplevel:      exceptions
tsapfile:       isode.log
ssaplevel:      exceptions
ssapfile:       isode.log
psaplevel:      exceptions
psapfile:       isode.log
psap2level:     exceptions
psap2file:      isode.log
acsaplevel:     exceptions
acsapfile:      isode.log
rtsaplevel:     exceptions
rtsapfile:      isode.log
rosaplevel:     exceptions
rosapfile:      isode.log
```

3.2. quiputailor

The **quiputailor** file is used for quipu-specific tailoring, and can be used to over-ride values set in **isotailor.** It is advisable to do this here as it seems desirable to have a separate directory for quipu logs. By default, this file is in the **/usr/etc** directory. Two specific settings are advised here (but be careful with the syntax - it differs subtly from that used in the **isotailor** file):

i) Edit the **logdir** variable to point to a more suitable directory. Note that this variable should end in a trailing "/". This over-rides the **logpath** variable set in the **isotailor** file for quipu-specific logging.

ii) Set the **stats** variable to the recommended level. This can be done in one of two ways:

   a) Omit the **stats** variable from the **quiputailor** file - omission of this variable sets a default value which is exactly that required.

   b) If the **stats** variable is present, ensure that the line looks as below.

The following is a fragment from the **quiputailor** file.

```
# logging directory
logdir          /u2/quipu/logs/dsa/

# full logging
stats           level=TRACE level=NOTICE
```

3.3. dsaptailor

The **dsaptailor** file is used to configure aspects of DUA operation. As stated earlier, the default file name for this type of logging has been changed since the release of ISODE-6.0. Also, by default, this logging will get written to the file configured in the isotailor file. You may wish to over-ride this: if you do, make sure that you create a directory with the pathname that you have specified.

To ensure that there is no confusion, the following lines in the dsaptailor file are recommended:

```
# logging directory
logdir          /u2/quipu/logs/dua/

# full logging
stats           level=TRACE level=NOTICE file=dua.log
```