



Save / Restore



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Save / Restore Datasets

What to save?

- The actual system status
 - The actual alarm settings
 - The actual control settings
 - The necessary settings for a reboot
 - The most recent changes
- .. And ... logging all the changes?

The actual system/machine status

Record set	Special set of records
# of data sets	Multiple
Save	On request
Restore	On request
Tools to use	Burt / caGet, caPut
Change database	No

The actual alarm settings

Record set	All records with all alarm fields
# of data sets	One / two
Save	Cron based
Restore	On reboot / On request
Tools to use	Burt / caGet, caPut
Change database	Yes

The actual control settings

Record set	All records with setpoints, PID parameters, calc parameter ...
# of data sets	One / two
Save	Cron based
Restore	On reboot / On request
Tools to use	Burt / caGet, caPut
Change database	Yes

The necessary settings for a (warm) reboot

Record set	All records with all settings which differ from the actual database any
# of data sets	One / two
Save	Cron based/ continuous
Restore	On reboot
Tools to use	Burt / caGet, caPut burtSave
Change database	Yes, partly
Problems	Restore data in the right sequence

Save / Restore

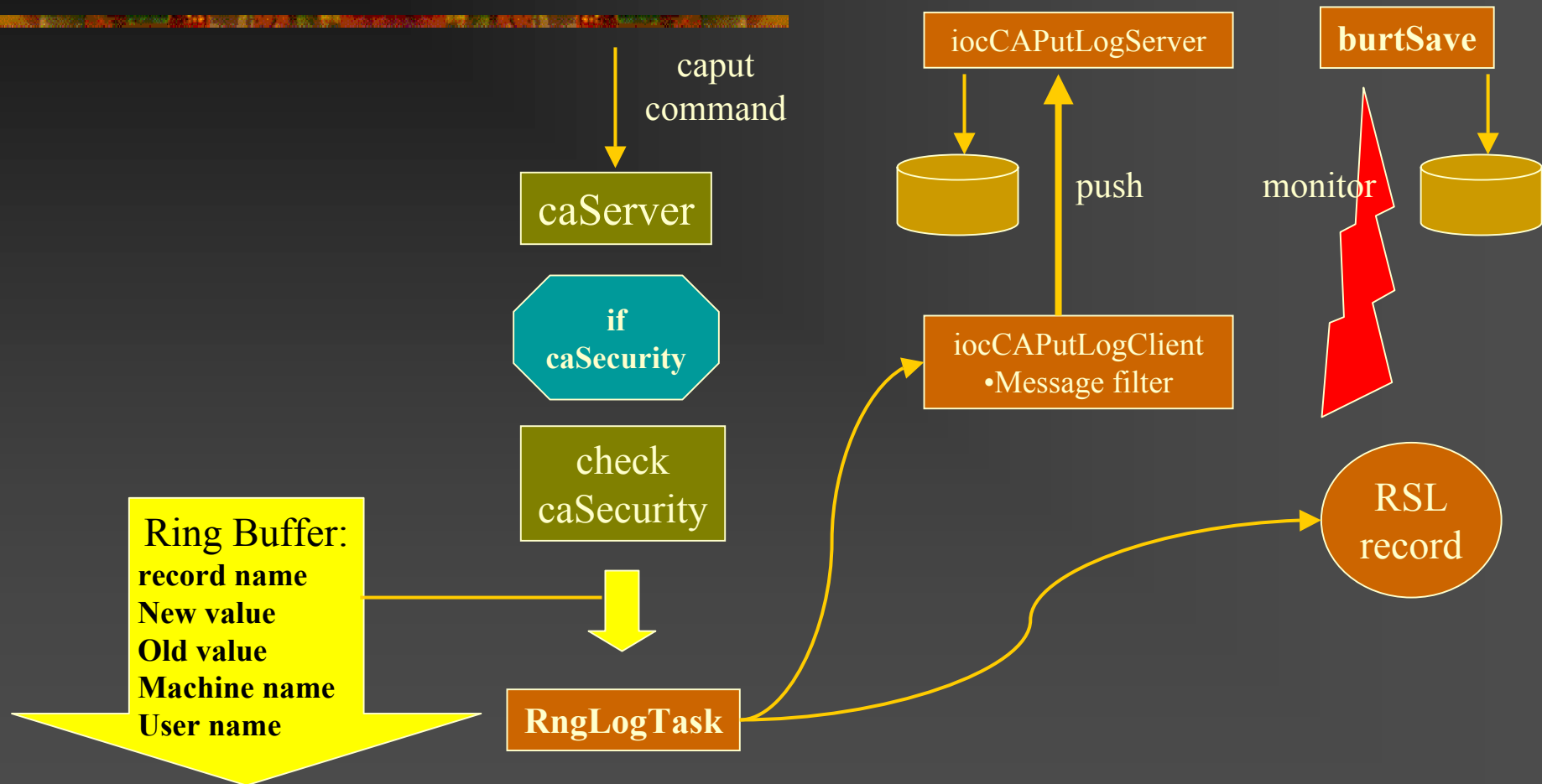
The most recent changes

Record set	any
# of data sets	One
Save	Continuous / on request
Restore	On reboot
Tools to use	burtSave
Change database	Yes, partly (how to automate?)
Problems	Restore data in the right sequence

burtSave – how it works

- Monitor all changes on an IOC
- Write the most recent change into a file (i.e. @ 30 sec interval)
- Run multiple instances on several machines (Master/ Slave mode)
- Monitor several IOC from one program (Writing into several files)

burtSave support on the IOC (caPut-Logging)



CA Put Logging environment variables (IOC side)

The following environment variables are read during CA Put Logging initialization:

- EPICS_IOC_CA_PUT_LOG_INET environment variable defining the Internet address of Log server (on UNIX side). If this variable is not defined or its value is empty the Internet address for standard IOC Log client is used (it must be defined in EPICS_IOC_LOG_INET environment variable, or by default is taken from EPICS configuration file CONFIG_SITE_ENV in directory base/config/)
- EPICS_IOC_CA_PUT_LOG_PORT - environment variable defining the port number of Log server (on UNIX side). By default the port number 7010 is used.
- EPICS_AS_PUT_LOG_PV - environment variable defining the PV name where CA put logging will be done (additionally to logging into UNIX file). It is recommended to use for these purposes waveform or **RSL-record** type [2]. If this variable is not defined or its value is empty logging into PV will be disabled.

Storing caPuts on the IOC using the RSL-Record

RSL-record was developed to keep in record's memory any kind of messages (of size not more than 120 characters) along with time stamps when a particular message was logged. The history depth is defined by one of the record parameters.

- Monitoring strings of up to 120 chars (as an array of chars)
- Keeping a history of the last N commands locally on the IOC

<http://www-kryo.desy.de/documents/EPICS/DESY/Records/RSLDoc.html>

Outlook

- BurtSave is in a review (rewriting) process
- A good time to add new features
- Updated version incl. documentation available soon (some weeks)