Tip of the Month :

- How find a problem yourself or report a problem if you can’t …

Finding a Problem Yourself

- When to look at a log file:
  - Configuration problems that prevent a server from
    - *Starting*
    - *Running correctly*
  - Runtime problems that occur spontaneously
    - *Crash*
    - Client receives "*access denied*"
    - *Synchronization* problems
      - e.g. client suddenly stops receiving data, but the server is still running: was the clock set back?
    - etc.

Finding a Problem Yourself

- When to use runtime debug tools
  - Application is running but not behaving properly
    - Constant or frequent link timeouts
    - High CPU load
    - Other specific link errors
      - access denied
      - illegal (something)
      - etc.
  - You're just curious what the application is doing …

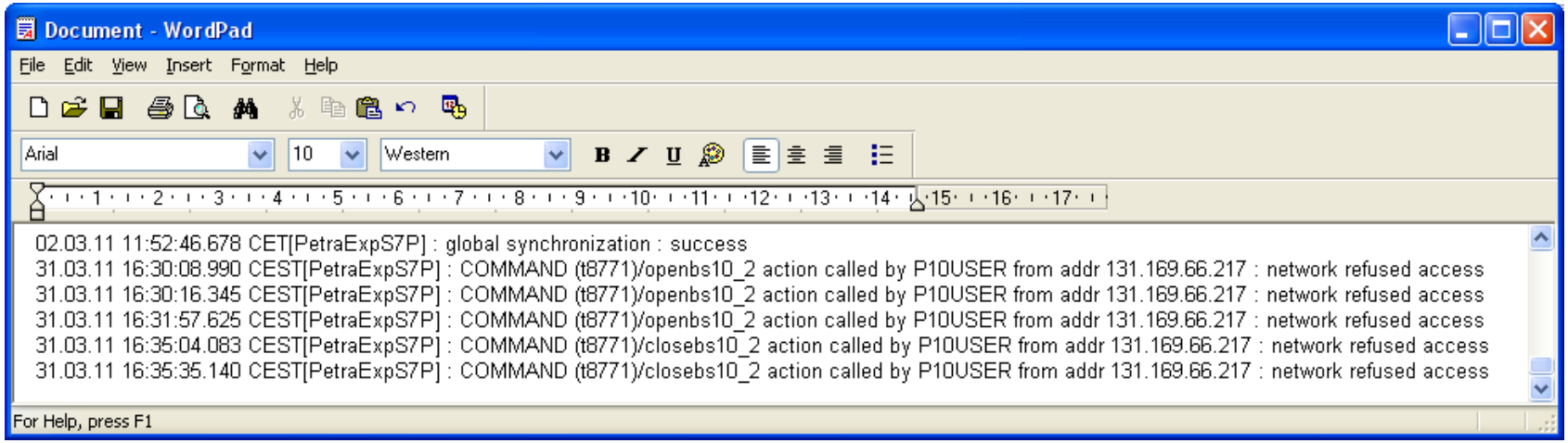
Server Log Files

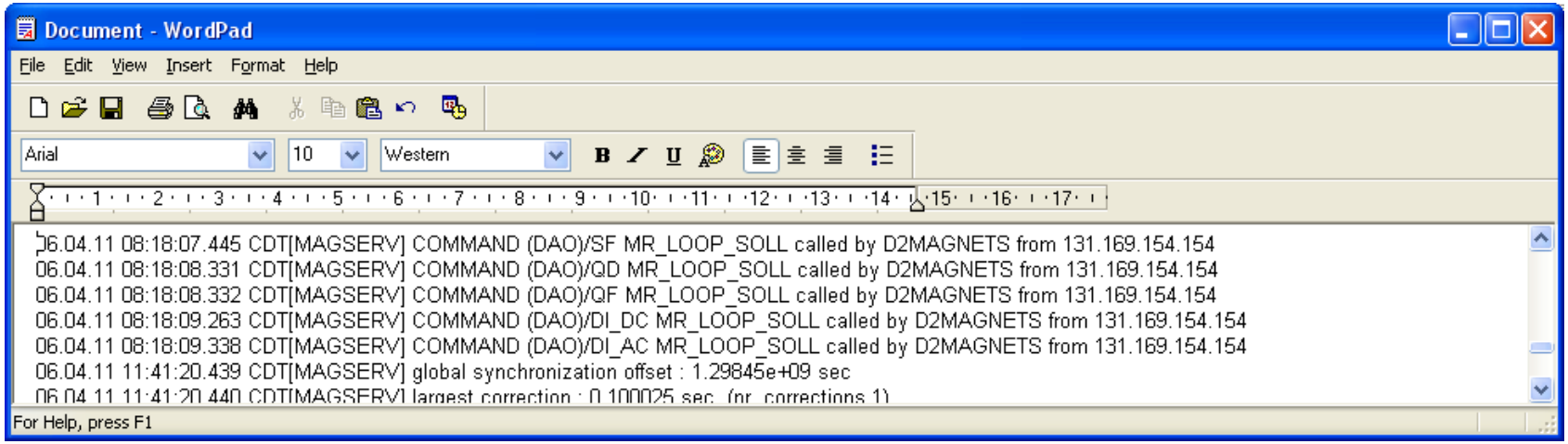
- fec.log (aka fec.log.0 in java)
  - Location determined by:
    - Environment variable "**FEC_LOG**" (1st)
    - Environment variable "**FEC_HOME**" (2nd)
    - Working directory (3rd)
    - *Appended and rotated (fec.bak)*
- cdi.log
  - Location determined by:
    - Environment variable "**CDI_HOME**" (1st)
    - Environment variable "**FEC_HOME**" (2nd)
    - Working directory (3rd)
    - *Recreated at each startup*

Server Log Files

- fec.log
  - Configuration entries
  - Commands (by default)
    - Property and caller (prior to dispatch)
    - Reasons for refusal (i.e. if ‘access denied’)
  - Time synchronization information
  - Alarm information
  - History information
  - Any ‘user’ added entries
    - via feclog() API

Server Log Files

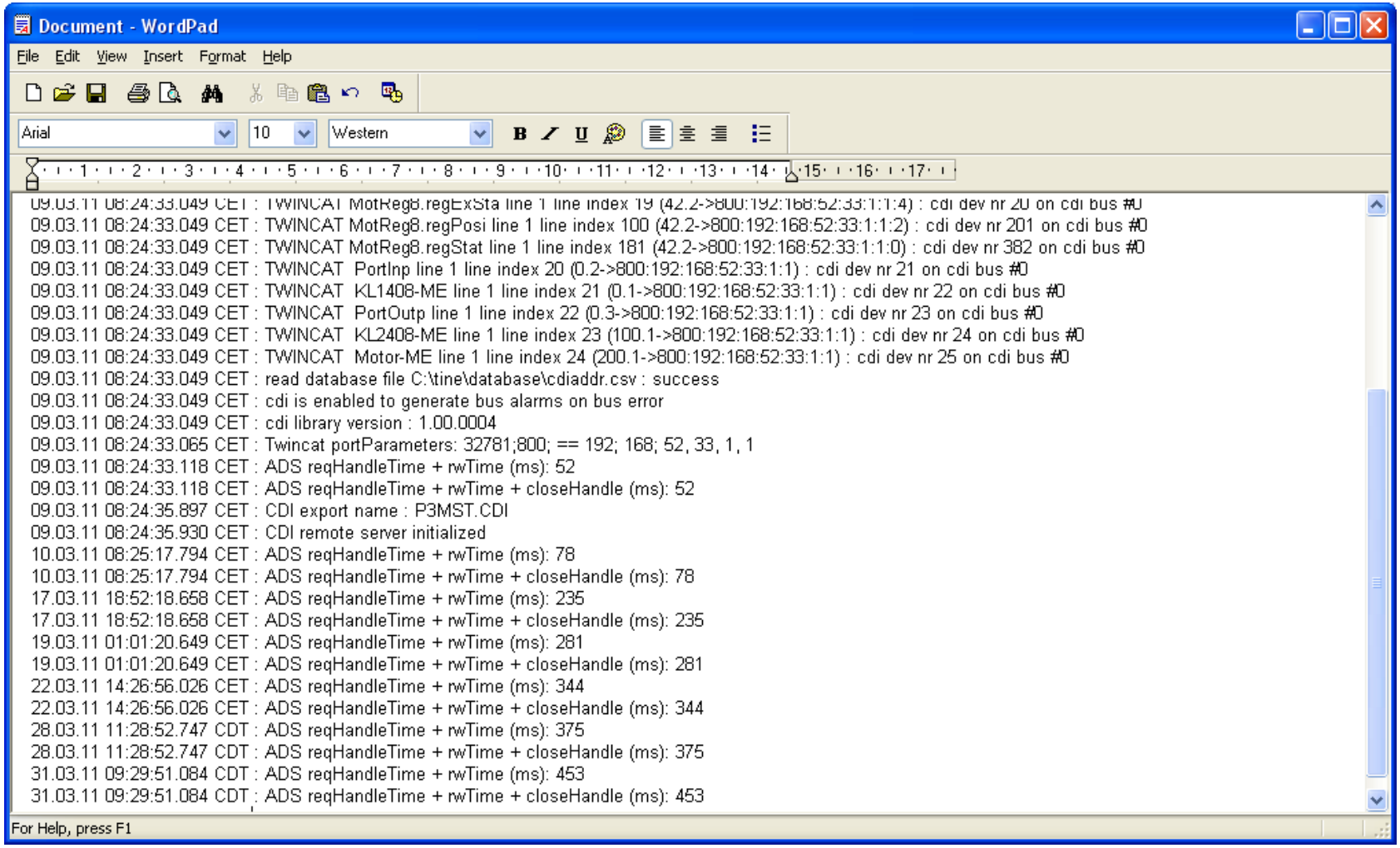




Server Log Files

- cdi.log
  - Configuration entries
  - Bus/Hardware errors
  - Some CDI link information
  - Bus plug information

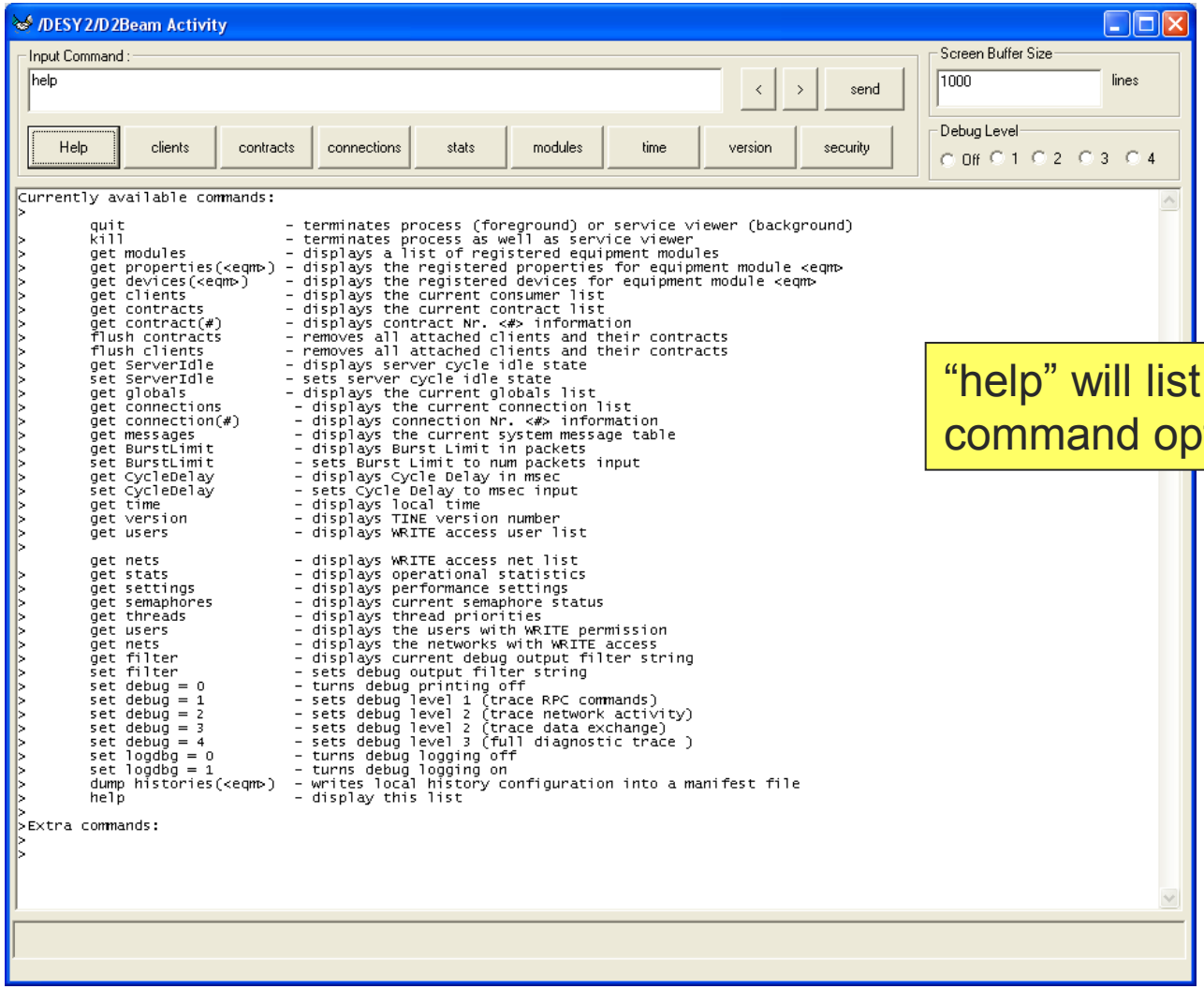
Server Log Files



Runtime Debugging

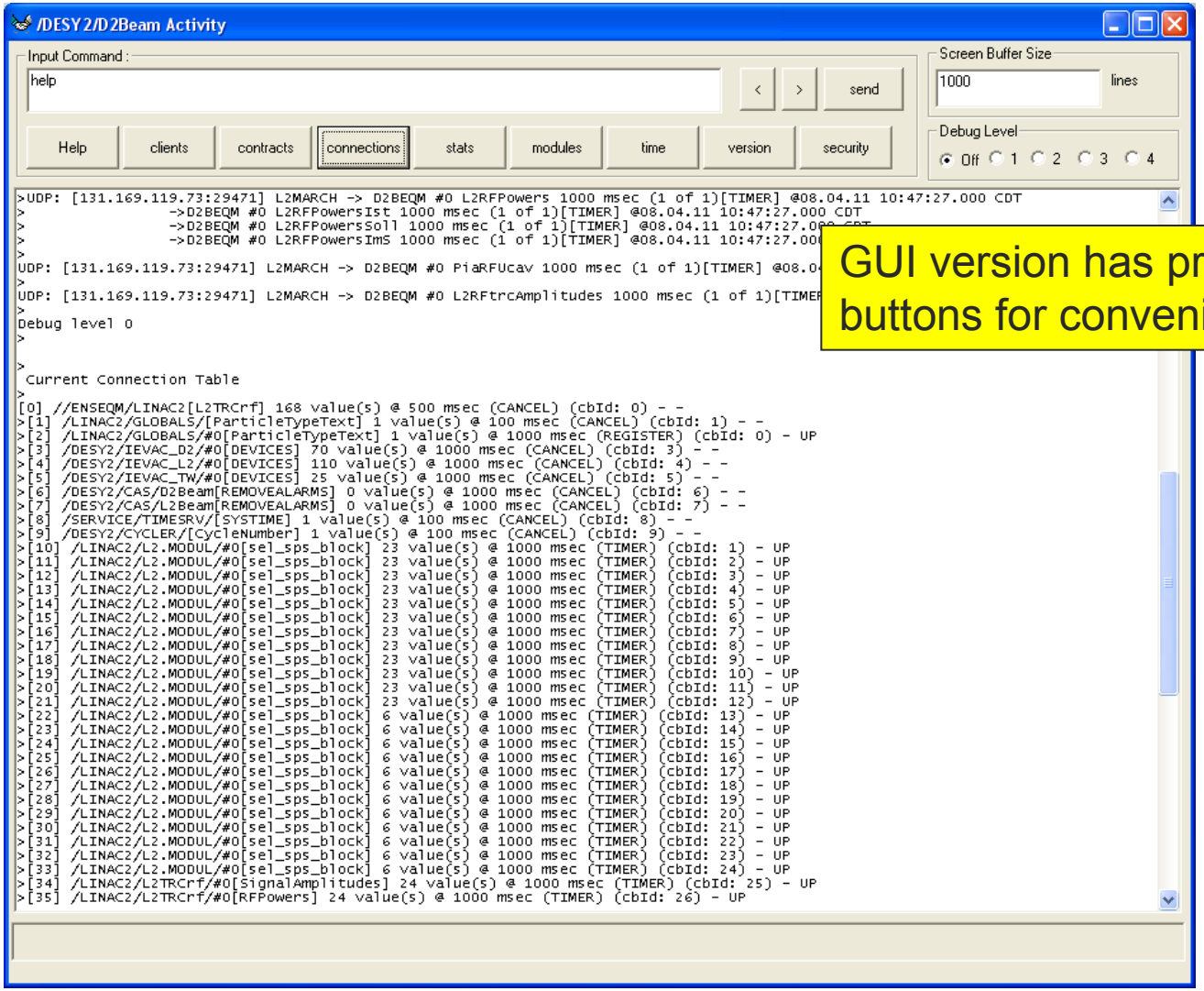
- Use ‘attachfec’
  - See users meeting from Sep 3, 2010 (http://adweb.desy.de/mcs/TINE_Users_Meeting/2010Sep03/Release4News.pdf)
  - Attaches to
    - FECS (normal case)
      - attachfec P3MST.0
        - attaches via local pipe to FEC named P3MST.0 i.e. to a pipe named P3MST.0.ipc
      - attachfec /PETRA/Scrapers
        - attaches via TCP to FEC process which is managing the server /PETRA/Scrapers
        - NOTE: Java servers must use this variant (or enter debug mode via the ‘spider’)

Attachfec



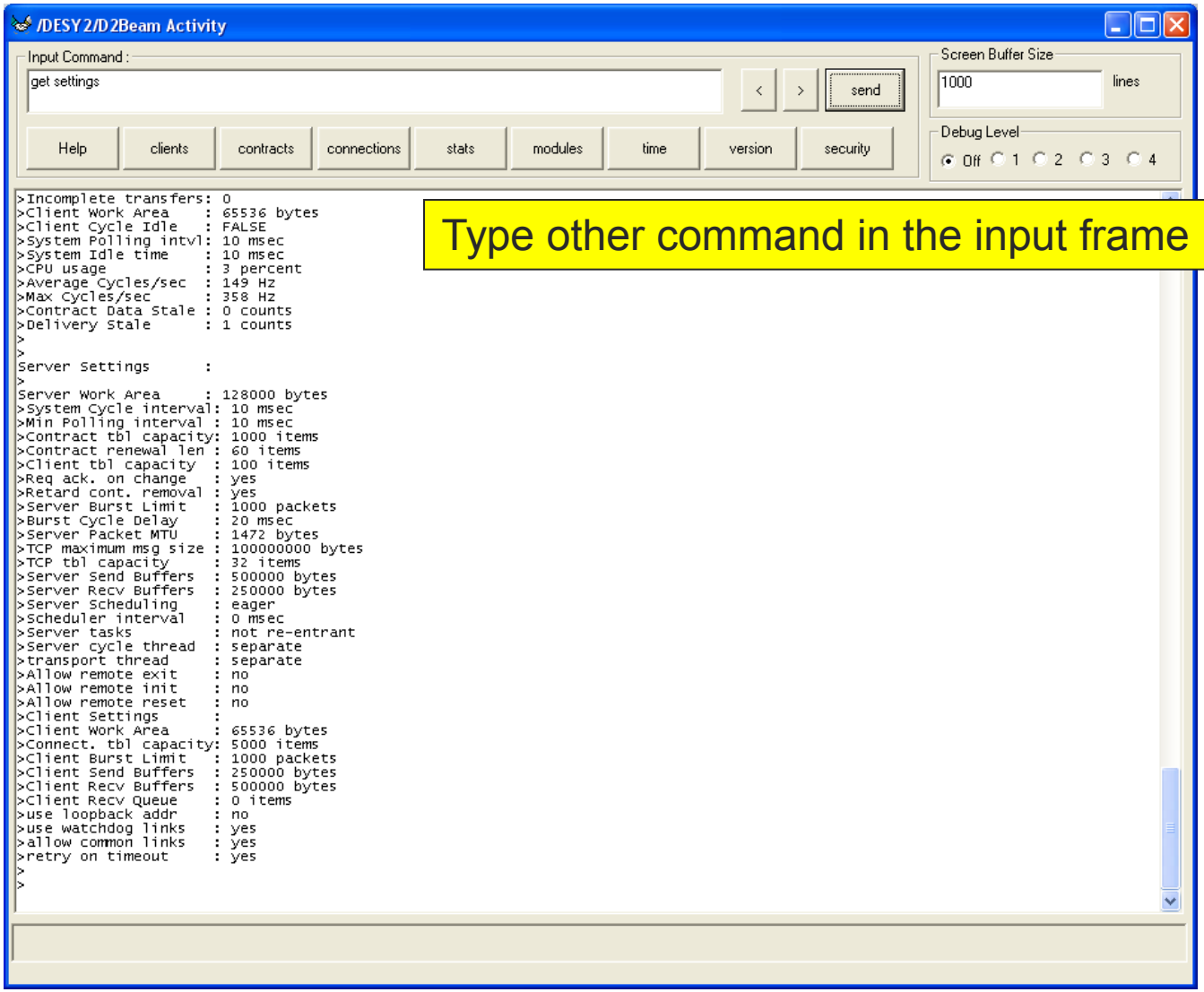
"help" will list available command options

Attachfec

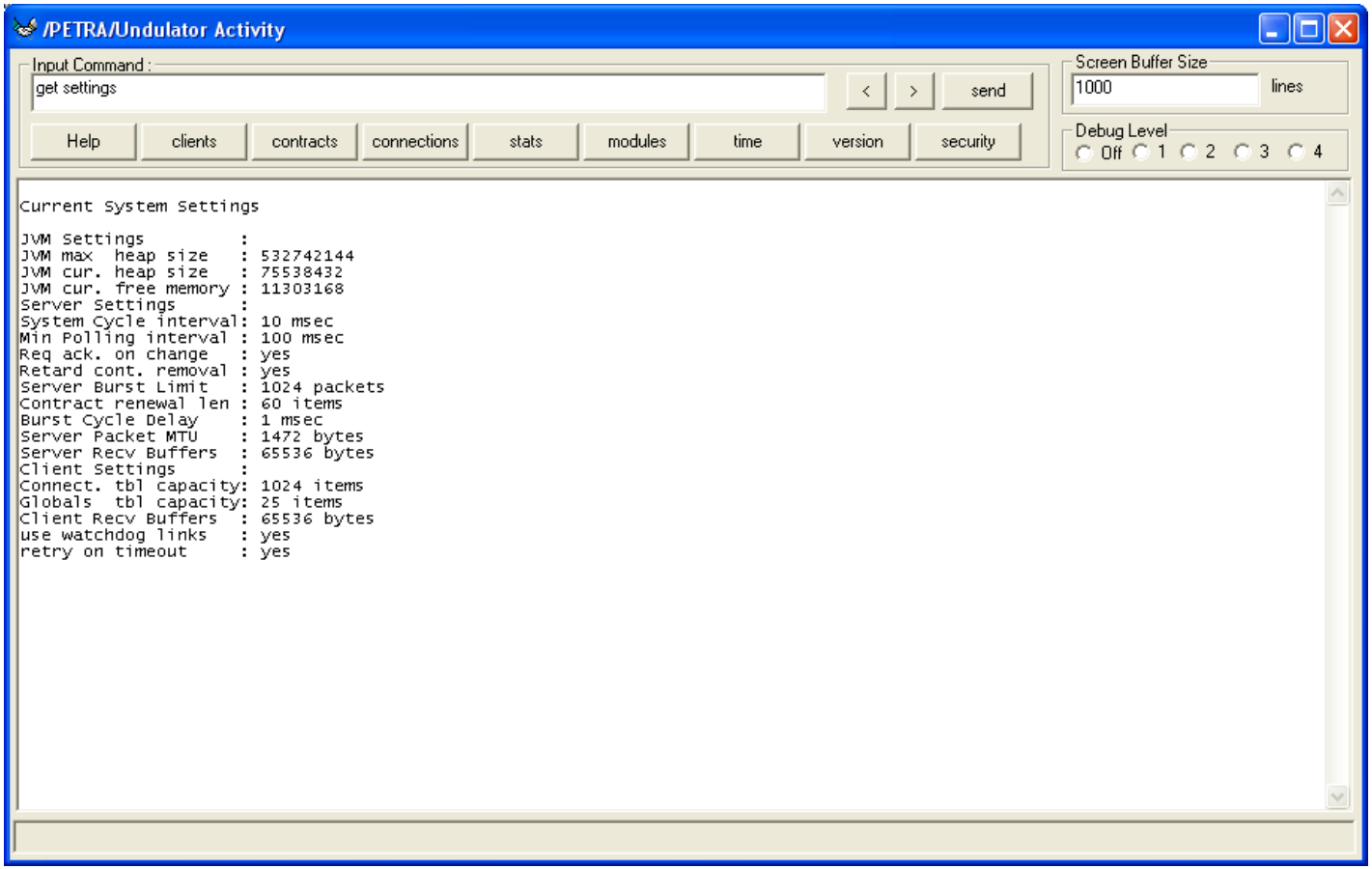


GUI version has pre-defined buttons for convenience

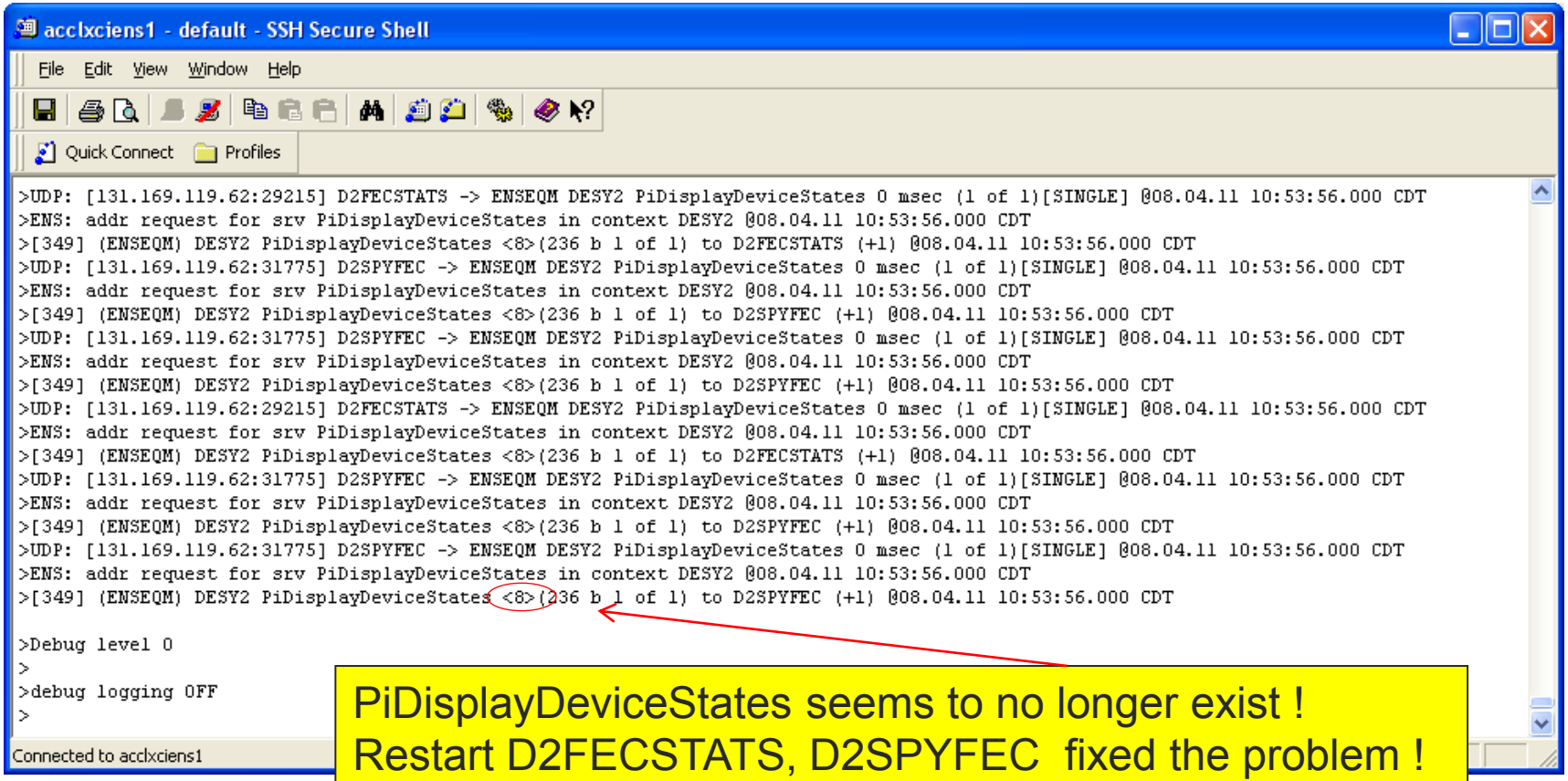
Attachfec


/DESY2/D2Beam Activity
Input Command :
get settings
send
Screen Buffer Size
1000
lines
Debug Level
Off 1 2 3 4
Help
clients
contracts
connections
stats
modules
time
version
security
>Incomplete transfers: 0
>Client Work Area : 65536 bytes
>Client Cycle Idle : FALSE
>System Polling intvl: 10 msec
>System Idle time : 10 msec
>CPU usage : 3 percent
>Average Cycles/sec : 149 Hz
>Max Cycles/sec : 358 Hz
>Contract Data Stale : 0 counts
>Delivery Stale : 1 counts
Server Settings :
>Server Work Area : 128000 bytes
>System Cycle interval: 10 msec
>Min Polling interval : 10 msec
>Contract tbl capacity: 1000 items
>Contract renewal len : 60 items
>Client tbl capacity : 100 items
>Req ack. on change : yes
>Retard cont. removal : yes
>Server Burst Limit : 1000 packets
>Burst Cycle Delay : 20 msec
>Server Packet MTU : 1472 bytes
>TCP maximum msg size : 100000000 bytes
>TCP tbl capacity : 32 items
>Server Send Buffers : 500000 bytes
>Server Recv Buffers : 250000 bytes
>Server Scheduling : eager
>Scheduler interval : 0 msec
>Server tasks : not re-entrant
>Server cycle thread : separate
>transport thread : separate
>Allow remote exit : no
>Allow remote init : no
>Allow remote reset : no
>Client Settings :
>Client Work Area : 65536 bytes
>Connect. tbl capacity: 5000 items
>Client Burst Limit : 1000 packets
>Client Send Buffers : 250000 bytes
>Client Recv Buffers : 500000 bytes
>Client Recv Queue : 0 items
>use loopback addr : no
>use watchdog links : yes
>allow common links : yes
>retry on timeout : yes
Type other command in the input frame

Attachfec (to a java server)

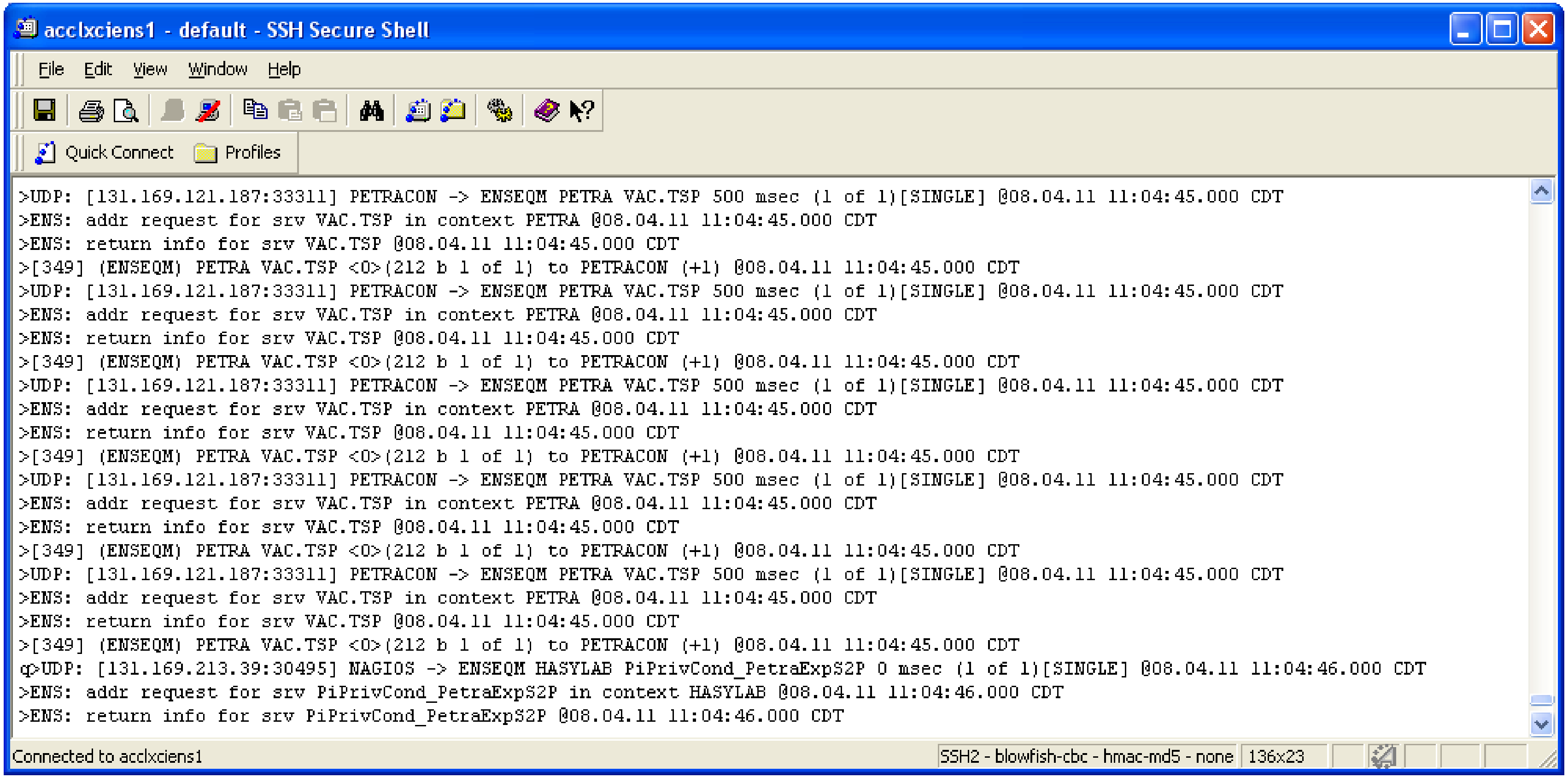


attachfec ENS



Fix both D2FECSTATS and D2SPYFEC to remove entries that become ‘non existent’ !

attachfec ENS



Now much ‘quieter’, but what’s going on with address requests for VAC.TSP ? (comes in sporadic blocks -> script?)

How to Report a problem

- First step: Look at tineforum.desy.de and/or tinetracker.desy.de to see if others have reported the same problem !
- Questions -> use tineforum.desy.de !
  - e.g. “how do I get a single value from an array property?”
  - e.g. “how to I configure my server to …?”
- Bug/Error Reports -> use tinetracker.desy.de !
  - Be as specific as possible in identifying the problem
  - Include steps to reproduce it.
  - Indicate the platform and versions used.
- If you must: send an email to tine@desy.de
  - this will be sent to several people who might be able to help !

How to Report a Problem

- Avoid reports that say something like:
  - “I can’t communicate with any TINE servers! What am I doing wrong?”

    => Problem not specifically described!
  - “TINE doesn’t work any more! It worked yesterday. What has changed?”

    => Obviously not true in general!

- Imagine trying to answer your own questions yourself.
  - Avoid a long, iterative dialog with someone trying to determine what the specific problem is …
    - Is it a client problem or a server problem?
    - Is it a specific client application or a specific server?
    - Is the application written in java, C, LabView, VB, .NET ?
    - What exactly are the symptoms?
    - Is it always reproducible?
    - etc.