

Catherine Greene
Section 7, 8, 9

The Server Messages pane is located at the section in the bottom of the MoteView window. This displays server side messages, error messages, and general status messages. The Server Messages tab displays the XServe messages, raw/converted packets and database insert statements. The Error Messages tab displays exceptions/errors reported by MoteView software. The Status bar at the bottom displays chart query status, current database and gateway settings in a plain view. On the status bar, the left hand side displays the Charts query (Loading... or Done), the center displays the Database and table name, and on the right hand side, it displays the gateway type and port settings.

XServe is a packet parsing and data logging server that comes with MoteView. A user can run XServe from a Cygwin shell (the cygwin1.dll library in the MoteView installation directory has to match the cygwin1.dll library in the user's cygwin/bin/ directory). MoteView starts XServe when a session is started, some commands that will be used during this time are:

```

Usage: xserve <-?|r|a|p|c|xr|xp|xc|dbxmlr|xmlp|xmlc|v|alert|m>
<-l=tablename>
<-dbserver=servername> <-dbport=portnum>
<-dbname=database name> <-dbuser=username> <-dbpasswd=password>
<-h=path,hostname,portnum,config_file>
<-m=com,baud,protocol,slaveaddress,defaultregistervaluesas>
<-xmlfile=filename> <-xmlport=portnum>
[<-sf=hostname:port> | <-fsf=hostname:port> | <-device=dev>]
<-port=num> <-baud=num> <-platform=plt>
<-debug=level>
<-configfiles=filename:filename:>
<-loadparsers=filename:filename:...>
<-loaddatasinks=filename:filename:...>
<-heartbeat=<num missed>

-?          = display help [help]
-r          = raw display of tos packets [raw]
-a          = ascii display of tos packets [ascii]
-p          = parsed display of tos packets [parsed]
-c          = converted display of tos packets [conveted]
-xr        = raw tos packets xported to file [export raw]
-xp        = parsed tos packets exported to file [export parsed]
-xc        = converted tos packets exported to file [export converted]
-db        = parsed tos packets exported to db [database parsed]
-dbserver  = database server name (default=localhost)
-dbport    = database server port number (default=5432)
-database  = database name (default=MoteView db)
-dbuser    = database user (default=MoteView user)
-dbpasswd  = database user password (default=MoteView user password)
-l         = parsed tos packets exported to db
           (deprecated) [database parsed]
-xmlr      = raw tos packets exported to xml [xml raw]
-xmlp      = parsed tos packets exported to xml [xml parsed]
-xmlc      = converted tos packets exported to xml [xml converted]
-xmlfile   = file name to store exported xml (default=screen)
-xmlport   = port number to start the xml server
-v         = show version of all modules
-h         = display data through web server
-m         = export data using modbus
-port      = set server port <default = 9001>
-sf        = connect to unframed serial forwarder
-fsf       = connect to framed serial forwarder
-device    = connect to serial device <default = /dev/ttyS0>
-baud      = set serial baud rate <default = 57600>
-platform  = set platform. <default = mica2>
           values=mica2dot|mica2|mica|telos|micaz
-debug     = set debug level. <default = DBG_WARNING>
-alert     = alert when data values are above/below specified ranges
-daemon    = run in daemon mode
-nomonitor = run without a system monitor
-configfiles = load xml configuration files.
-loadparsers = load only the listed parsers files from the
           shared_lib. (default=all files are loaded)
-loaddatasinks = load only the listed datasinks files from the
           shared_lib. (default=all files are loaded)
-heartbeat = turn on the heartbeat monitor and reset after <num
           missed>
-conv2to2  = convert incoming network packets from micaZ headers to
           mica2 headers and vice versa
-conv2toZ  = convert incoming network packets from mica2 headers
           to micaZ headers and vice versa
-joinfile  = node mapping file for unique ids joining the nextwork
-noorganic  = disable organic growth for joining nodes

```

PostgreSQL is an advanced relational database system that comes with MoteView. The database tables that MoteView accesses can be manipulated by advanced users. To access the PostgreSQL database, from a Cygwin shell type "psql -h localhost -U tele task". The response to that command would look like:

```
$ psql -h localhost -U tele task
Welcome to psql 7.4.5, the PostgreSQL interactive terminal.

Type:  \copyright for distribution terms
       \h for help with SQL commands
       \? for help on internal slash commands
       \g or terminate with semicolon to execute query
       \q to quit

task=#
```

SQL is the generic command language that's used to manipulate databases like PostgreSQL. A list of useful commands follows:

- ? = display help [help]
- r = raw display of tospackets [raw]
- a = asciidisplay of tospackets [ascii]
- p = parsed display of tospackets [parsed]
- c = converted display of tospackets [converted]
- xr= raw tospackets exported to file [export raw]
- xp= parsed tospackets exported to file [export parsed]
- xc= converted tospackets exported to file [export converted]
- db = parsed tospackets exported to db [database parsed]
- dbserver= database server name (default=localhost)
- dbport= database server port number (default=5432)
- dbname= database name (default=MoteViewdb)
- dbuser= database user (default=MoteViewuser)
- dbpasswd= database user password (default=MoteViewuser password)
- l = parsed tospackets exported to db
- xmlr= raw tospackets exported to xml [xml raw]
- xmlp= parsed tospackets exported to xml [xml parsed]
- xmlc= converted tospackets exported to xml [xml converted]
- xmlfile= file name to store exported xml (default=screen)
- xmlport= port number to start the xml server
- v = show version of all modules
- h = display data through web server
- m = export data using modbus
- port = set server port <default = 9001>
- sf= connect to unframed serial forwarder
- fsf= connect to framed serial forwarder
- device = connect to serial device <default = /dev/ttyS0>
- baud = set serial baud rate <default = 57600>
- platform = set platform. <default = mica2> values=mica2dot|mica2|mica|telos|micaz
- debug = set debug level. <default = DBG_WARNING>

-alert = alert when data values are above/below specified

The pre-compiled XMesh applications included with MoteView generate health packets at regular intervals. These health packets encapsulate the state of the wireless mesh over time. The Health tab displays the latest health packet readings received for each node in the network. In addition to the node health packet, each Mote also transmits a neighbor health packet. The latter is logged to the PostgreSQL database but is not currently displayed by MoteView.

All information recieved from the MoteView Users Manual