TINE Release 4.0 News

(Feb 7, 2013: That was the month that was !)

“What a long, strange trip it’s been ….”

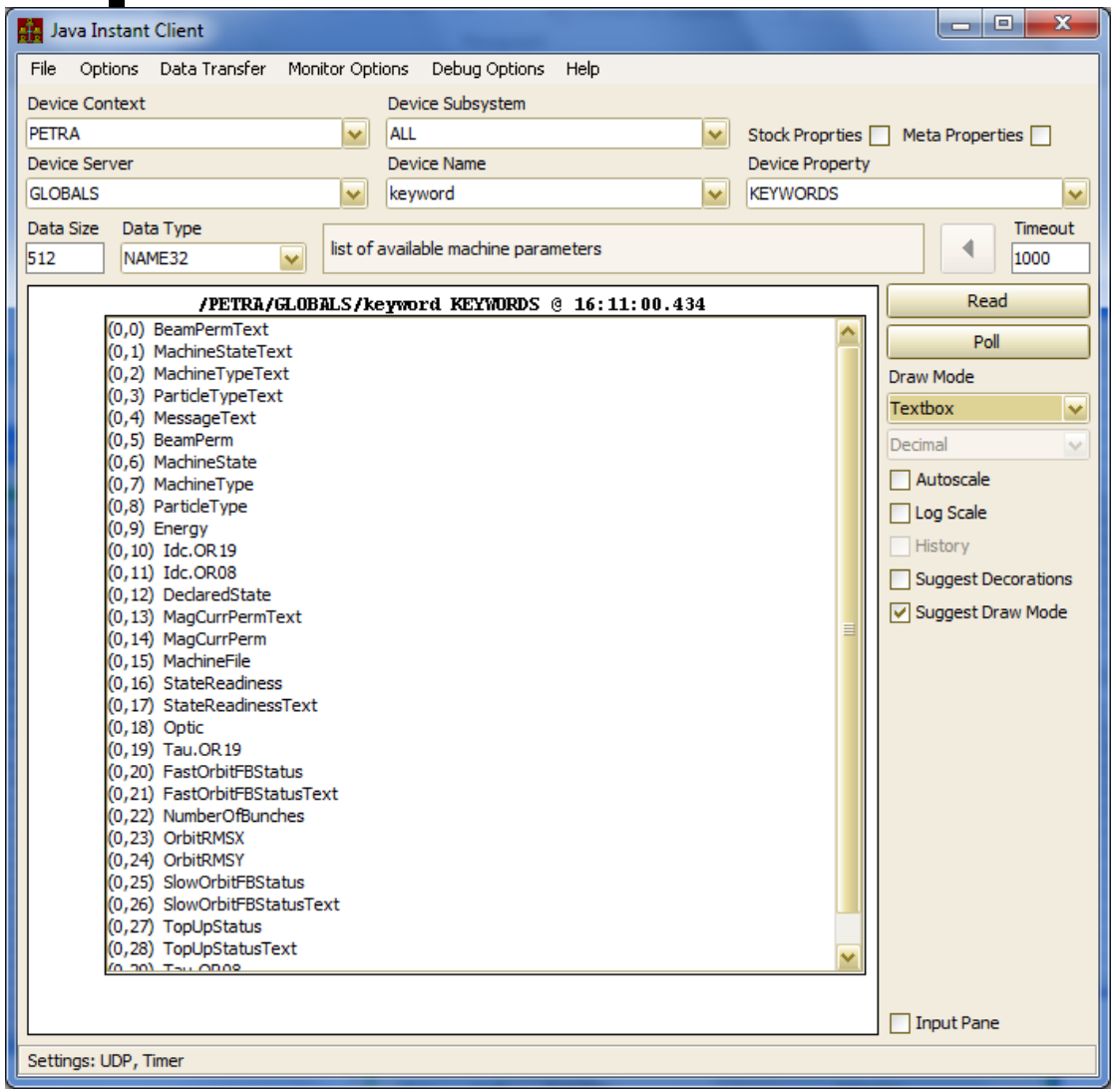
Release 4.3.4

- Globals variables are only accessible by receiving the multicasts!
- Local Histories
  - New data types: CF_DBLTIME, CF_NAME64TIME
  - Diagnostics
- Configuration/Logging
  - fec.xml extensions
  - fec and message log line formats
- System Stamps
  - Cycle numbers and pulse numbers
- Windows 7 setup

Release 4.3.4

- Embellishments/Bug fixes
  - GetPortOffset() now returns ‘1’ if there is as yet no fec manifest.
  - Windows: property- and device-specific ACL files now properly scanned if no FEC_HOME is set.
  - If users.csv or ipnets.csv is found but contains NO users :
    - Diagnostic warning on screen and in fec.log.

Globals Server



Systematics:

- **Server Name = "GLOBALS"**
- **Configured 'globals' parameters are multicasted at a pre-defined rate (default = 1 Hz) in Producer-Consumer Mode (sent out independent of clients).**
- **List of globals parameters retrievable via "KEYWORDS"**
- **Can be configured to refuse synchronous calls !**
- **Source of globals data is not systematically specified !**
  - **Usually not attached to hardware.**
  - **Reads a 'netmex' database.**

Globals Clients

- Modern libraries will trap any attempt to access a ‘known’ GLOBALS keyword and latch onto the multicast !
  - The .execute() method and ExecLink() call will
    - secretly start a globals link
    - buffer the incoming multicasts
    - Make the caller think he’s getting this synchronously
  - ‘tget’ will
    - launch a local ‘repeater’ in the background
    - get the globals values from the repeater.

Globals Clients

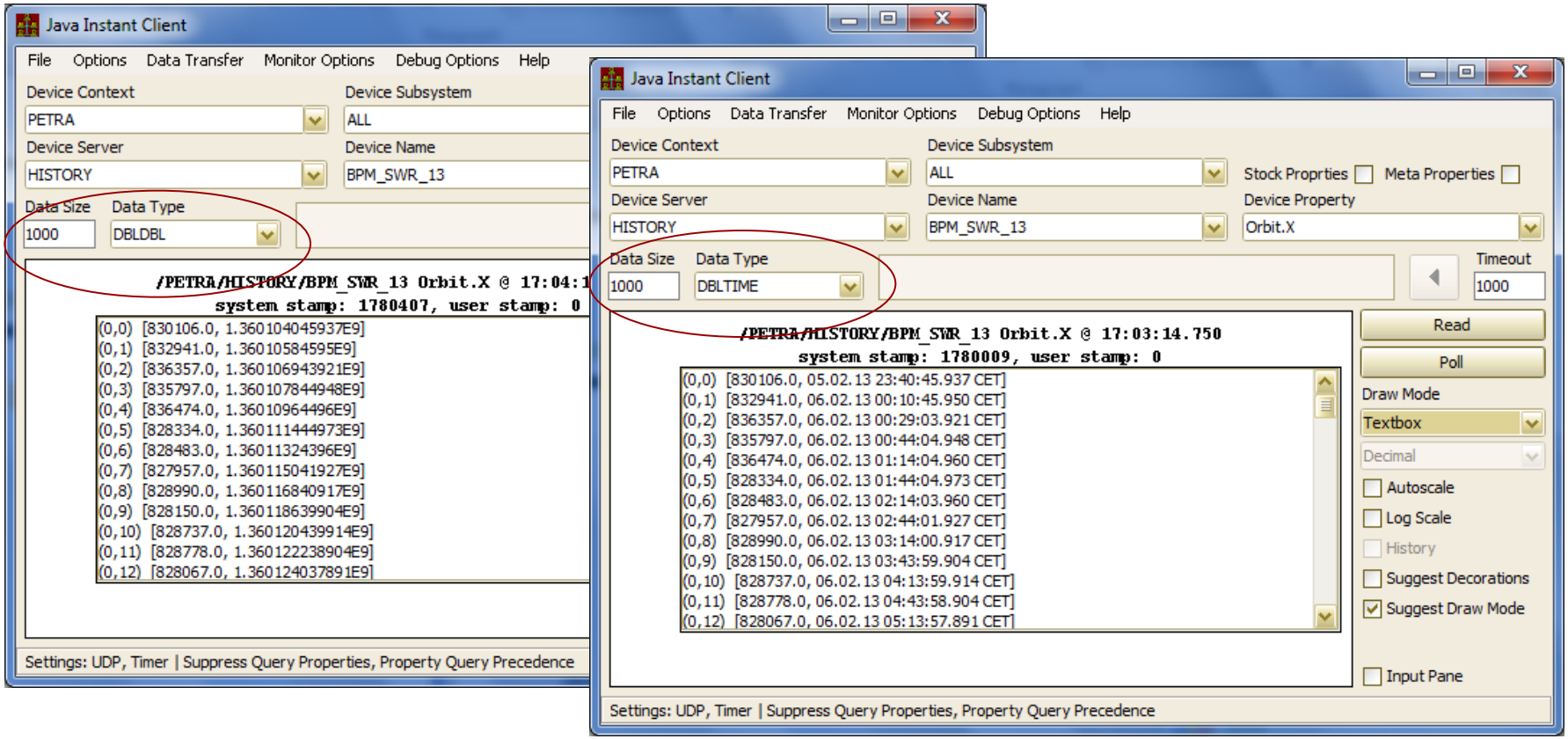
- How are globals links '*trapped*'?
  - is the server name = "**GLOBALS**" ?
    - case insensitive !
    - must match (not just name 'contains') …
  - is the property a KEYWORD of the GLOBALS server ?
    - keyword list obtained and kept when first required
  - format conversion (if possible) happens at client.
- Local Histories
  - short term only
  - are available via synchronous calls
- Stock and meta-properties (& non-KEYWORD properties)
  - available via synchronous calls

Release 4.3.4

- Local History News …
  - New data types: CF_DBLTIME, NAME64TIME
    - Strong types for CF_DBLDBL and CF_NAME64DBL
    - Server-side: as an archived type
      - -> substitute stored data time value as the archive time
    - Client-side: interpret 2nd double as a UTC time stamp where applicable.
      - Also incorporated in the central archiver !

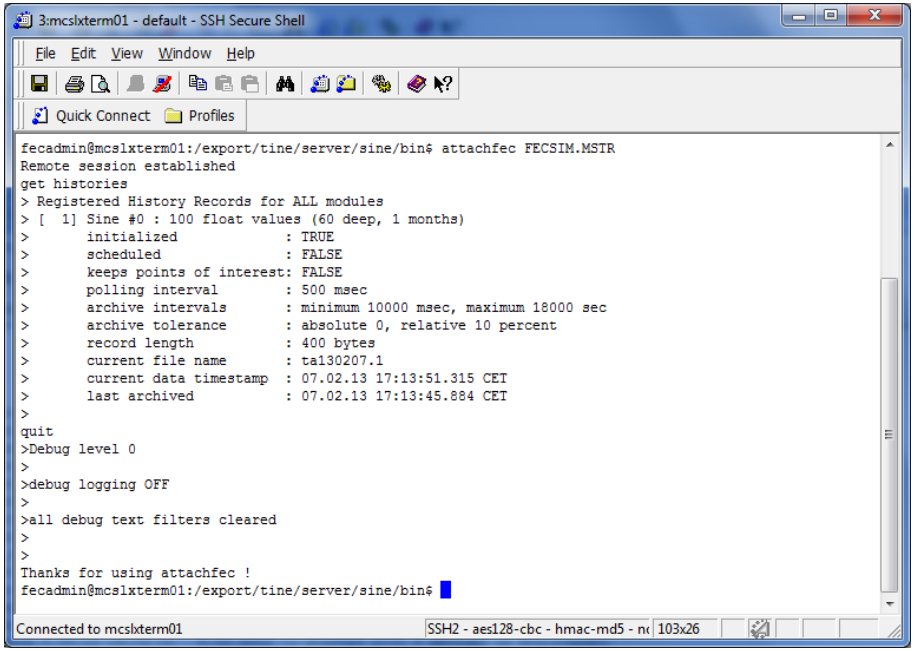
Release 4.3.4

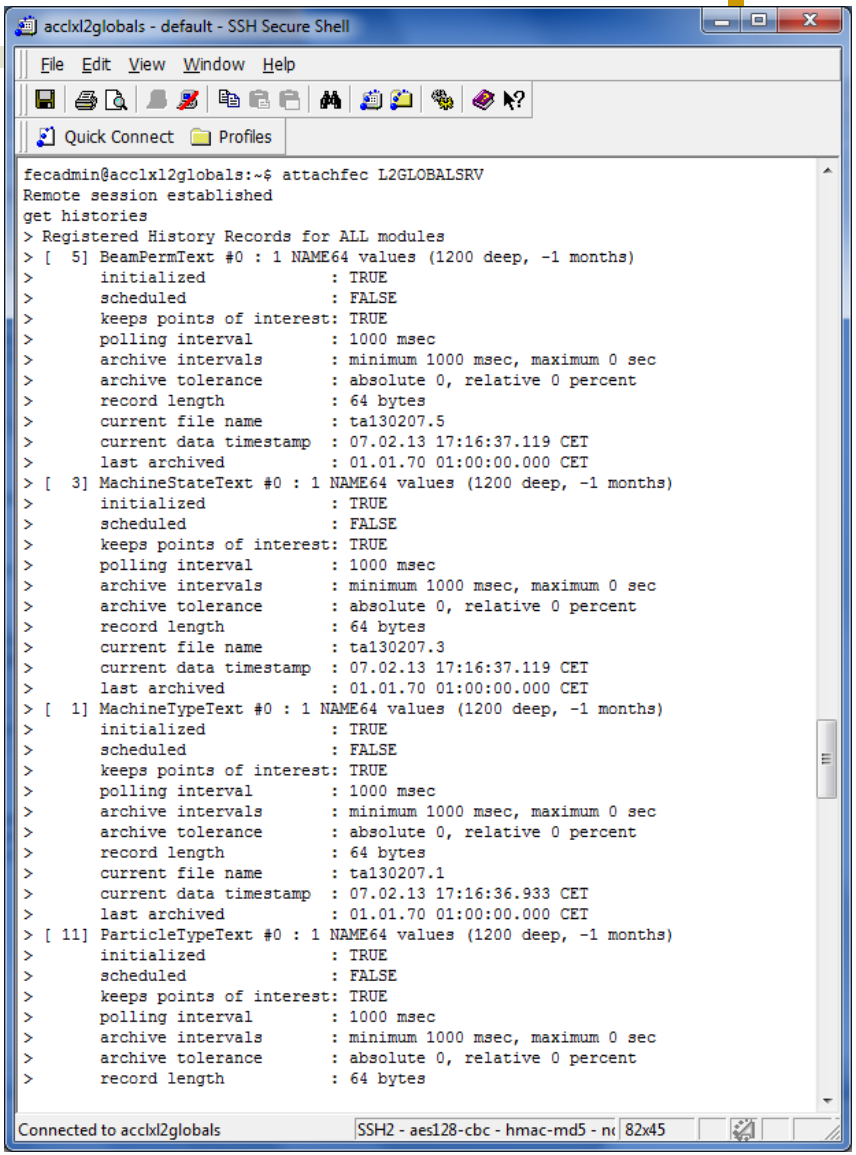
- e.g. CF_DBLTIME:



Release 4.3.4

- Local History News …
  - More diagnostics (C-Lib) for histories …





Release 4.3.4

- Configuration
  - fec.xml now offers full set of ACL settings
  - property- and device-specific lists
- fec.xml
  - single file read vs. multiple reads
  - VxWorks + file i/o via rsh ?

To specify the later, one includes a <NAME_LIST> with a <NAME> tag specifically called with "USERS_ALLOWED" and

For example:

```
<NAME_LIST>
  <NAME>USERS_ALLOWED</NAME>
  <MEMBER>Duval</MEMBER>
  <MEMBER>Bobnar</MEMBER>
  <MEMBER>&lt;win:mcs_user&gt;</MEMBER>
</NAME_LIST>
<NAME_LIST>
  <NAME>NETS_ALLOWED</NAME>
  <MEMBER>131.169.150.255</MEMBER>
  <MEMBER>131.169.9.255</MEMBER>
  <MEMBER>0.0.0.0</MEMBER>
  <MEMBER>131.169.119.0/24</MEMBER>
</NAME_LIST>
```

Note that in the above, both a users list and a networks list are being applied. Also note that the users list given co
apply the string "<win:mcs_user>" which itself contains '<' and '>' symbols, which necessitates the standardized '&l

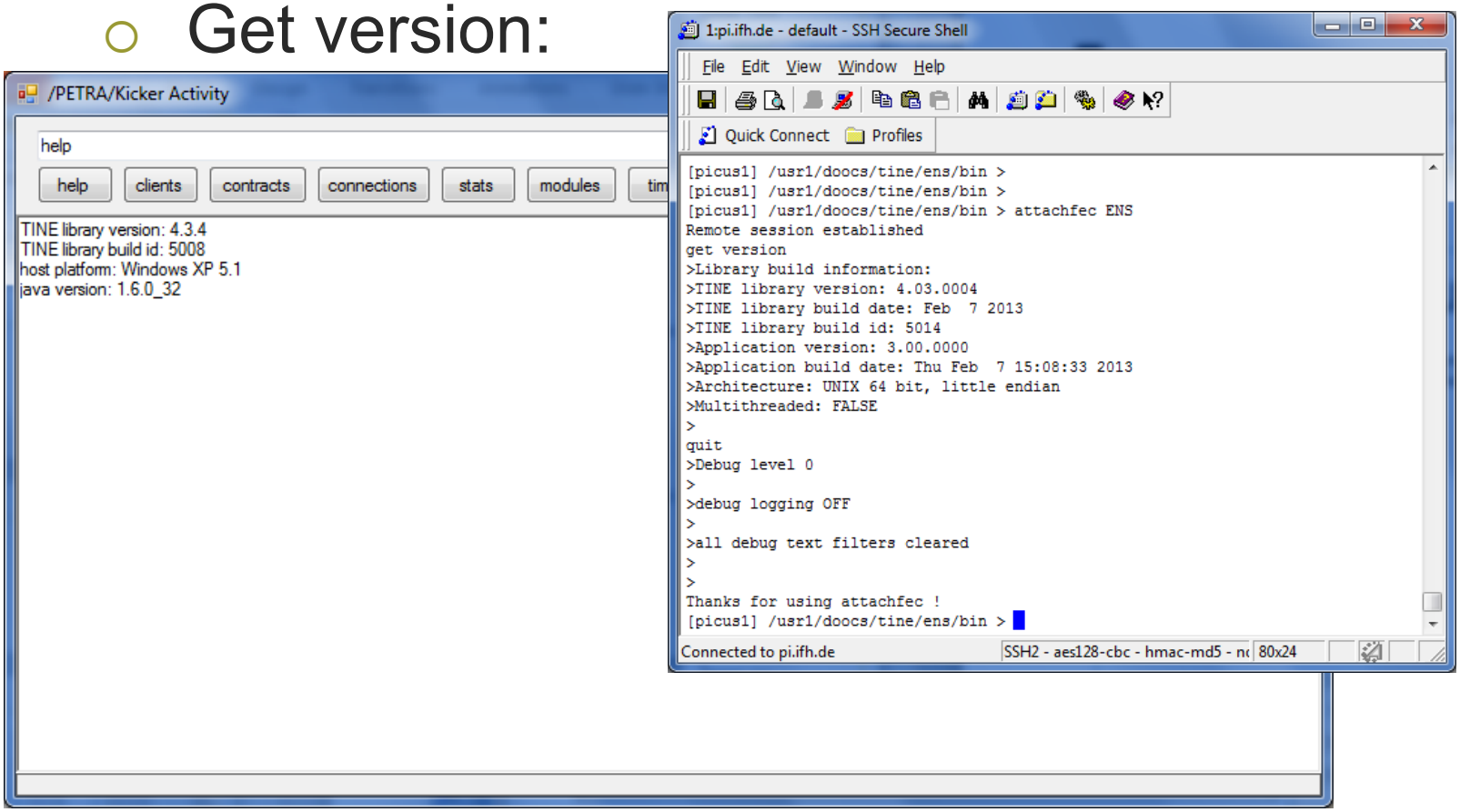
If such access lists are to be applied to specific devices or properties, the equivalent sections need only be embedd

To assign, for example, a specific property list to a device, one includes a <NAME_LIST> section within the associate

```
<EQM>
    <NAME>SINEQM</NAME>
    <SERVER>WinSineServer</SERVER>
    <CONTEXT>TEST</CONTEXT>
    <SUBSYSTEM>TEST</SUBSYSTEM>
    ...
    <NAME_LIST>
        <NAME>SineGen0List</NAME>
        <MEMBER>Sine</MEMBER>
        <MEMBER>Amplitude</MEMBER>
    </NAME_LIST>
    ...
```

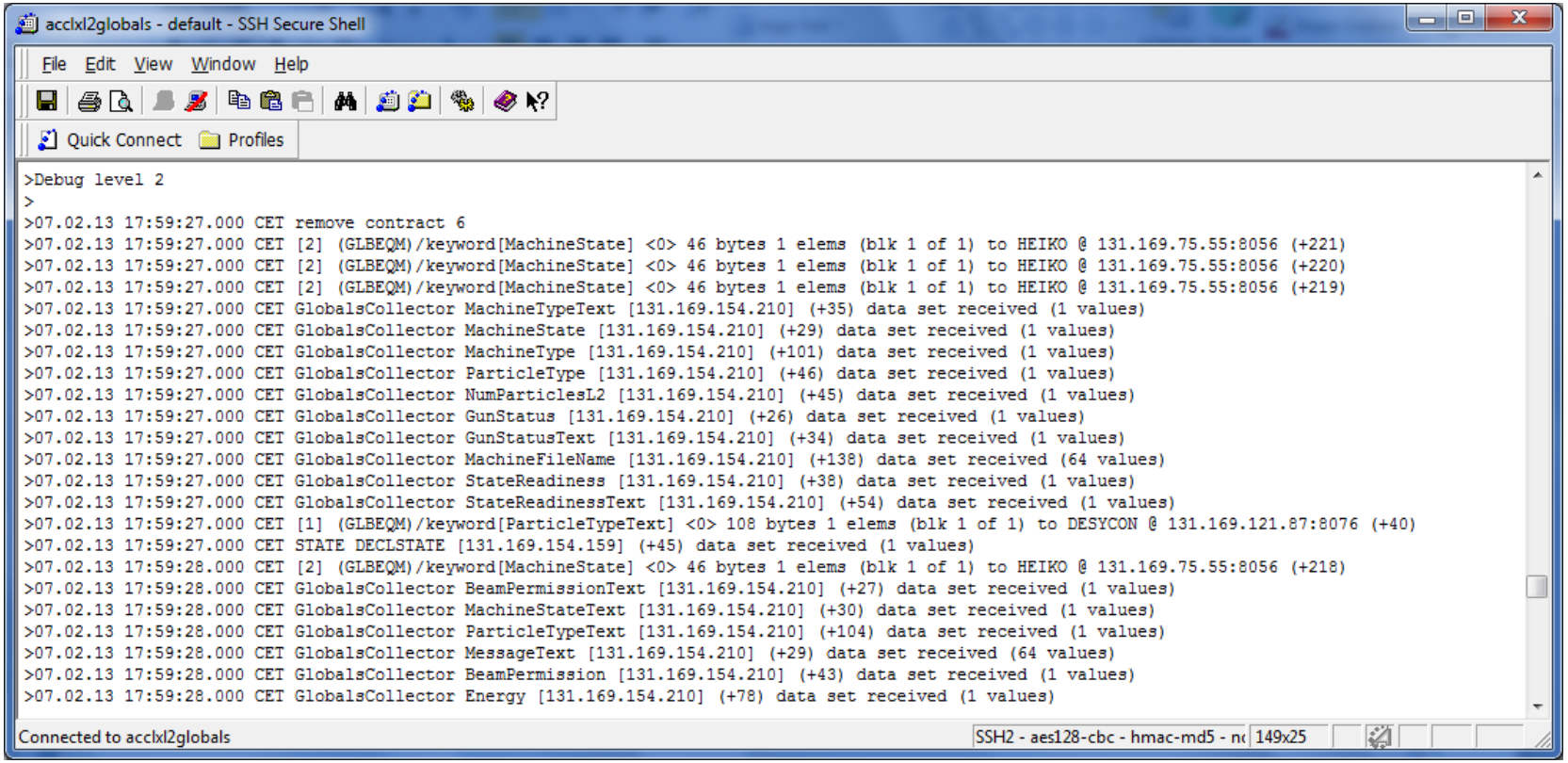
Release 4.3.4

- Console output (attachfec)
  - Get version:



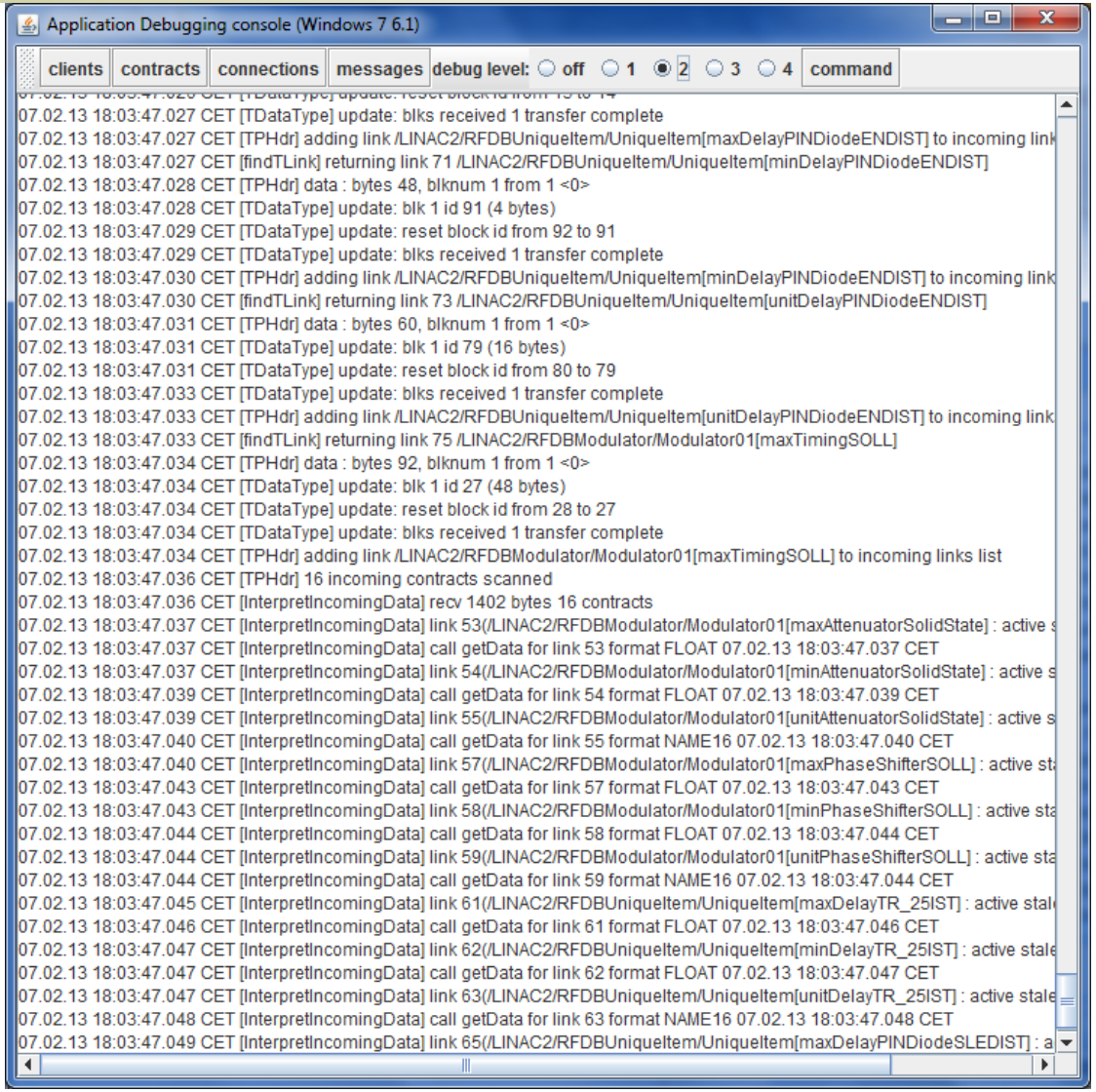
Release 4.3.4

- New debug and message formats:



Release 4.3.4

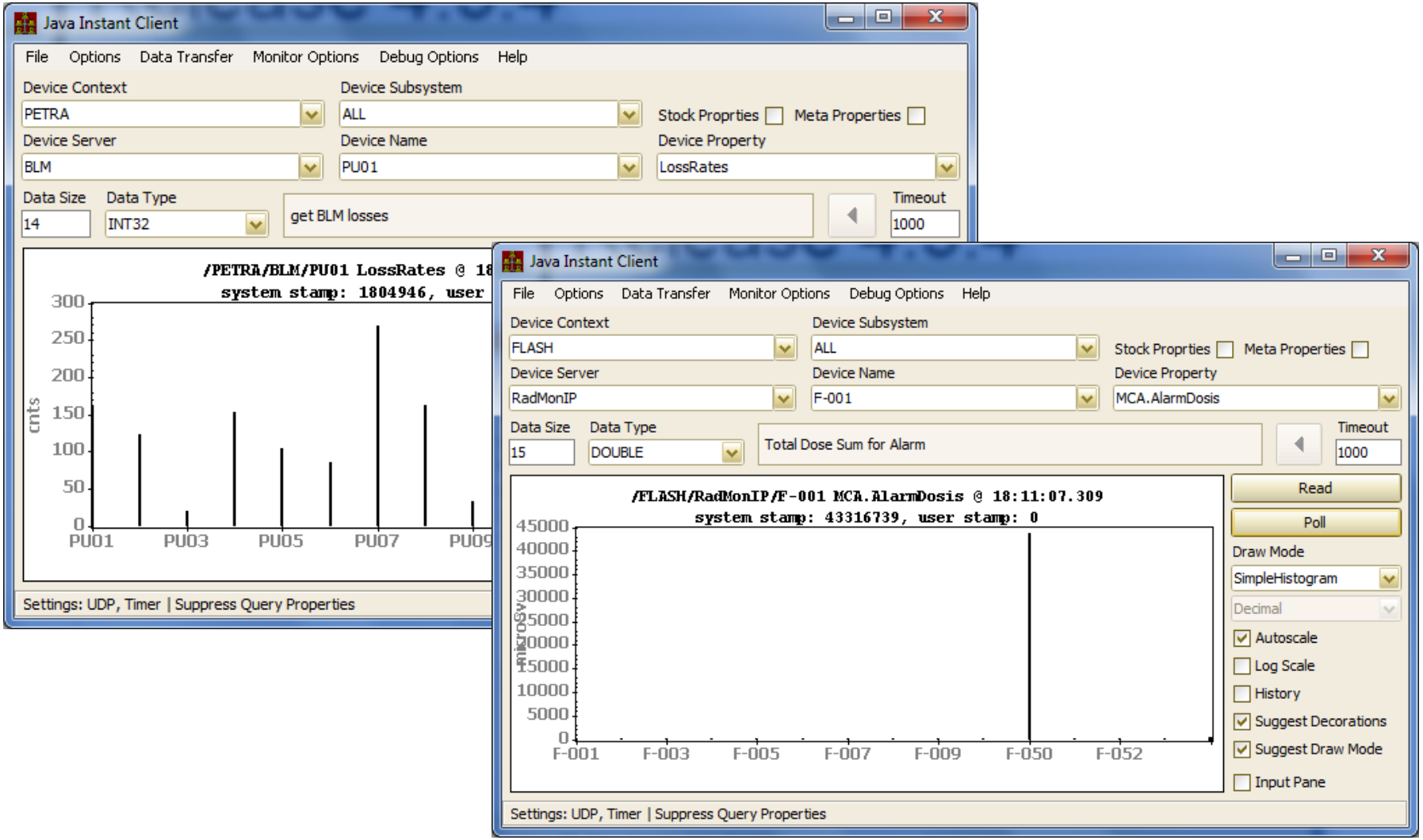
- Also in java:



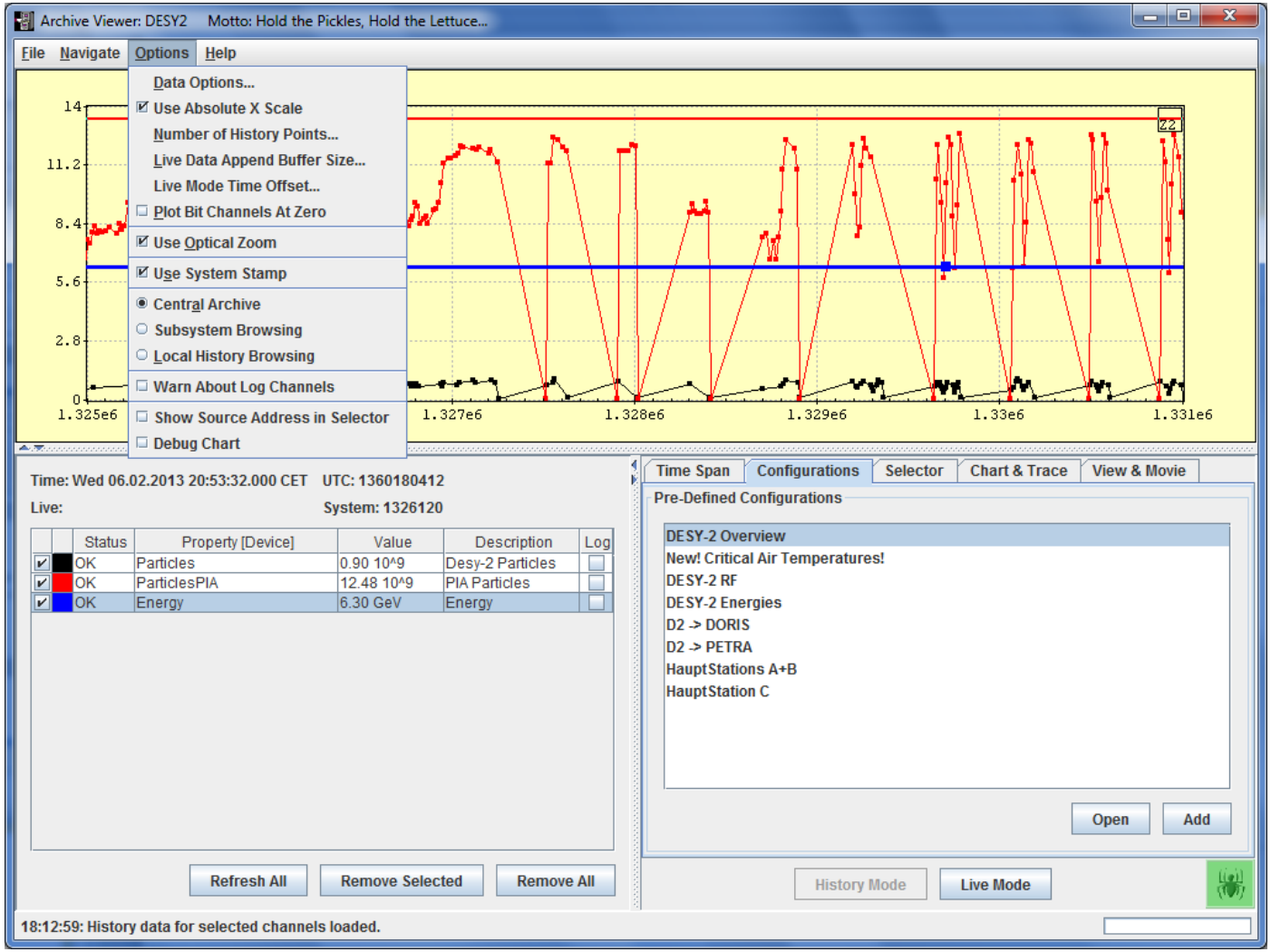
Release 4.3.4

- System Stamp
  - Systematically applied integer tag to all data objects
    - LINAC2, DESY2, PETRA -> cycler number from MSK (6.25 Hz)
    - FLASH -> pulse number
    - REGAE ?

Release 4.3.4: System Stamp



Release 4.3.4: System Stamp



Release 4.3.4: System Stamp

- Pitfalls:
  - LINAC2, DESY2, PETRA cycler is a VxWorks server that starts at ‘0’ every time it’s restarted !
    - Needs to read last stored data from some reference server
      - cycler number will be stored as well !
    - Estimate the best startup cycle number
      - Based on timestamp & cycle of a reference archive

Release 4.3.4 : Setup

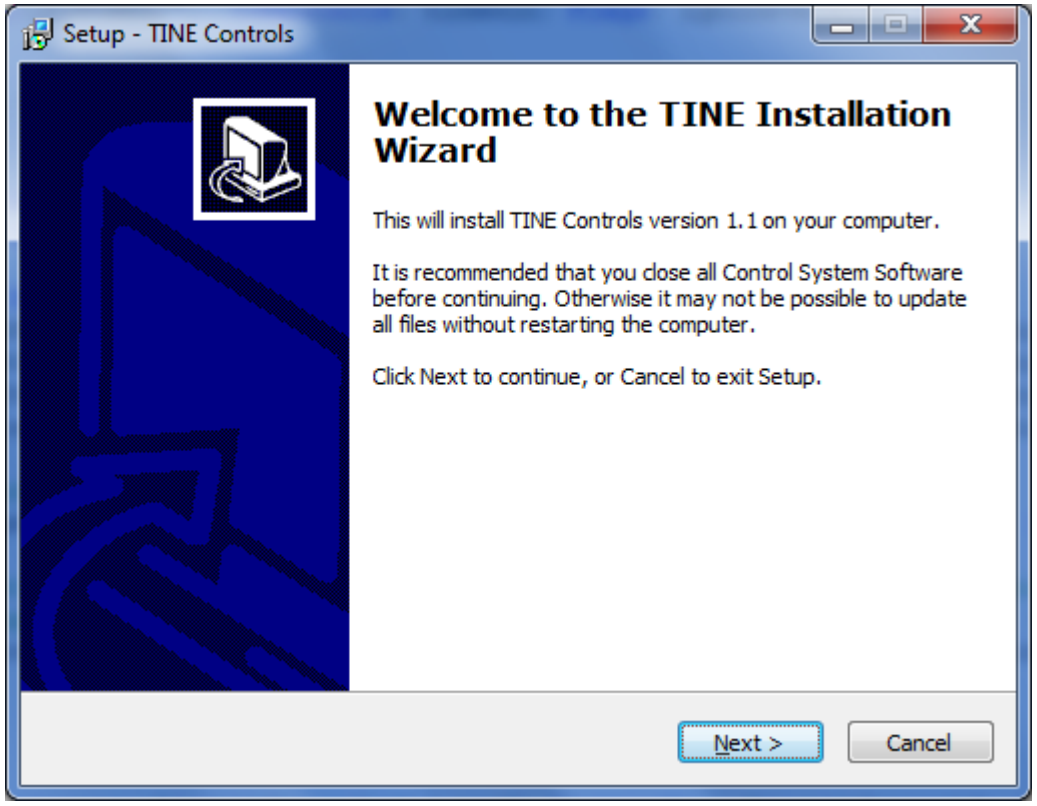
- Windows 7 setup.exe
  - Made using inno setup

TINE Downloads

The following downloads for TINE are available at the present moment:

- C Source Modules as Windows ZIP (tineSource.zip) ~.5 Mbytes: Release 4.3.4 or the daily build
- C Source Modules as linux gzip (tineSource.tar.gz) ~.5 Mbytes: Release 4.3.4 or the daily build
- Windows 32 bit + applications and resources + LabView VIs (tineWin32.zip) ~27 Mbytes: Release 4.3.4 or the daily build
- Windows Setup installer (Win 7 or XP) (Setup.exe) ~22 Mbytes: Release 4.3.4 or the daily build
- Windows CE TINEwindowsCE.zip: Release 4.3.4
  Win CE specific documentation here
- Windows, DOS 16 bit + applications (tineWin16.zip) ~3 Mbytes: Release 3.31
- Linux (and FreeBSD) + applications (tineLinux.tar.gz) ~3 Mbytes: Release 4.3.4 or the daily build
- Solaris + applications (tineSolaris.tar.gz) ~1 Mbytes: Release 4.3.4 or the daily build
- HPUX + applications (tineHPUX.tar.gz) ~ 1 Mbyte: Release 4.3.4 or the daily build
- MACOS + applications (tineMac.tar.gz) ~ 1 Mbyte: Release 4.3.4 or the daily build
- VxWorks (tineVxWorks.tar.gz) ~.4 Mbytes: Release 4.3.4 or the daily build
- Epics2Tine sources (e2t.tar.gz) ~.2 Mbytes: Release 4.X.X
- NIOS I (tineNIOS.zip) ~.5 Mbyte: Release 3.31
- VMS (tineVMS.zip) ~150 Kbytes: Release 4.3.4 or the daily build
- JAVA as windows ZIP (tineJAVA.zip) ~1 Mbyte: Release 4.3.4 or the daily build
- JAVA as unix gzip (tineJava.tar.gz) ~ 1 Mbyte: Release 4.3.4 or the daily build
- Object Pascal libraries for DELPHI/Lazarus (TineObjectPascal.zip): daily build
- .NET libraries and examples (mono-.Net.zip): daily build
- Windows 64 bit libraries (tine64.zip): daily build

Release 4.3.4 : Setup



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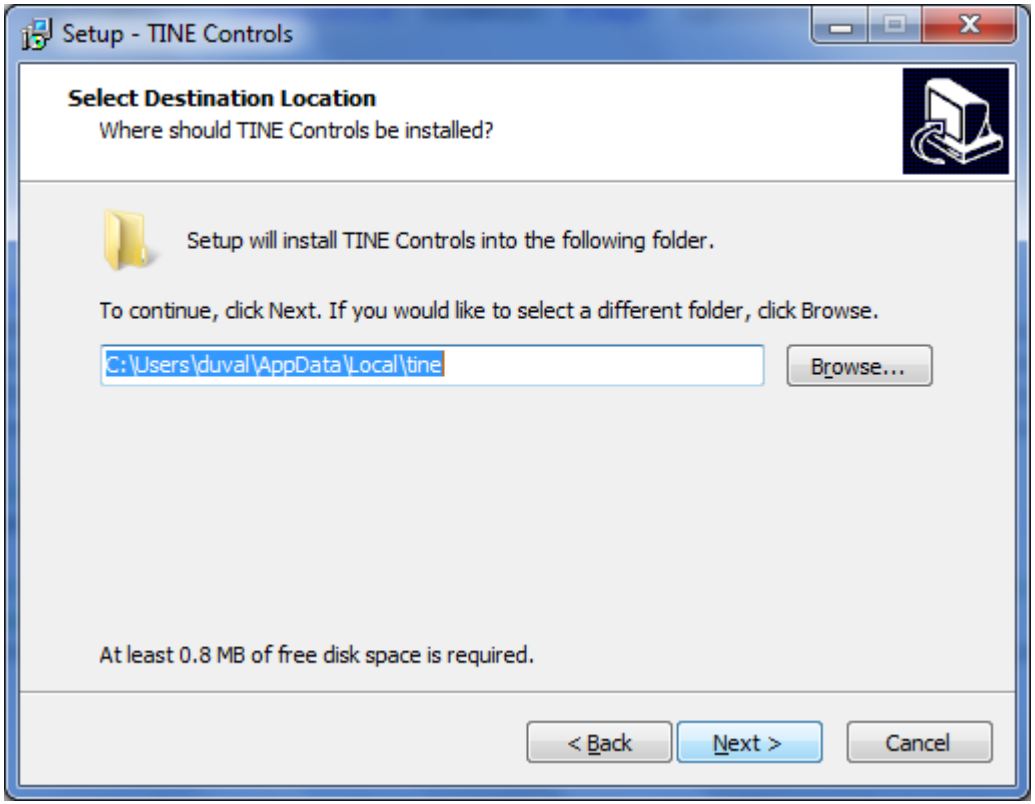

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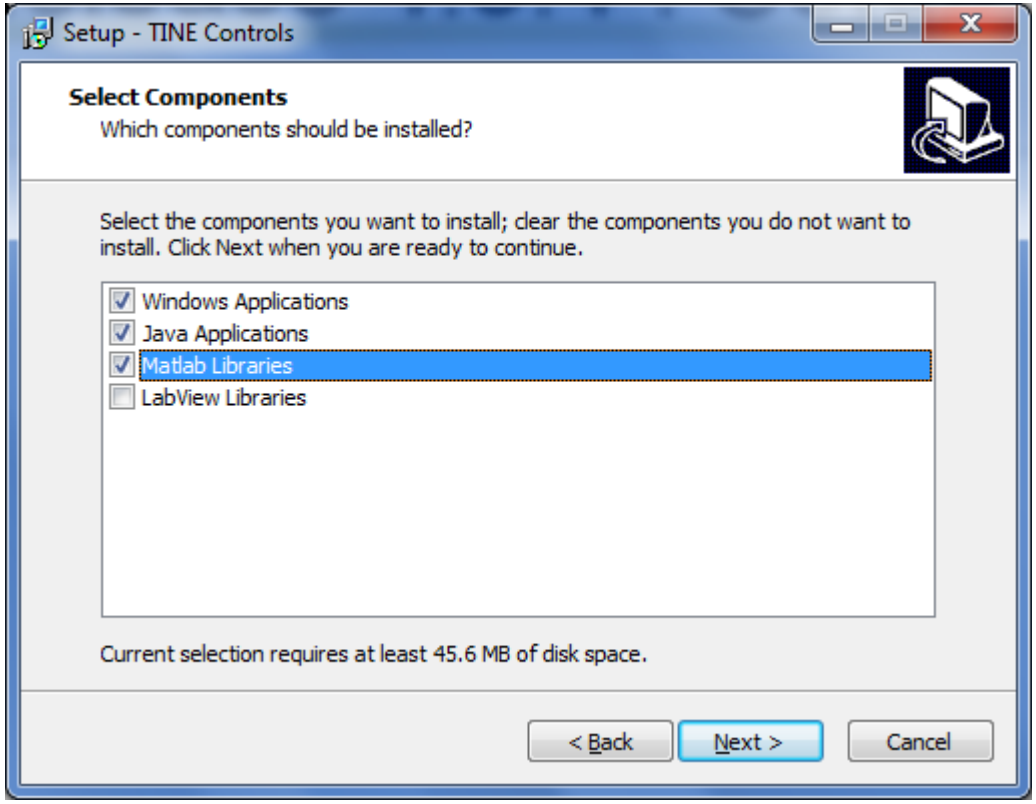

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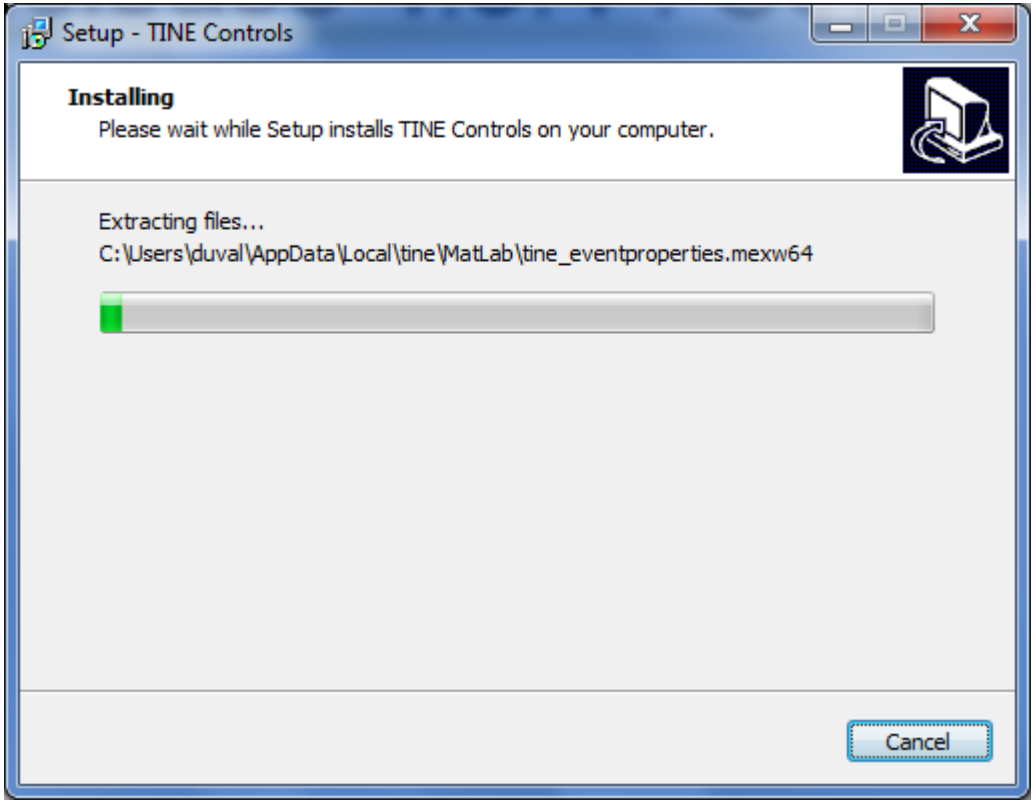

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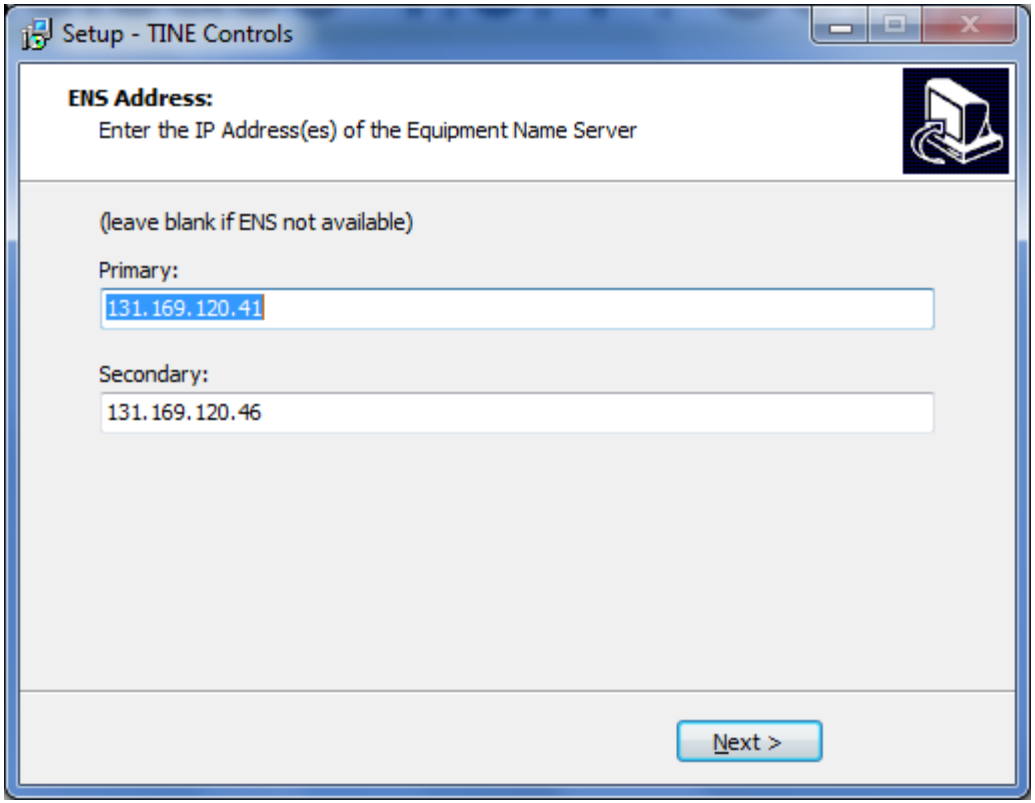

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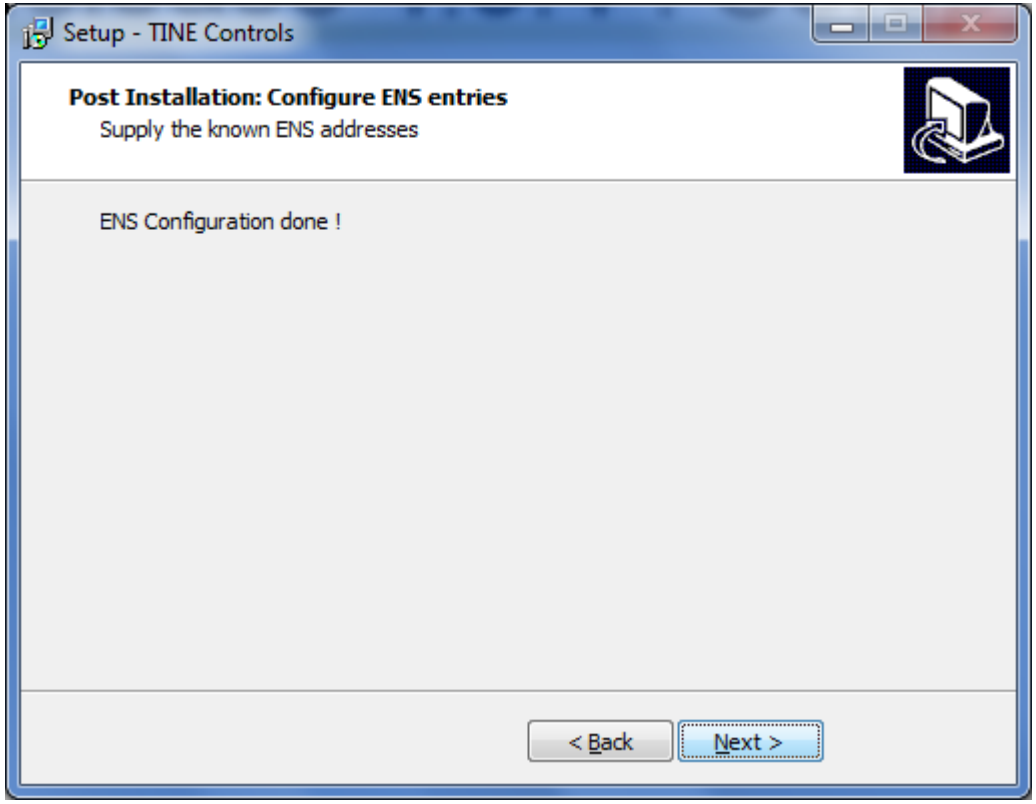

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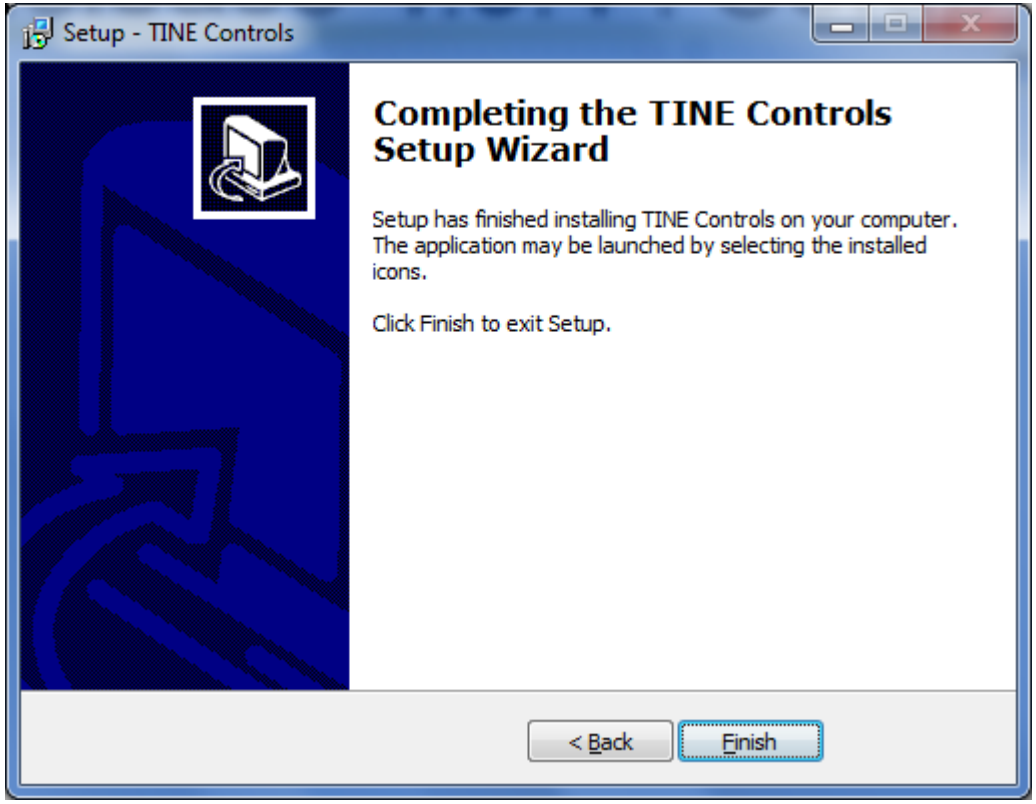

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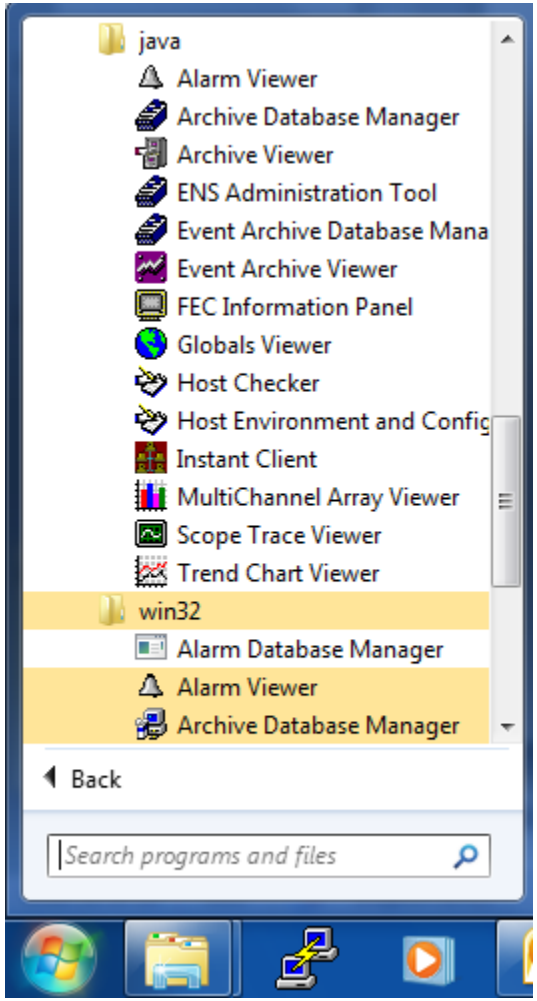

- Installs standard applications
- Registers relevant activeX controls
- Sets TINE_HOME, FEC_HOME, FEC_LOG
  - If not already set
- Puts {app}\tine\System32 on the path
  - If not there already
- MatLab libs on {app}\tine\MatLab
- LabView vis on {app}\tine\LabView