



TINE Release 4.0 News

(April 8, 2011: That was the month that was !)

“What a long, strange trip it’s been”

[Release 4.2.2]

- Both C Lib and Java Lib at 4.2.2 !
 - What's new?
 - Even better time synchronization
 - One interesting bug fix
 - New API calls

[Release 4.2.2]

- Time Synchronization
 - **Servers** schedule activity based on the *local system clock* !
 - **Clients** accept/reject incoming (linked) data based on the *data timestamp* !
 - TINE Time Server provides all servers with a *reference timestamp*.
 - Servers apply an *offset* to the data timestamp returned to a caller based on the timestamp reference.
 - *Stability* of system clock and incoming references *intervals* required !
 - **New!**: *Watch for monotonically changing clock rates!*

Release 4.2.2 (time synchronization)

Forward Correction:

```

>set filter=sync
>debug name filter sync entered

>set debug=1
>Debug level 1

>get time
>current FEC time: Thu Apr 07 13:06:06 2011 <UNIX: 1302174366>
>current Data timestamp: Thu Apr 07 13:06:06 2011 828 msec <UNIX: 1302174366.8590>
>current synchronization offset: 0.0000 secs

>synchronization correction (tracking): 89.2968 sec (current offset 89.2968 sec) @07.04.11 13:06:09.000 CDT
>07.04.11 13:07:38.671 CDT ISINEGEN.71 global synchronization offset : 89.2968 sec
>synchronization correction (tracking): -0.0502933 sec (current offset 89.2465 sec) @07.04.11 13:20:39.000 CDT
>07.04.11 13:50:24.246 CDT ISINEGEN.71 global synchronization : link timeout
>07.04.11 13:50:24.511 CDT ISINEGEN.71 global synchronization : success
>synchronization correction (tracking): -38.0172 sec (current offset 51.2293 sec) @07.04.11 13:49:01.000 CDT
>synchronization correction (monotonic): -4.4452 sec (current offset 46.7841 sec) @07.04.11 13:53:22.000 CDT
>synchronization correction (monotonic): -3.74221 sec (current offset 43.0419 sec) @07.04.11 13:54:00.000 CDT
>synchronization correction (monotonic): -19.6081 sec (current offset 23.4338 sec) @07.04.11 13:57:19.000 CDT
>synchronization correction (monotonic): -13.2166 sec (current offset 10.2172 sec) @07.04.11 14:01:47.000 CDT
>synchronization correction (monotonic): -1.38563 sec (current offset 8.83156 sec) @07.04.11 14:02:24.000 CDT
>synchronization correction (monotonic): -0.677196 sec (current offset 8.15436 sec) @07.04.11 14:02:42.000 CDT
>synchronization correction (monotonic): -2.29931 sec (current offset 5.85505 sec) @07.04.11 14:04:18.000 CDT
>synchronization correction (monotonic): -0.691118 sec (current offset 5.16393 sec) @07.04.11 14:05:07.000 CDT
>synchronization correction (monotonic): -0.724656 sec (current offset 4.43928 sec) @07.04.11 14:05:59.000 CDT
>synchronization correction (tracking): -2.09996 sec (current offset 2.33932 sec) @07.04.11 14:08:35.000 CDT
>07.04.11 14:08:37.839 CDT ISINEGEN.71 global synchronization offset : 2.33932 sec
>synchronization correction (tracking): -0.107634 sec (current offset 2.23169 sec) @07.04.11 14:08:55.000 CDT
>synchronization correction (tracking): -0.204455 sec (current offset 2.02723 sec) @07.04.11 14:09:35.000 CDT
>synchronization correction (tracking): -0.104607 sec (current offset 1.92263 sec) @07.04.11 14:09:56.000 CDT
>synchronization correction (tracking): -0.155724 sec (current offset 1.7669 sec) @07.04.11 14:10:26.000 CDT
>synchronization correction (tracking): -0.280606 sec (current offset 1.4863 sec) @07.04.11 14:11:21.000 CDT
>synchronization correction (tracking): -0.211621 sec (current offset 1.27468 sec) @07.04.11 14:12:02.000 CDT
>synchronization correction (tracking): -0.134356 sec (current offset 1.14032 sec) @07.04.11 14:12:28.000 CDT
>synchronization correction (tracking): -0.101002 sec (current offset 1.03932 sec) @07.04.11 14:12:49.000 CDT
>synchronization correction (tracking): -0.173158 sec (current offset 0.866159 sec) @07.04.11 14:13:22.000 CDT
>synchronization correction (tracking): -0.106587 sec (current offset 0.759573 sec) @07.04.11 14:14:09.000 CDT
>synchronization correction (tracking): -0.100673 sec (current offset 0.6589 sec) @07.04.11 14:15:04.000 CDT
>synchronization correction (tracking): -0.100688 sec (current offset 0.558212 sec) @07.04.11 14:15:58.000 CDT
>synchronization correction (tracking): -0.117049 sec (current offset 0.441163 sec) @07.04.11 14:17:01.000 CDT
>synchronization correction (tracking): -0.169185 sec (current offset 0.271978 sec) @07.04.11 14:18:36.000 CDT
>synchronization correction (tracking): -0.10403 sec (current offset 0.167948 sec) @07.04.11 14:20:57.000 CDT
>

```

Release 4.2.2 (time synchronization)

Backward Correction:

```
Z:\Projects\Service\vc++\time32R4
>set filter=sync
>debug name filter sync entered
>
>set debug=1
>Debug level 1
>
>get time
>current FEC time: Thu Apr 07 15:11:18 2011 (UNIX: 1302181878)
>current Data timestamp: Thu Apr 07 15:11:18 2011 619 msec (UNIX: 1302181878.6810)
>current synchronization offset: 0.0000 secs
>
>synchronization correction (monotonic): -23.2487 sec (current offset -23.2487 sec) @07.04.11 15:11:27.000 CDT
>07.04.11 15:11:03.938 CDT[SINEGEN.7] global synchronization offset : -23.2487 sec
>synchronization correction (monotonic): 0.136378 sec (current offset -23.1123 sec) @07.04.11 15:11:34.000 CDT
>synchronization correction (tracking): 3.37842 sec (current offset -19.7339 sec) @07.04.11 15:14:29.000 CDT
>synchronization correction (tracking): 0.307063 sec (current offset -19.4269 sec) @07.04.11 15:15:20.000 CDT
>synchronization correction (tracking): 0.156522 sec (current offset -19.2703 sec) @07.04.11 15:15:45.000 CDT
>synchronization correction (tracking): 0.153577 sec (current offset -19.1168 sec) @07.04.11 15:16:11.000 CDT
>synchronization correction (tracking): 0.140826 sec (current offset -18.9759 sec) @07.04.11 15:16:35.000 CDT
>synchronization correction (tracking): 0.191845 sec (current offset -18.7841 sec) @07.04.11 15:17:06.000 CDT
>synchronization correction (tracking): 0.201949 sec (current offset -18.5821 sec) @07.04.11 15:17:39.000 CDT
>synchronization correction (tracking): 0.111338 sec (current offset -18.4708 sec) @07.04.11 15:17:58.000 CDT
>synchronization correction (tracking): 0.18025 sec (current offset -18.2906 sec) @07.04.11 15:18:28.000 CDT
>synchronization correction (tracking): 0.103882 sec (current offset -18.1867 sec) @07.04.11 15:18:44.000 CDT
>synchronization correction (tracking): 0.166487 sec (current offset -18.0202 sec) @07.04.11 15:19:11.000 CDT
>synchronization correction (tracking): 0.110354 sec (current offset -17.9098 sec) @07.04.11 15:19:55.000 CDT
>synchronization correction (tracking): 0.100454 sec (current offset -17.8094 sec) @07.04.11 15:21:11.000 CDT
>synchronization correction (monotonic): 2.23777 sec (current offset -15.5716 sec) @07.04.11 15:22:45.000 CDT
>synchronization correction (monotonic): 0.431734 sec (current offset -15.1399 sec) @07.04.11 15:22:55.000 CDT
>synchronization correction (monotonic): 2.76651 sec (current offset -12.3734 sec) @07.04.11 15:24:02.000 CDT
>synchronization correction (monotonic): 2.2476 sec (current offset -10.1258 sec) @07.04.11 15:24:57.000 CDT
>synchronization correction (monotonic): 2.96967 sec (current offset -7.15609 sec) @07.04.11 15:26:08.000 CDT
>synchronization correction (monotonic): 0.632506 sec (current offset -6.52358 sec) @07.04.11 15:26:24.000 CDT
>synchronization correction (monotonic): 0.522446 sec (current offset -6.00114 sec) @07.04.11 15:26:36.000 CDT
>synchronization correction (monotonic): 2.89949 sec (current offset -3.10165 sec) @07.04.11 15:29:30.000 CDT
>synchronization correction (monotonic): 2.0161 sec (current offset -1.08555 sec) @07.04.11 15:31:35.000 CDT
>synchronization correction (tracking): 0.224434 sec (current offset -0.86113 sec) @07.04.11 15:32:04.000 CDT
>synchronization correction (tracking): 0.38547 sec (current offset -0.475644 sec) @07.04.11 15:32:57.000 CDT
>synchronization correction (tracking): 0.217042 sec (current offset -0.258601 sec) @07.04.11 15:33:26.000 CDT
>synchronization correction (tracking): 0.216061 sec (current offset -0.0425406 sec) @07.04.11 15:33:55.000 CDT
>synchronization correction (tracking): 0.837684 sec (current offset 0.795143 sec) @07.04.11 15:35:49.000 CDT
>synchronization correction (tracking): 0.192174 sec (current offset 0.987317 sec) @07.04.11 15:36:14.000 CDT
>synchronization correction (tracking): 0.134543 sec (current offset 1.12186 sec) @07.04.11 15:36:34.000 CDT
>synchronization correction (tracking): 0.137235 sec (current offset 1.25909 sec) @07.04.11 15:37:06.000 CDT
>synchronization correction (tracking): 0.15982 sec (current offset 1.41891 sec) @07.04.11 15:37:43.000 CDT
>synchronization correction (tracking): 0.101416 sec (current offset 1.52033 sec) @07.04.11 15:38:07.000 CDT
>synchronization correction (tracking): 0.156052 sec (current offset 1.67638 sec) @07.04.11 15:38:44.000 CDT
>synchronization correction (tracking): -0.0502175 sec (current offset 1.62617 sec) @07.04.11 15:39:51.000 CDT
>synchronization correction (tracking): -0.103124 sec (current offset 1.52304 sec) @07.04.11 15:40:50.000 CDT
>synchronization correction (tracking): -0.104457 sec (current offset 1.41858 sec) @07.04.11 15:41:53.000 CDT
>synchronization correction (tracking): -0.116108 sec (current offset 1.30248 sec) @07.04.11 15:43:02.000 CDT
>
_
```

[Release 4.2.2]

- Bug Fixes:
 - Scheduling an 'attribute' property and issuing a 'WRITE' command now works properly!
 - e.g. Property "Gap" can be read or written.
 - Schedule("Gap") should ONLY refer to READ contracts !
 - GetTargetPropertyInformation() (C-Lib)
 - Now returns the 'standard' TINE format instead of the 'byte' format
 - e.g. CF_FLOAT = 517 and not 5

[Release 4.2.2]

- New API call (C-Lib) :
void *GetLinkCallbackReference(int id)
 - Returns original reference passed in
AttachLinkEx2()

[Release 4.2.2]

- Ideas from EMBL

- Browser plugin or i/o slave to handle addresses like:

tine://context/server/device/property

-> e.g. show a TINE-transported image in any browser !