

TINE Release 5.3.0 News

(Nov 27, 2024: inching toward perfection ...)

It's been a while, but ...

“Remember: *Only the dead fish go with the flow ...”*



[Release 5.3.0]

- Fixes, Features, and Issues ...
 - *exotica* : diagnostic improvements
 - *new features*
 - Plug-and-Play and that DOOCS TINE thread ...
 - ~~Weirdness-of-the-Year!~~
 - *new TINE Studio bells and whistles ...*



Release 5.3.0

- Diagnostic improvements (**commands.log**)
 - *SetDisplayExtraDigits(TRUE)* or
set FEC_DISPLAY_EXTRA_DIGITS=TRUE

API or env :
more digits in floating
point numbers !

```
Öffnen  [F] commands.log
fecadmin auf acbvd2limmsk01 /export/tine/server/Frequenzsteuerung
Speichern  [≡] - [□] [X]

4495 19.06.24 15:28:34.040 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 1500
4496 19.06.24 15:28:48.827 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4497 19.06.24 15:29:41.261 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: -1500
4498 19.06.24 15:29:54.111 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4499 19.06.24 15:30:06.357 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 1500
4500 19.06.24 15:30:18.980 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4501 19.06.24 15:31:23.189 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: -1500
4502 19.06.24 15:31:35.302 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4503 19.06.24 15:31:44.635 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 1500
4504 19.06.24 15:31:56.347 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4505 19.06.24 15:32:58.988 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: -1500
4506 19.06.24 15:33:13.436 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4507 19.06.24 15:33:23.000 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 1500
4508 19.06.24 15:33:37.650 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.53:65134; input: 0
4509 19.06.24 15:37:05.139 CDT[COMMAND] (SMA100)/DESY[Sync] called by PETRACON from 131.169.151.53:65134; input: 1
4510 24.06.24 14:04:51.157 CDT[COMMAND] (SMA100)/PETRA[Sync] called by MKIBRI from 131.169.150.145:8069; input: 2
4511 26.06.24 13:58:01.683 CDT[COMMAND] (SMA100)/DESY[Sync] called by PETRACON from 131.169.151.54:64978; input: 2
4512 26.06.24 13:58:23.809 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: -1500
4513 26.06.24 13:58:38.568 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4514 26.06.24 13:58:51.184 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 1500
4515 26.06.24 13:59:04.004 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4516 26.06.24 14:00:32.912 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: -1500
4517 26.06.24 14:00:47.307 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4518 26.06.24 14:00:56.693 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 1500
4519 26.06.24 14:01:11.245 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4520 26.06.24 14:02:09.393 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: -1500
4521 26.06.24 14:02:21.365 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4522 26.06.24 14:02:30.922 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 1500
4523 26.06.24 14:02:45.453 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4524 26.06.24 14:03:56.177 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: -1500
4525 26.06.24 14:04:08.636 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4526 26.06.24 14:04:21.177 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 1500
4527 26.06.24 14:04:33.662 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4528 26.06.24 14:05:08.225 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: -1500
4529 26.06.24 14:05:20.103 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4530 26.06.24 14:05:31.614 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 1500
4531 26.06.24 14:05:46.329 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4532 26.06.24 14:06:14.411 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: -1500
4533 26.06.24 14:06:26.475 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4534 26.06.24 14:06:35.878 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 1500
4535 26.06.24 14:06:50.278 CDT[COMMAND] (SMA100)/PETRA[FREQ-OffsetSoll] called by PETRACON from 131.169.151.54:64978; input: 0
4536 26.06.24 14:08:17.040 CDT[COMMAND] (SMA100)/DESY[Sync] called by PETRACON from 131.169.151.54:64978; input: 1
4537 01.07.24 09:51:07.023 CDT[COMMAND] (SMA100)/SollFreq[SollFREQ-f0-64] called by MKIBRI from 131.169.150.145:8133; input: 499.6643410
4538 01.07.24 09:51:38.784 CDT[COMMAND] (SMA100)/SollFreq[SollFREQ-f0-64] called by MKIBRI from 131.169.150.145:8133; input: 499.6643411

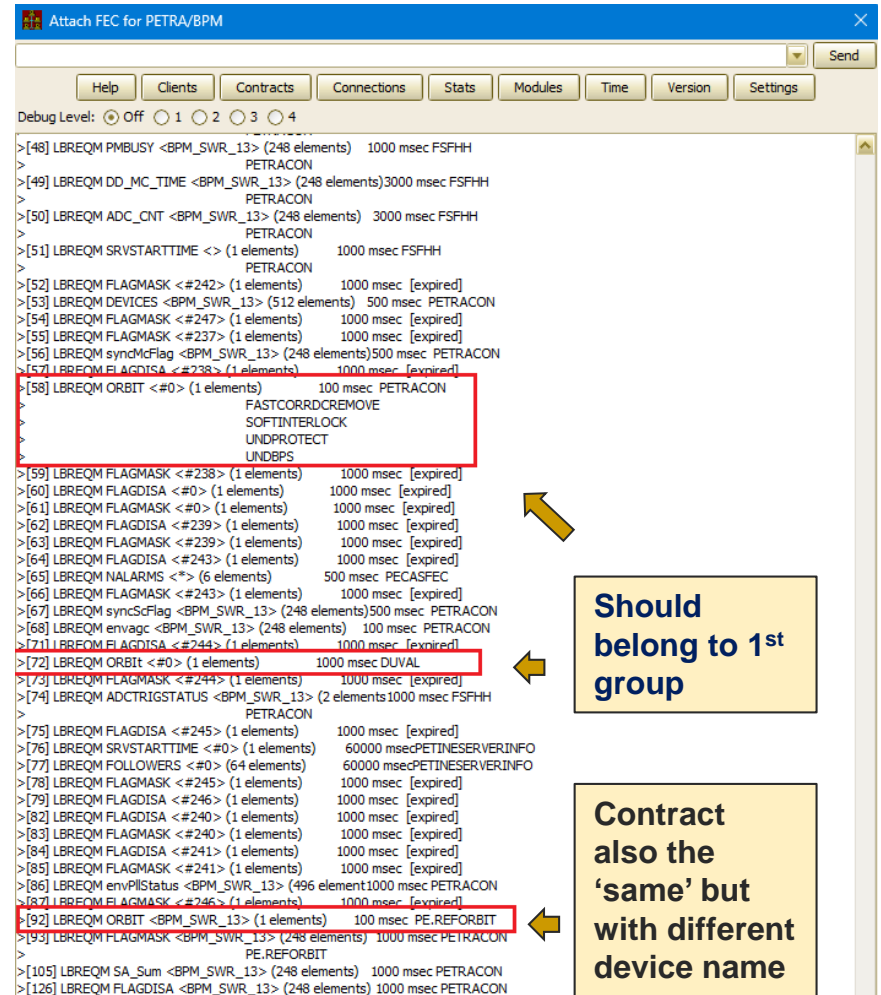
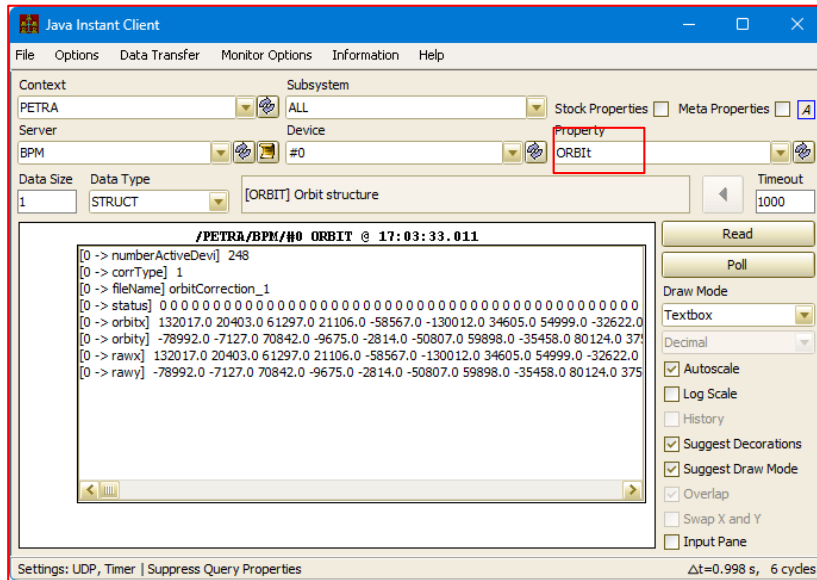
Reiner Text  Tabulatorbreite: 4  Z. 4169, Sp. 78  EINF
```



Release 5.3.0

Case sensitivity issue

- Address names are *case-insensitive*
 - /PETRA/BPM/BPM_SWL_61[ORBIT.X] = /Petra/Bpm/Bpm_SWL_61[Orbit.X] etc.
 - **BUT:** was still possible to sneak in multiple contract entries ...
 - Fixed with version 5.2.8 (build ID 5767)



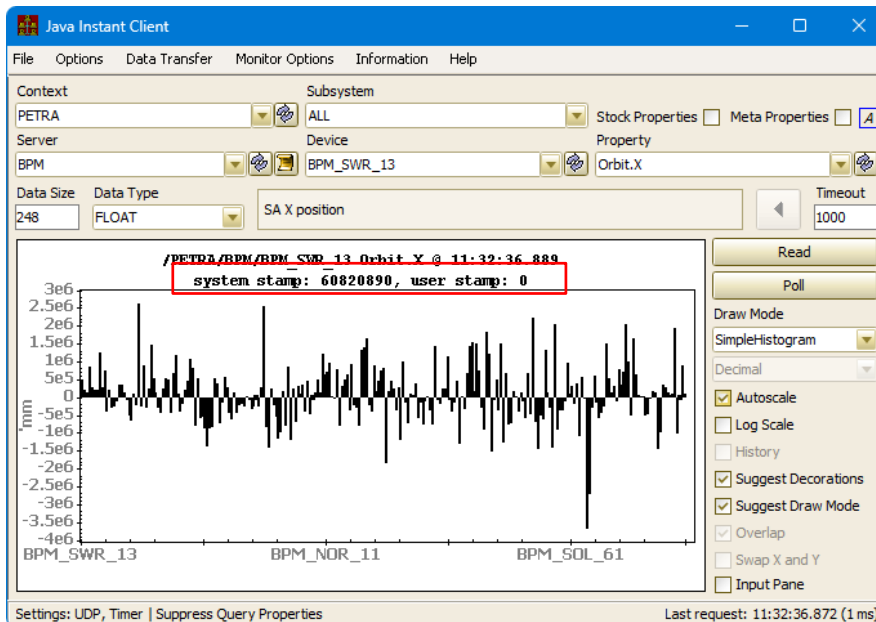
Should belong to 1st group

Contract also the 'same' but with different device name

Thank you S. Weisse !

Release 5.3.0

- System Stamp & User Stamp
 - all data are tagged with both a
 - **time stamp** (UTC double)
 - **system stamp** (cycle number/event number) and a
 - **user stamp** (optional 32-bit integer at the discretion of the server programmer => *almost always 0*)



System stamp also a 32-bit integer:

- as a **signed** integer: wrapped this past February (i.e. became **negative**)! (6.25 Hz for the past 10 years or so)
- train java apps to display an **unsigned integer** !
- introduce 'Epoch'
- /LINAC2/PIAZYK-VXW/ZYK[ResetEpoche]

- DOOCS event number @ 10 Hz will wrap as an unsigned integer in ~14 years
- currently: ~2173576155 (~7 more years!)
- just let it wrap (who cares?) or make use of the user stamp to form an 8 byte long ...

[Release 5.3.0]

- Alarm and Local History Filters
 - *ApplyAlarmWatchFilter()* or **FILTER** column in *almwatch.csv*
 - *AppendAlarmInfoTableEx()* or **FILTER** column in *alarms.csv*
 - i.e. “this isn’t an alarm unless filter condition is satisfied”
 - *ApplyHistoryFilter()* or **FILTER** column in *history.csv*
 - i.e. “don’t store data unless filter condition is satisfied”
 - Can now supply multiple conditions !

NEW!

```
fecadmin@mcslxterm03:/export/tine/server/sine/bin$ attachfec FECSIM.MSTR
Remote session established
get filterlinks
> Current Filters (local alarms/histories)
> /TEST/Globals/keyword[DeclaredState] =Running||Machines Studies : not valid
> /TEST/PulseServer/Pulse0[Amplitude] >10 : valid
> /TEST/PulseServer/Pulse0[Amplitude] >200&&<=300 : not valid
> /TEST/LxSineServer/SineGen0[Amplitude] >256 : not valid
>
```

CAS now also offers filters on action items ... (more later)

[Release 5.3.0]

- *And speaking of Alarms ...*
 - Alarm messages can now carry up to 192 bytes of alarm data (was 64 bytes).
 - alarm message tag can contain 64 characters (was 32 chars).
 - **What about local alarm storms with 100s/1000s of alarms ? Memory issues ?**
 - local alarm lists only contain necessary data :
 - Net reduction in memory allocation!
 - Most alarms don't have extra data or perhaps only one or two values ...
 - Each alarm was allocating 64 bytes whether it needed it or not !
 - *Too many alarms were using the alarm data for a lengthy description of the alarm and 64 chars ain't really a whole lot !*

[Release 5.3.0]

A short review ...

- **Plug-and-Play**
 - *A TINE Server starts and ...*
 - **Registers itself** (*FEC and Context/Server names*) with the TINE **ENS**.
 - **ENS** passes the registration to a local finite state machine which checks:
 - *Is this a new server ?*
 - **YES**: accept and we're done.
 - *Is this the same server and address as someone I already know about ?*
 - **YES**: accept and we're done.
 - **NO**: same server name as someone I know about, *but with a different address !*
 - *is the known server running ?*
 - **NO**: accept, update the address to the new guy and we're done.
 - **YES**: do **NOT** accept this and return an 'address in use' message to server.

[Release 5.3.0]

A short review ...

■ Plug-and-Play

- *A TINE Server starts and wants to be a server group member*
 - Registers itself (*FEC* and *Context/Server* names) with the **TINE ENS**.
 - e.g. **/PETRA/RFServer.1**
 - Registers itself (*Context/Server* and *Group* name) with the **TINE GENS** (*Group Equipment Name Server*).
 - e.g. **/PETRA/RFServer.1** is a server in group **/PETRA/RFServer**
 - the **GENS** assigns the server with a *metric* (position) to the Group name and
 - **BTW:** the '1' in **/PETRA/RFServer.1** is just part of the name (*which must be different from the group name!*). *The metric is a separate piece of information (most likely a '1')*.
 - *Collects the device list* from the server (**/PETRA/RFServer.1**) and compares and caches this list locally
 - *Registers the Group name* as a server with the **ENS**.

[Release 5.3.0]

■ DOOCS TINE Parameters

- SVR.TINE_BLIM (SetBurstLimit())
- SVR.TINE_CDLY (SetCycleDelay())
- SVR.TINE_CTSZ (SetTcpConnectionTableSize())
- SVR.TINE_DBG TINE debug mode at startup
- SVR.TINE_FEC FEC Name (empty -> svr + ip in hex + rpcno. :
e.g. *duc0a8a326.1058*)
- **SVR.TINE_GROUP** Group Metric ! (0 => not part of group)
- SVR.TINE_LOG write TINE Log files (why not?)
- **SVR.TINE_MCA** list of multi-channel-array properties
- SVR.TINE_MCTTL multicast time to live
- SVR.TINE_MTU UDP packet MTU (0 => 1472 bytes)
- SVR.TINE_PORT port offset (0 => use the rpcno.; -1 => find port in
fec manifest)
- **SVR.TINE_PSCHEM** list of properties which can call the scheduler
- SVR.TINEPREF prefix to append to server name (in case of name
collisions)
- **SVR.TINERUN** turn on that thread !
- SVR.TINESUFF suffix to append to server name (in case of name
collisions)
- SVR.TINEVERS (read-only ?)

[Release 5.3.0]

■ DOOCS TINE Parameters

- *TINERUN=1 & TINE_GROUP = 0*
 - *TINE Context = SVR.FACILITY*
 - But subsystem decoration removed from context and assigned to TINE Subsystem.
 - *TINE Server = SVR.DEVICE*
 - TINE_PREF and TINE_SUFF not empty then apply the prefix and suffix to Server name.
 - *TINE Port Offset =*
 - 0 => based on SVR.RPC_NUMBER
 - -1 => find a port in the TINE FEC manifest
 - Non-zero => use it (collision with other ethernet devices?)
- ***BUT: if this is one of those server mask 4 things, you have just shot yourself in the foot !!!***
 - ***Only ONE server can be called /Context/Server !***
 - The TINE server view will only show the *devices* (locations) from 'the winner' of the '*who gets to be called /Context/Server*' race.
 - Anybody else is simply *non-accessible* ...

Release 5.3.0

TINE_GROUP needs to have a value when **TINERUN = 1**

■ DOOCS TINE Parameters

- *TINERUN=1* & *TINE_GROUP = N*
 - *TINE Context = SVR.FACILITY*
 - But subsystem decoration removed from context and assigned to TINE Subsystem.
 - *TINE Server = SVR.DEVICE + ".N"*
 - Register with **GENS** to **JOIN** group **SVR.DEVICE** with metric **N**.
- **But** if you screwed up the first time there is already a server called **SVR.DEVICE** and he is probably running !
 - *So ... no group server created !*
- Easiest way out of this dilemma is to user *enabletine*.
 - *There was once a suggestion to just 'do this properly' inside doocs2tine.cc.*

```
doocsadm@mcslxterm03:~/java$ ./enabletine
enabletine <doocs facility> <doocs device> -<options>
```

```
options can contain '-r' (report only) and/or '-v' (verbose) and/or '-t' (tine debug on) and/or '-p=<prefix>' and/or '-s=<suffix>'
```

Release 5.3.0

- *enabletine e.g. :*

```
doocsadm@mcslxterm03:~/java$ ./enabletine XFEL.RF RF.STARTUP -r
enable /XFEL.RF/RF.STARTUP
LDAP ENS use default value : ldap://doocsldapens
server /XFEL.RF/RF.STARTUP.3 is a valid entry (no action necessary)
server /XFEL.RF/RF.STARTUP.2 is a valid entry (no action necessary)
server /XFEL.RF/RF.STARTUP.4 is a valid entry (no action necessary)
server /XFEL.RF/RF.STARTUP.1 is a valid entry (no action necessary)
REMOVE /XFEL.RF/RF.STARTUP from the TINE ENS
REMOVE /XFEL.RF/RF.STARTUP.6 from the TINE ENS
/XFEL.RF/RF.STARTUP/XFELML1_L3C3._SVR: set TINE_LOG on
/XFEL.RF/RF.STARTUP/XFELML1_L3C3._SVR: set TINE_GROUP to 6
/XFEL.RF/RF.STARTUP/XFELML1_L3C3._SVR: set TINE_RUN on
ADD FEC XFRFSTARTUP6FEC and SERVER /XFEL.RF/RF.STARTUP.6 to the TINE ENS
ADD SERVER /XFEL.RF/RF.STARTUP.6 to group RF.STARTUP with index 6
REMOVE /XFEL.RF/RF.STARTUP from the TINE ENS
REMOVE /XFEL.RF/RF.STARTUP.7 from the TINE ENS
/XFEL.RF/RF.STARTUP/XFELML1_L3C4._SVR: set TINE_LOG on
/XFEL.RF/RF.STARTUP/XFELML1_L3C4._SVR: set TINE_GROUP to 7
/XFEL.RF/RF.STARTUP/XFELML1_L3C4._SVR: set TINE_RUN on
ADD FEC XFRFSTARTUP7FEC and SERVER /XFEL.RF/RF.STARTUP.7 to the TINE ENS
ADD SERVER /XFEL.RF/RF.STARTUP.7 to group RF.STARTUP with index 7
REMOVE /XFEL.RF/RF.STARTUP from the TINE ENS
REMOVE /XFEL.RF/RF.STARTUP.8 from the TINE ENS
/XFEL.RF/RF.STARTUP/XFELML1_L3C5._SVR: set TINE_LOG on
/XFEL.RF/RF.STARTUP/XFELML1_L3C5._SVR: set TINE_GROUP to 8
/XFEL.RF/RF.STARTUP/XFELML1_L3C5._SVR: set TINE_RUN on
ADD FEC XFRFSTARTUP8FEC and SERVER /XFEL.RF/RF.STARTUP.8 to the TINE ENS
ADD SERVER /XFEL.RF/RF.STARTUP.8 to group RF.STARTUP with index 8
REMOVE /XFEL.RF/RF.STARTUP from the TINE ENS
REMOVE /XFEL.RF/RF.STARTUP.9 from the TINE ENS
/XFEL.RF/RF.STARTUP/XFELML1_L3C6._SVR: set TINE_LOG on
/XFEL.RF/RF.STARTUP/XFELML1_L3C6._SVR: set TINE_GROUP to 9
/XFEL.RF/RF.STARTUP/XFELML1_L3C6._SVR: set TINE_RUN on
ADD FEC XFRFSTARTUP9FEC and SERVER /XFEL.RF/RF.STARTUP.9 to the TINE ENS
ADD SERVER /XFEL.RF/RF.STARTUP.9 to group RF.STARTUP with index 9
REMOVE /XFEL.RF/RF.STARTUP from the TINE ENS
REMOVE /XFEL.RF/RF.STARTUP.10 from the TINE ENS
/XFEL.RF/RF.STARTUP/XFELML1_L3C7._SVR: set TINE_LOG on
/XFEL.RF/RF.STARTUP/XFELML1_L3C7._SVR: set TINE_GROUP to 10
/XFEL.RF/RF.STARTUP/XFELML1_L3C7._SVR: set TINE_RUN on
```

[Release 5.3.0]

■ Python News

- From the buffered server: allow **unlimited number of registered properties**
 - was limited to 512
 - *Thanks to C. Mohr !*
- Server: *PyTine.pushdata()* works properly with **pushing a tagged structure** as a dictionary.
 - Python server supplying Trace structures ...
 - *Thanks to M. Lomperski !*

Release 5.3.0

- Central Services News
 - Archiver
 - Scan utilities ...
 - **dbscan** can take more options

post-fix some temperature data where the scaling factors were not applied ...

```
fecadmin@acclxpsrv02:/export/tine/server/pehistory/bin$ ./dbscan
```

```
scans and massages the targeted archive data file
```

```
Usage : dbscan /f=<database file name> (/k=<archive keyword> or /r=<record>)
```

```
  [/y=<year> /m=<month> /x= or /scale=<scale correction> /o=<offset correction>
```

```
  /d=<start::stop - deletes all records found in range>
```

```
  /e=<target time::replacment time - corrects a stored timestamp (if found) to the given replacement value>
```

```
  /vr=<replacement start time::replacment time - replaces stored data with values collected at the target time (e.g. a names list)>
```

```
  /range=<range start time::range stop time - only apply corrections within the range given>
```

```
  /heartbeats=<TRUE> or <heartbeat> - insert missing heartbeat records; value > 60 will override the default of 900 seconds
```

```
  /index=<specific array index - only apply corrections (scale, offset) to specific array index
```

```
  /scan=<TRUE: scan only (don't create 'fix' file)>
```

```
  /v=<TRUE: (verbose) dump scanned contents> /l=<dump array length>
```

```
  /b=<TRUE: bailout on error> /a=<TRUE: add '-fix' extension>
```

```
  /n=<new record length> /poi=<TRUE: scan POI file>
```

```
  /prune=<prune data skip raster>]
```

```
  /poi=<scan points-of-interest data>
```

```
e.g. dbscan /f=datapetr.csv /r=1791 /y=2018 /m=10 /p=10
```

```
scans record 1791 of the 'datapetr.csv' database from October 2018 and prunes the data by taking every 10th stored value
```

```
e.g. dbscan /f=datapetr.csv /r=1700 /y=2018 /m=10 /vr=01.08.2018_10:00:00::14.09.2018_17:45:03
```

```
scans record 1700 of the 'datapetr.csv' database from October 2018 and replaces all records beginning at 01.08.2018 with the record found at 14.08.2018 (e.g. correcting a names list
```

Release 5.3.0

- Central Services News
 - Archiver
 - Scan utilities ...
 - **dbscanfiles**

Which keywords are storing the most data ?

```
fecadmin@acclxpesrv02:/export/tine/server/pehistory/bin$ ./dbscanfiles /?
usage: dbscanfiles /y=<year(4 characters)> /m=<month (1 to 12)> /d=<depth (default=10)>
fecadmin@acclxpesrv02:/export/tine/server/pehistory/bin$ ./dbscanfiles /m=11
year: 2024, month: 11, top 10 largest files:
```

Address	Keyword(s)	Record No. (hex)	Index	Size (bytes)
/PETRA/Cms.PsGroup/PeMain[Status]	Main.Status	1250 (0x4e2)	443	1469265032
/PETRA/Cms.PsGroup/PeCorH[StatusRegs]	HCor.StatusRegs	1018 (0x3fa)	313	1401929568
/PETRA/Cms.PsGroup/PeMain[Strom.Soll]	Main.Soll	1249 (0x4e1)	442	1280703560
/PETRA/Cms.PsGroup/PeCorH[Status]	HCor.Status	1017 (0x3f9)	312	965092752
/PETRA/LBRENV/#0[envgain]	LBRENV.envgain	1728 (0x6c0)	744	914284864
/PETRA/VAC.ION_PUMP/*[P]	Vac.IonPumps.Pressure	1654 (0x676)	696	669587152
/PETRA/MoMo/X-NOR_011[RdKoordinate]	MoMoKoordinate	1846 (0x736)	828	315020128
/PETRA/Cms.PsGroup/PeAll[StatusSum]	PeAll.StatusSum	1193 (0x4a9)	419	306967080
/HASLAB/Petra3_P61vil.CDI.SRV/#0[Analog]	P61.Analog	1571 (0x623)	621	250477216
/HASLAB/PETRA3_P21vil.CDI.SRV/#0[Analog]	P21.Analog	2093 (0x82d)	1039	238273800

```
fecadmin@acclxpesrv02:/export/tine/server/pehistory/bin$
```


Release 5.3.0

Alarm Viewer (archived alarms ...)

Alarm Viewer: PETRA

File View Options Navigate Help

Alarms for: PE

Order By: Device Server Code Severity

#	Device	Server	Code	Seve...	Tag	Al. Data	Al. Data Text	Descriptor	St. Time	Duration
0	Compensation	Cms.Services	518	9	Regelung=Ein/Ko...	49694.938; 4.591...	Zustand Kompensation & Regelung	Heartbeat Termin...	09:06:33.189 - N...	2,6 hr
1	- -	- -	- -	- -	Regelung=Ein/Ko...	49694.938; 4.591...	Zustand Kompensation & Regelung	Terminated	14:32:03.037 - N...	1,7 min
2	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 495.39606	Zustand Kompensation & Regelung	Data Changed Ter...	12:33:29.775 - N...	7 sec
3	- -	- -	- -	- -	Fehler Kompensat...	0.0; 1.0; 0.10070...	Zustand Kompensation & Regelung	Data Changed Ter...	15:06:25.159 - N...	17 sec
4	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 0.11215...	Zustand Kompensation & Regelung	Data Changed Ter...	15:01:00.360 - N...	10 sec
5	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 0.10528...	Zustand Kompensation & Regelung	Data Changed Ter...	15:01:10.653 - N...	7 sec
6	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 0.1258855	Zustand Kompensation & Regelung	Terminated	09:21:40.398 - N...	4 sec
7	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 0.10070...	Zustand Kompensation & Regelung	Data Changed Ter...	09:53:04.882 - N...	16 sec
8	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 0.10070...	Zustand Kompensation & Regelung	Data Changed Ter...	09:53:20.614 - N...	4 sec
9	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 0.10070...	Zustand Kompensation & Regelung	Data Changed Ter...	08:52:58.675 - N...	17 sec
10	- -	- -	- -	- -	Fehler Kompensat...	0.0; 1.0; 0.10070...	Zustand Kompensation & Regelung	Data Changed Ter...	09:58:47.535 - N...	17 sec
11	- -	- -	- -	- -	Fehler Kompensat...	0.0; 0.0; 495.39606	Zustand Kompensation & Regelung	Data Changed Ter...	10:10:57.007 - N...	1,1 hr
12	IME186	Mag.Main-EW2	- -	13	PS AUS FEHLER	49915200; 62914...	Status: Gesamt, PSC, Reg1, Reg2	Terminated	11:22:58.430 - N...	22 sec
13	- -	- -	- -	- -	PS AUS FEHLER	36720896; 62914...	Status: Gesamt, PSC, Reg1, Reg2	Terminated	11:55:12.409 - N...	18 sec
14	- -	- -	- -	- -	PS EIN FALSCH	0.0	Sollwert	Terminated	11:28:21.142 - N...	9,6 min
15	- -	- -	- -	- -	PS EIN FALSCH	976.3333	Sollwert	Heartbeat Termin...	12:04:50.519 - N...	22,2 hr
16	Kompensation	Mag.Main-NO1	521	13	PS AUS	0.0	Sollwert beim Ausfall	Terminated	15:06:36.069 - N...	5,5 min
17	- -	- -	- -	- -	PS AUS	0.0	Sollwert beim Ausfall	Terminated	14:33:47.378 - N...	19 sec
18	- -	- -	- -	- -	PS AUS	0.0	Sollwert beim Ausfall	Terminated	10:02:48.461 - N...	19 sec
19	Mag.Main-EW1	Mag.Main-EW1	999	3	Not Responding		no data associated with alarm	Terminated	16:58:47.000 - O...	7,9 days
20	- -	- -	- -	- -	Not Responding		no data associated with alarm	Terminated	15:24:27.000 - N...	34 sec
21	- -	- -	- -	- -	Not Responding		no data associated with alarm	Terminated	15:25:29.000 - N...	7,9 days
22	- -	- -	- -	- -	Not Responding		no data associated with alarm	Terminated	15:07:08.000 - N...	2,1 hr
23	- -	- -	- -	- -	Not Responding		no data associated with alarm	Terminated	17:16:49.000 - N...	1,1 min
24	- -	- -	- -	- -	Not Responding		no data associated with alarm	Terminated	17:18:24.000 - N...	89,4 hr
25	Main-EW2	Mag.Main-EW2	532	13	> 6 PS ALARMS	10	Num. PS Alarms	Heartbeat Termin...	09:41:02.708 - O...	21,0 days
26	- -	- -	- -	- -	> 6 PS ALARMS	8	Num. PS Alarms	Data Changed Ter...	11:37:41.307 - N...	17,7 min
27	Main-EXL	Mag.Main-EXL	- -	- -	> 6 PS ALARMS	26	Num. PS Alarms	Heartbeat Data C...	09:05:38.960 - N...	2,6 hr
28	- -	- -	- -	- -	> 6 PS ALARMS	26	Num. PS Alarms	Heartbeat Data C...	13:44:26.641 - N...	1,3 hr
29	- -	- -	- -	- -	> 6 PS ALARMS	26	Num. PS Alarms	Heartbeat Data C...	07:18:55.640 - N...	7,7 hr
30	- -	- -	- -	- -	> 6 PS ALARMS	10	Num. PS Alarms	Heartbeat Data C...	07:04:08.128 - N...	54,8 hr
31	- -	- -	- -	- -	> 6 PS ALARMS	26	Num. PS Alarms	Heartbeat Data C...	09:21:43.899 - N...	31,7 min
32	- -	- -	- -	- -	> 6 PS ALARMS	25	Num. PS Alarms	Heartbeat Data C...	07:12:58.905 - N...	1,6 hr
33	- -	- -	- -	- -	> 6 PS ALARMS	15	Num. PS Alarms	Heartbeat Data C...	08:49:34.165 - N...	1,1 hr
34	Main-EXML	Mag.Main-EXML	- -	- -	> 6 PS ALARMS	18	Num. PS Alarms	Heartbeat Data C...	09:05:47.499 - N...	2,6 hr
35	- -	- -	- -	- -	> 6 PS ALARMS	15	Num. PS Alarms	Heartbeat Data C...	13:44:24.964 - N...	1,3 hr
36	- -	- -	- -	- -	> 6 PS ALARMS	18	Num. PS Alarms	Heartbeat Data C...	07:18:53.331 - N...	7,7 hr
37	- -	- -	- -	- -	> 6 PS ALARMS	11	Num. PS Alarms	Heartbeat Data C...	07:04:12.127 - N...	54,8 hr
38	- -	- -	- -	- -	> 6 PS ALARMS	18	Num. PS Alarms	Heartbeat Data C...	09:21:44.020 - N...	31,8 min
39	- -	- -	- -	- -	> 6 PS ALARMS	18	Num. PS Alarms	Heartbeat Data C...	07:12:59.397 - N...	1,6 hr
40	- -	- -	- -	- -	> 6 PS ALARMS	10	Num. PS Alarms	Heartbeat Data C...	08:40:15.713 - N...	1,1 hr

Refresh Save Close

11:10:07: Alarms loaded.

2024

Fri	Sat	Sun
1	2	3
8	9	10
15	16	17
22	23	24
29	30	1
6	7	8

>= 13

60

Duration
22,2 hr
21,9 hr
19 sec
58 sec
34 sec
46 sec
34 sec
40 sec
34 sec



Release 5.3.0

○ What happens when ... ?

Alarm Viewer: PETRA

File View Options Navigate Help

Alarms for: PETRA

CENTRAL
218/249/626/0

TRANSPORT
2/0/0/0

EAST
186/25/70/0

SOUTH
73/11/25/0

WEST
93/0/19/0

NORTH
121/11/131/0

Fatal	Error	Warning	Alarm Display
693	296	871	<input type="radio"/> Live <input checked="" type="radio"/> Archive

Mon No... Warning Severity >= 1 Selected/Total No. of Alarms: 1860/1860 Terminated Alar

Magne	200	13	133	Kicker-Septa	0	0	0	Kontroll	0	9	200
H.Korrekt.Mag.	200	34	34	F.Orbit FB	0	4	9	Front-End	0	22	33
V.Korrekt.Mag.	200	1	34	Multibunch FB	0	1	4	Diagnose	0	27	23
e-Weg Korr.Mag.	2	0	0	Bunch Marker	0	0	0	Interlock	10	32	200
HF	24	46	24	Timing+TopUp	51	33	49	Strahlung	0	0	37
Piloht.-Wasser	0	45	0	Machine Prot.	0	0	26	Vakuum	5	0	52
Temperaturen	0	1	0	Kolli.+Scraper	0	0	0	Undulatoren	0	0	0
Infrastructure	0	5	0	PI	1	23	13	Schirmonitore	0	0	0

Calendar Interval

Start Date: :

End Date: :

Alarm Count

The number of alarms with Severity >= 13

1860

System	Device Name	Source	Message	Sev	Alarm Descriptor	Alarm Start Time	Duration
Magne	IME186	Mag.Main-EW2	PS EIN FALSCH	8	Heartbeat Terminated	12:04:50.519 - Nov 19 CET	22.2 hr
Magne	QE158	Mag.Main-EW2	PS EIN FALSCH	8	Heartbeat Data Change...	12:04:53.554 - Nov 19 CET	21.9 hr
Magne	PDD_NR_87	Mag.Main-NR	PS IST-SOLL WARNUNG	4	Terminated	09:44:27.710 - Nov 20 CET	19 sec
Magne	Main-EXT0	Mag.Main-EXT0	> 6 PS ALARMS	13	Data Changed Terminated	09:43:44.226 - Nov 20 CET	58 sec
Magne	PDA_NR_66	Mag.Main-NR	PS IST-SOLL WARNUNG	4	Data Changed Terminated	09:44:06.544 - Nov 20 CET	34 sec
Magne	QS_N1	Mag.Main-NL	PS IST-SOLL WARNUNG	4	Data Changed Terminated	09:43:54.027 - Nov 20 CET	46 sec
Magne	PDA_NR_99	Mag.Main-NR	PS IST-SOLL WARNUNG	4	Data Changed Terminated	09:44:03.534 - Nov 20 CET	34 sec
Magne	QS_N2	Mag.Main-NL	PS IST-SOLL WARNUNG	4	Data Changed Terminated	09:43:54.027 - Nov 20 CET	40 sec
Magne	PDD_NR_87	Mag.Main-NR	PS IST-SOLL WARNUNG	4	Data Changed Terminated	09:43:51.374 - Nov 20 CET	34 sec

11:10:07: Alarms loaded.



Release 5.3.0

- This now happens :

The screenshot shows the 'Alarm Viewer: PETRA' application window. A 'Warning' dialog box is displayed in the foreground, stating: 'You have selected a very long timespan with multiple alarm systems 6.74 months, and 24 alarm systems. This is likely to cause an out-of-memory exception of one form or another from which no recovery is possible. You might consider reducing the number of alarm systems (Options -> Select Alarm Systems) or reducing the time range. Do you wish to continue?' with 'Yes' and 'No' buttons. A red arrow points from this dialog to a table of alarm counts. Below the table, another 'Warning' dialog box is shown with a red 'X' icon, stating: 'If an out of memory/out of heap exception occurs ... Do NOT submit a Ticket. Do NOT send anyone an Email.' with an 'OK' button.

Alarms for: PETRA

CENTRAL 218/249/626/0 **TRANSP** 2/0/0/0

Fatal: **693**

Mon No...	Warning Sev	System	Device Name	Source	Message
		Magnete	IME186	Mag.Main-EW2	PS EIN FALSCH
		H.Korrekt.Mag.	QE158	Mag.Main-EW2	PS EIN FALSCH
		V.Korrekt.Mag.	PDD_NR_87	Mag.Main-NR	PS IST-SOLL WAR
		e-Weg Korr.Mag.	Main-EXTO	Mag.Main-EXTO	> 6 PS ALARMS
		HF	PDA_NR_66	Mag.Main-NR	PS IST-SOLL WAR
		Piloth.-Wasser	QS_N1	Mag.Main-NL	PS IST-SOLL WAR
		Temperaturen	PDA_NR_99	Mag.Main-NR	PS IST-SOLL WAR
		Infrastructure	QS_N2	Mag.Main-NL	PS IST-SOLL WAR
			PDD_NR_87	Mag.Main-NR	PS IST-SOLL WAR

Alarm Count
The number of alarms with Severity >= 13
1860

11:10:07: Alarms loaded.

Release 5.3.0

- **Central Alarm Server**
 - *Now offers action item filters !*
 - *New action item : **Print to Logbook !***

**Began with an email
“When the MPS Interlock
Alarm comes can I also
get a logbook entry ? ...
- but only during a USER
or TEST Run.”**

Alarm Database Manager: PETRA

File Options Navigate Help

Servers in CAS database for P...

Mag.Main-NL
Mag.Main-NO1
Mag.Main-NO2
Mag.Main-NR
Mag.Main-O
Mag.Main-SL
Mag.Main-W
MDI2P3SMLA1.CDI
MOMO.CDI
MpsAlarms
MPSALARMS.CDI
MPSDiagnosis
MPU_FEC
Nebenbunche
NebenbuncheP01
Network.SwitchOnline
P3MST.CDI
P3VacTempProxy
P960_LFB
P960_TFB
PandoraMI
PE_O_FB
PE_SL_Control
PE_SR_Control
PEBLM.4.CDI
PeCool1.CDI
PeCool2.CDI
PEKICK-SO.CDI
PEKICK-SW.CDI

Reload DB Write DB

13:08:35: Data loaded.

Server and Alarm Configuration

CAS Device Server List

Context: PETRA

Device Server: MPSDiagnosis

Alarm System: Machine Prot.

Subsystem: DIAG

Server Not Responding Severity: ERROR

Extra Alarm Systems

Add

Delete

Action Items

Target Alarm Code: <513> MPS Interlock Msg

Target Filter: /PETRA/Calendar/Calendar[CurrentState]=User

Mail To:

Event Trigger:

Annotate: Logbook: PETRA

Ok Cancel

Current Action Items

[<513> MPS Interlock Msg] mailto: timmy.lensch@desy.de,dennis.haupt@desy.de,michaela.schaumann@desy.de

[<513> MPS Interlock Msg] annotate: PRINT.REPORT



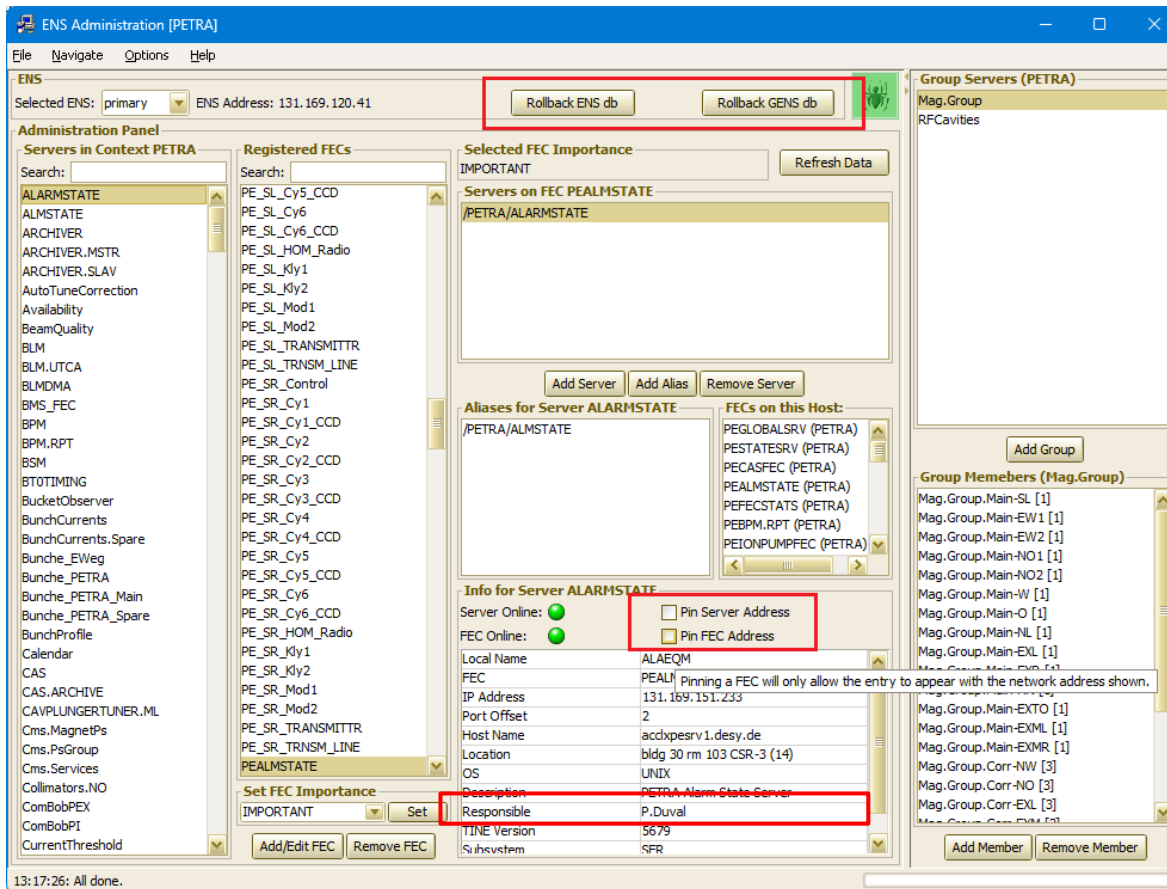
[Release 5.3.0]

■ Plug-and-Play (again)

- *Accidental or intentional aliases ...*
 - You're satisfied that your as yet **TEST** (or maybe **PETRA.TEST**) is now ready for prime time and you give it the context **PETRA** and start him up *on the same machine with the same address parameters.*
 - If you didn't explicitly *remove* the **TEST** guy, then *he's still there* ... and now points to the **PETRA** guy. i.e. *you've managed to create an alias.*
 - this isn't necessarily bad but it could be confusing.
- *Accidental lock out*
 - The real **server X** is *down for maintenance* and you or a colleague accidentally starts *someone else* claiming to be **server X** on a different host and *this is allowed (the real X doesn't answer!)*.
 - *You will notice as soon as you try to bring X back up ... but what's the best way to correct this?*
- **Note:** these things don't happen often, but they have happened!

Release 5.3.0

- ENS Administrator :



**ENS admins
can do
anything ...**

**Responsible
users can
manage their
own servers ...**



[Release 5.3.0]

- On to ...
 - Logbook Print Server
 - MQTT CDI Bus plug