



CDI News

[CDI Version 1.2.3]

■ Feature additions:

- *Automatic histories or listeners* when the 'Access' field contains either 'HIST' or 'LSN'
- Allow 'cdiCleanup' to remove bus-plug libraries
 - Potentially allows a 'SRVRESET' of a hardware server to completely reset without stopping the process.
- Property "IDLE" will now force a CDI server into hibernation.

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- Dynamic Database updating.
- CDI Deployment Tool
- CDI Editor

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■ Automatic listeners ...

- 'LSN' can be applied to templates or specific bus addresses
- Listen @ given interval
- User Format and Limit
- Template: use 'extended property'
 - Dev: "ms01", Prp: "SemHvIstGbl" map to
 - Dev: "ms01.SemHvIstGbl", Prp: "RECV.CLBR"

Name	Bus	Address	Address Param	Address Map	Access	Line	Interval	Format	Limit
QMG:SemHvIstGbl	TEMPLATE	0	1:0:1:0:1:0:2	CommonSEMVoltage_ActualValue	RD LSN	1	1000	Float	1
QMG:SemHvSolI Gbl	TEMPLATE	0	1:0:1:0:1:0:2	CommonSEMVoltage_SetValue	RD WR LSN	1	1000	Float	1:01
QMG:SemCmd	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Detector.Command	RD WR	1	5000	Byte	1:1
QMG:SemHvStatus	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Detector.Status	RD LSN	1	1000	Long	1
QMG:DetTypeGbl	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Detector.Type	RD WR	1	1000	Byte	1:1
QMG:FilActive	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Filament.ActiveFilament	RD WR	1	5000	Byte	1:01
QMG:FilCmd	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Filament.Command	RD WR	1	5000	Byte	1:01
QMG:FilEmisStatus	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Filament.EmissionStatus	RD LSN	1	1000	Long	1

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- **Automatic histories ...**

- As per 'listeners' but keep local history under 'default' history settings
 - Short depth = 600 items
 - Long depth = 1 month
 - Tolerance = 10%
 - Archive heartbeat = 15 minutes.

Name	Bus	Address	Address Param	Address Map	Access	Line	Interval	Format	Limit	F
QMG:SemHvIstGbl	TEMPLATE	0	1:0:1:0:1:0:2	CommonSEMVoltage_ActualValue	RD HIST	1	1000	Float	1	
QMG:SemHvSollGbl	TEMPLATE	0	1:0:1:0:1:0:2	CommonSEMVoltage_SetValue	RD WR HIST	1	1000	Float	1:01	
QMG:SemCmd	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Detector.Command	RD WR	1	5000	Byte	1:1	
QMG:SemHvStatus	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Detector.Status	RD HIST	1	1000	Long	1	
QMG:DetTypeGbl	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Detector.Type	RD WR	1	1000	Byte	1:1	
QMG:FilActive	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Filament.ActiveFilament	RD WR	1	5000	Byte	1:01	
QMG:FilCmd	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Filament.Command	RD WR	1	5000	Byte	1:01	
QMG:FilEmisStatus	TEMPLATE	0	1:0:1:0:1:0:2	Analyser.Filament.EmissionStatus	RD HIST	1	1000	Long	1	
QMG:IonSrcActiveSet	TEMPLATE	0	1:0:1:0:1:0:2	IonSource.ActiveParameterSet	RD WR	1	5000	Byte	1:01	

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■ CDI cleanup

- Removes all bus-plug libraries when CDI library is 'removed'.
- Hardware server now registers a **cdiCleanup** routine with the TINE library.
 - Unloads the CDI library.
 - Which then unloads all of the bus plugs
 - Call to 'SRVRESET' will then remove CDI
 - Note: you need to 'allow' remote management !

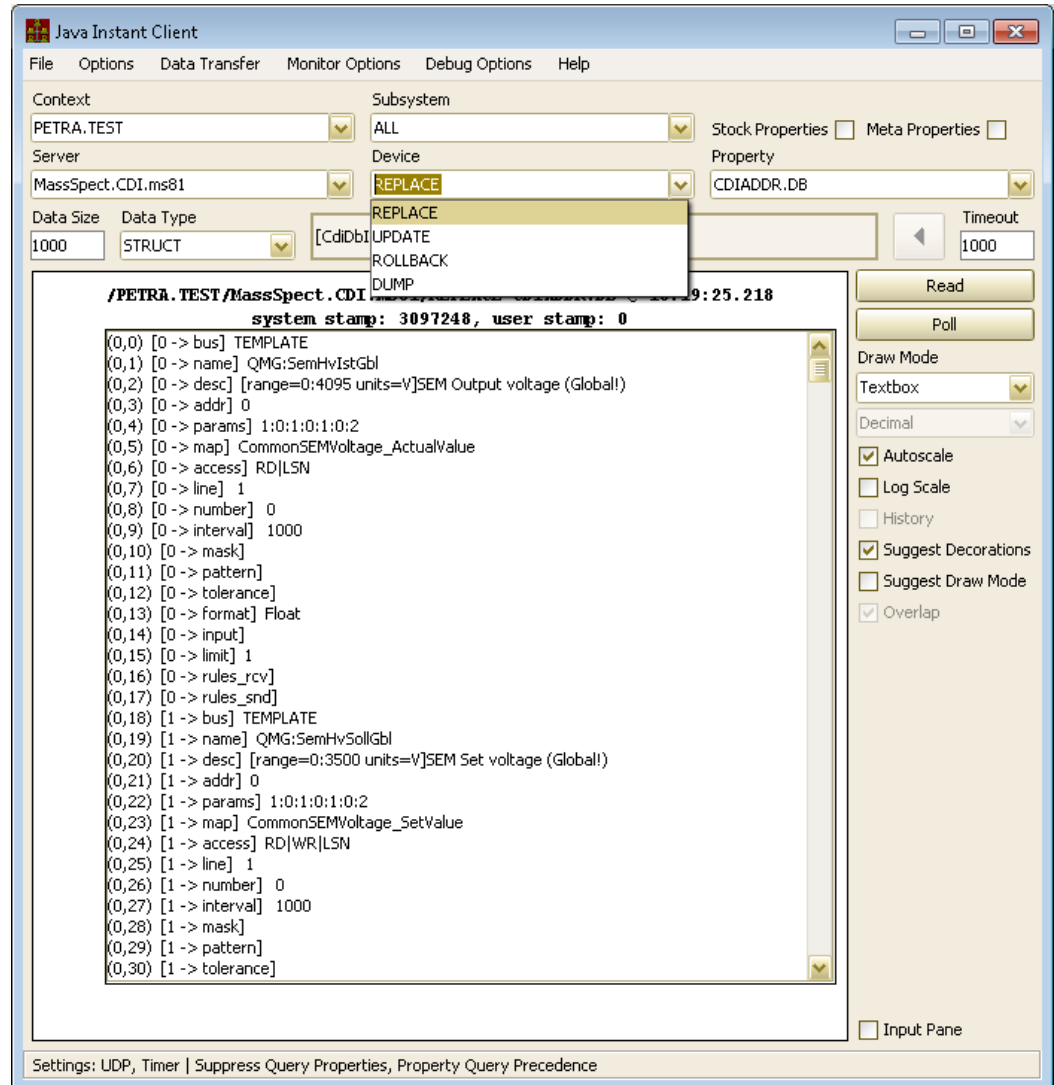
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- New property “**IDLE**” (read/write).
 - Poor man’s reset
 - Will **stop** ALL listening activities
 - IDLE = 1:
 - No histories
 - No calls to CDI
 - Client connections removed.

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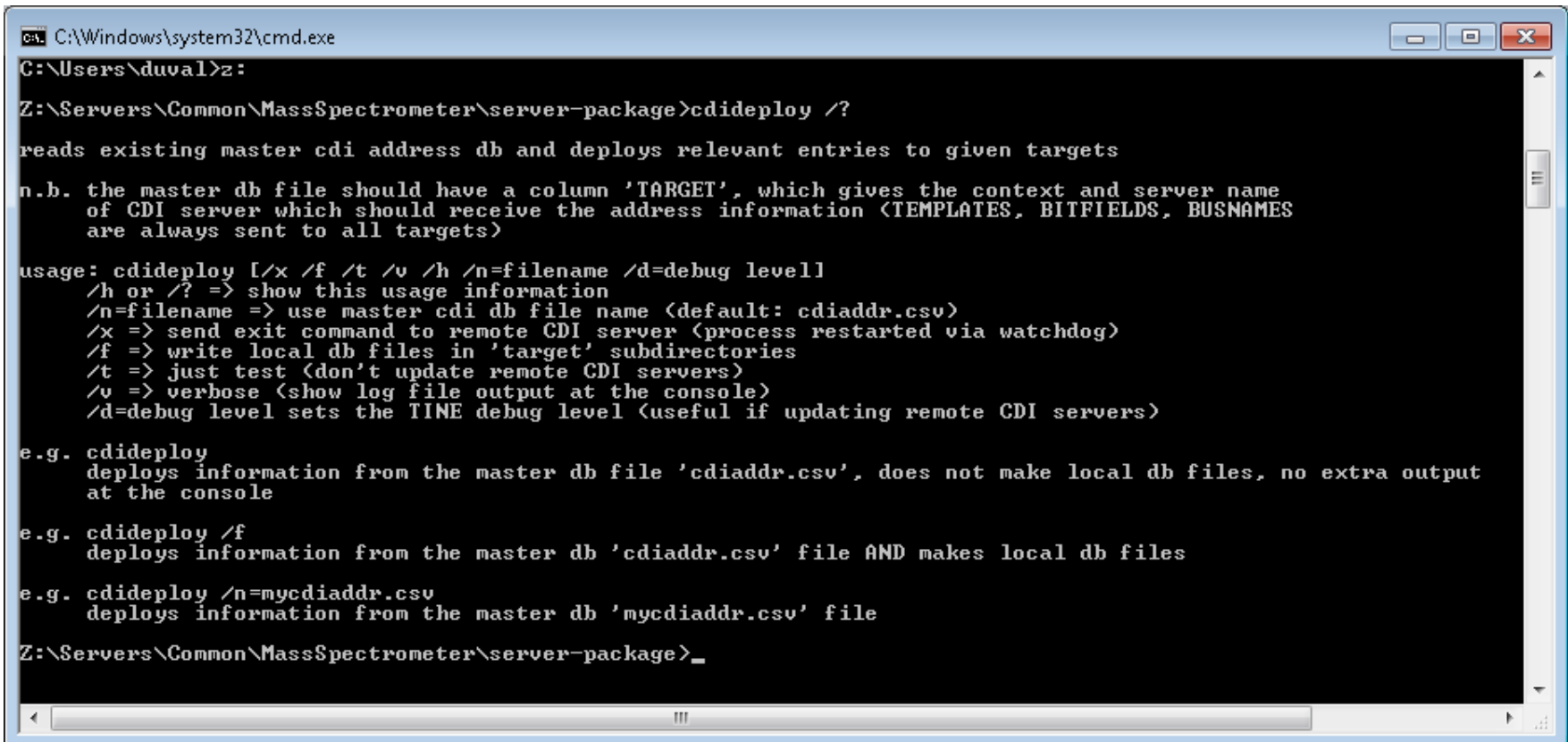
Dynamic Database

- CDI database can be accessed (read/write) via server database properties.



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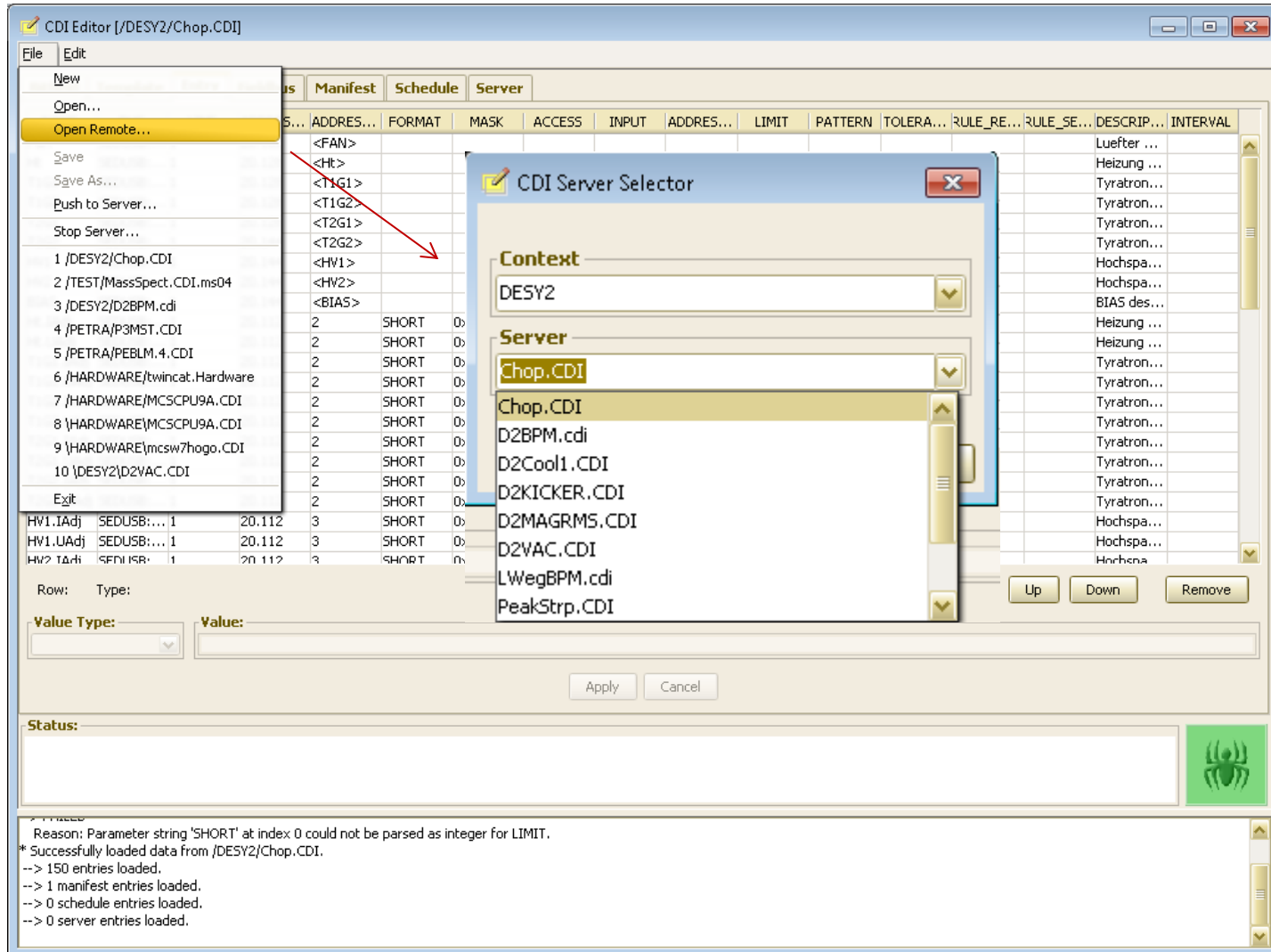
- CDI deployment tool



```
C:\Windows\system32\cmd.exe
C:\Users\duval>:
Z:\Servers\Common\MassSpectrometer\server-package>cdideploy /?
reads existing master cdi address db and deploys relevant entries to given targets
n.b. the master db file should have a column 'TARGET', which gives the context and server name
of CDI server which should receive the address information (TEMPLATES, BITFIELDS, BUSNAMES
are always sent to all targets)
usage: cdideploy [/x /f /t /v /h /n=filename /d=debug level]
/h or /? => show this usage information
/n=filename => use master cdi db file name (default: cdiaddr.csv)
/x => send exit command to remote CDI server (process restarted via watchdog)
/f => write local db files in 'target' subdirectories
/t => just test (don't update remote CDI servers)
/v => verbose (show log file output at the console)
/d=debug level sets the TINE debug level (useful if updating remote CDI servers)
e.g. cdideploy
deploys information from the master db file 'cdiaddr.csv', does not make local db files, no extra output
at the console
e.g. cdideploy /f
deploys information from the master db 'cdiaddr.csv' file AND makes local db files
e.g. cdideploy /n=mycdiaddr.csv
deploys information from the master db 'mycdiaddr.csv' file
Z:\Servers\Common\MassSpectrometer\server-package>_
```

CDI Editor

Open local or remote databases!



CDI Editor [DESY2/Chop.CDI]

File Edit

- New
- Open...
- Open Remote...
- Save
- Save As...
- Push to Server...
- Stop Server...
- 1 /DESY2/Chop.CDI
- 2 /TEST/MassSpect.CDI.ms04
- 3 /DESY2/D2BPM.cdi
- 4 /PETRA/P3MST.CDI
- 5 /PETRA/PEBLM.4.CDI
- 6 /HARDWARE/twincat.Hardware
- 7 /HARDWARE/MCSCPU9A.CDI
- 8 \HARDWARE\MCSCPU9A.CDI
- 9 \HARDWARE\mcs7hogo.CDI
- 10 \DESY2\D2VAC.CDI
- Exit

CDI Server Selector

Context: DESY2

Server: Chop.CDI

Chop.CDI
D2BPM.cdi
D2Cool1.CDI
D2KICKER.CDI
D2MAGRMS.CDI
D2VAC.CDI
LWegBPM.cdi
PeakStrp.CDI

Up Down Remove

Apply Cancel

Status:

Reason: Parameter string 'SHORT' at index 0 could not be parsed as integer for LIMIT.
* Successfully loaded data from /DESY2/Chop.CDI.
--> 150 entries loaded.
--> 1 manifest entries loaded.
--> 0 schedule entries loaded.
--> 0 server entries loaded.

CDI Editor

Browse thru templates!

The screenshot shows the CDI Editor application window with the following components:

- Menu Bar:** File, Edit
- Tab Bar:** Bitfield, **Template**, Entry, Fieldbus, Manifest, Schedule, Server
- Template Type:** A dropdown menu currently showing 'FanP' with a 'New...' button next to it.
- Table:** A table with columns: P..., FORMAT, MASK, ACCESS, INPUT, ADDRESS_MAP, LIMIT, PATTERN, TOLERANCE, RULE_RECV, RULE_SEND, DESCRIPTION. The table contains several rows of data for different templates.
- Row Information:** Labels for 'Row:' and 'Type:'.
- Value Input:** A 'Value Type:' dropdown and a 'Value:' text input field.
- Buttons:** Add, Clone, Up, Down, Remove, Apply, Cancel.
- Status:** A status bar at the bottom with a green bug icon and a log of messages.

P...	FORMAT	MASK	ACCESS	INPUT	ADDRESS_MAP	LIMIT	PATTERN	TOLERANCE	RULE_RECV	RULE_SEND	DESCRIPTION
HvP	SHORT		WR			0:1				>16:+1	Luefter eins...
T1G2	SHORT		WR			0:1				>16:+2	Luefter aus...
HtP	SHORT	0x001	RD			1:0					ungleich 0
T1G1	SHORT		RD			1:0			>16		ungleich 0
HV2	SHORT	0x002	RD			1:0					ungleich 0
BIAS											

Status:
Reason: Parameter string 'SHORT' at index 0 could not be parsed as integer for LIMIT.
* Successfully loaded data from /DESY2/Chop.CDI.
--> 150 entries loaded.
--> 1 manifest entries loaded.
--> 0 schedule entries loaded.
--> 0 server entries loaded.

CDI Editor

Browse property scheduling ...

The screenshot shows the 'CDI Editor' window with the 'Schedule' tab selected. The main area contains a table with three columns: 'PROPERTY', 'DEVICE', and 'TOLERANCE'. The 'TOLERANCE' column contains numerical values, mostly 0, with a 'n' at the bottom. Below the table are controls for adding, cloning, moving, and removing entries, along with a 'Value Type' dropdown and a 'Value' input field. A status bar at the bottom provides a summary of loaded data.

PROPERTY	DEVICE	TOLERANCE
SemHvIstGbl		0
SemHvSollGbl		0
SemHvStatus		0
DetTypeGbl		0
FlEmsStatus		0
ProtectMode		0
CurCh		0
CurMassMode		0
CurMass		0
CurValue		0
CurMassCh		0
CurValueCh		0
CurStatusCh		0
RangeModeCh		0
DetTypeCh		0
SemHvSollCh		0
DisableCh		0
ScanSpeedCh		0
ScanFirstCh		0
ScanModeCh		0
ScanResCh		0
PeakThreshCh		n

Row: Type:

Value Type: **Value:**

Status:

* Successfully loaded data from /PETRA.TEST/MassSpect.CDI.ms05.
--> 106 entries loaded.
--> 1 manifest entries loaded.
--> 35 schedule entries loaded.
--> 0 server entries loaded.

