Prototype Instructions

A prototype RabbitMQ-based client logging facility for NC user commands
has been added. To enable:

1. Install RabbitMQ server per the instructions found at
https://www.rabbitmq.com/download.html. The server does not have to be
the same as that of the NC server. RabbitMQ requires Erlang to be
installed.

2. This prototype defaults to using RabbitMQ's guest user. By default,
this user cannot connect to a remote RabbitMQ server. To enable, add
"loopback_users = none" to the /etc/rabbitmq/rabbitmq.conf file, then
restart the RabbitMQ server.

If a non-guest user is desired, such as the user "rmquser" shown in the
examples below, add the following environment variable definition to the
$VOVDIR/local/vncConfig/queuename.tcl file:

setenv VOV_CLIENT_LOG_USER rmquser

Next, generate a RabbitMQ password for the user using:

vovsh -x "puts [vtk_client_log_genkey]"

A password will be printed that can be used with the rabbitmqctl utility
to set the password for rmquser. Also printed will be the definition for
the VOV_CLIENT_LOG_KEY environment variable that should be added to the
$VOVDIR/local/vncConfig/queuename.tcl file.

3. Two additional environment variables are required to enable logging:
VOV_CLIENT_LOG must be set to 1 and VOV_CLIENT_LOG_HOST must be set to
the host on which the RabbitMQ server is running. These can also be set
in the $VOVDIR/local/vncConfig/queuename.tcl file. Optionally, if the
default RabbitMQ port of 5672 is not being used, VOV_CLIENT_LOG_PORT will
need to be set to the configured RabbitMQ server port.

These steps will result in client messages being published to the
RabbitMQ server. A message consumer will need to be created to do
something with these messsages, such as write them to a log file, or
store them in a database. A consumer reference design has been included
in this prototype to demonstrate the effectiveness of the solution. The
reference design is in the form of a Tcl daemon (vovclientlogd) that
captures the messages in a daily-rotated log file, stored under
$SWD/logs/clients.

To start vovclientlogd, use the start_vovclientlogd.tcl script found in
$VOVDIR/etc/autostart. For instance, run:

vovsh -f $VOVDIR/etc/autostart/start_vovclientlogd.tcl

This script can be called manually on any host in a shell that has been
enabled to communicate with the NC server, or it can be copied into the
$SWD/autostart directory to run the daemon automatically on the NC server

host at queue start time. If being copied into this directory for a live queue, the daemon can be started manually via the vovautostart command.

Prototype notes:

1. Only incantations of the nc and wx user commands will result in a message being published to RabbitMQ. The message will contain the user, host, pid, ppid, NC queue name, time, command elapsed time (in ms), and the command itself.
2. Publisher operations are silent, even upon error, so that output formats remain unchanged for the nc and wx user commands.
3. The vovclientlogd daemon will exit if the RabbitMQ server is stopped or restarted.
4. This is a prototype and is not in final form. Configuration and/or implementation adjustments may be required in order to attain the desired visibility and scale.