



Channel Watcher Bumpless Reboot Replacement

Related Web Page:

[http://www.slac.stanford.edu/grp/
cd/soft/epics/extensions/Channel
Watcher/ChannelWatcher.html](http://www.slac.stanford.edu/grp/cd/soft/epics/extensions/ChannelWatcher/ChannelWatcher.html)

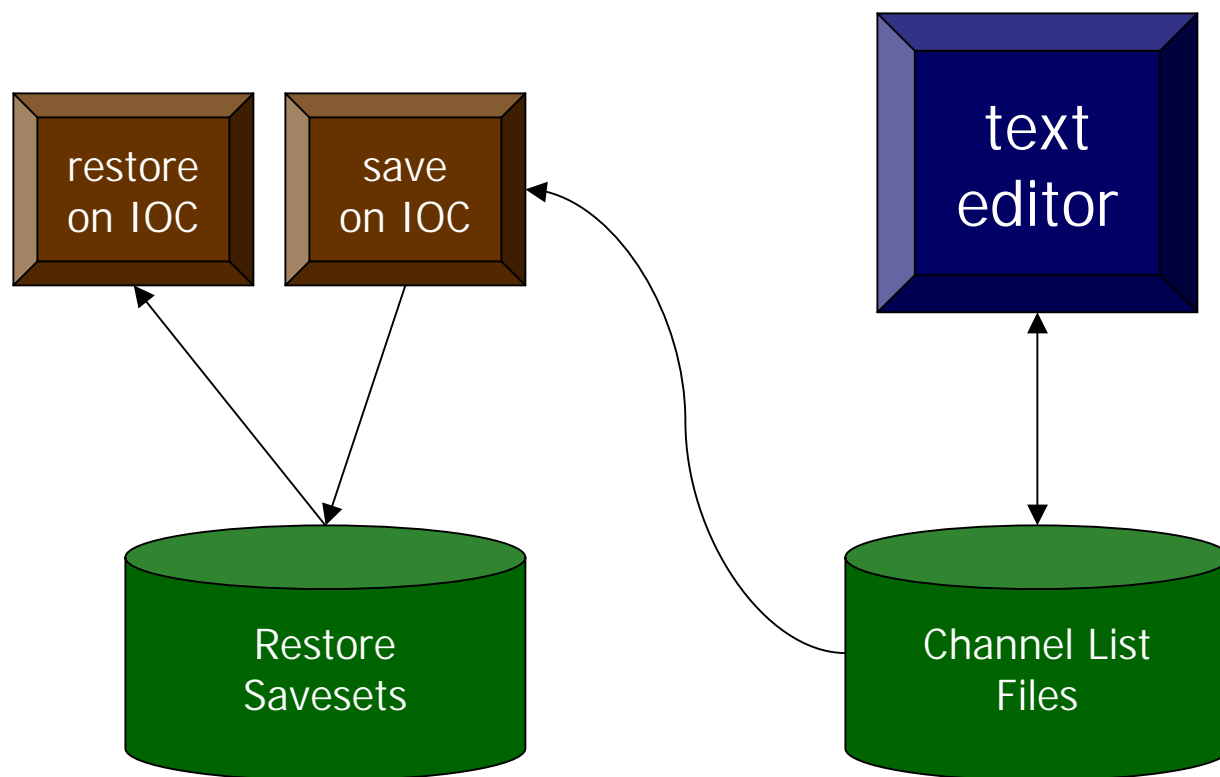


Bumpless Reboot at SLAC

- Back in 1996 I started with Carl Lionberger's `save_restore.c` and merged with Tim Mooney's and Bob Dalesio's versions.
- With only a few upgrades this has served SLAC well, but wasn't ideal.



Current Bumpless Reboot



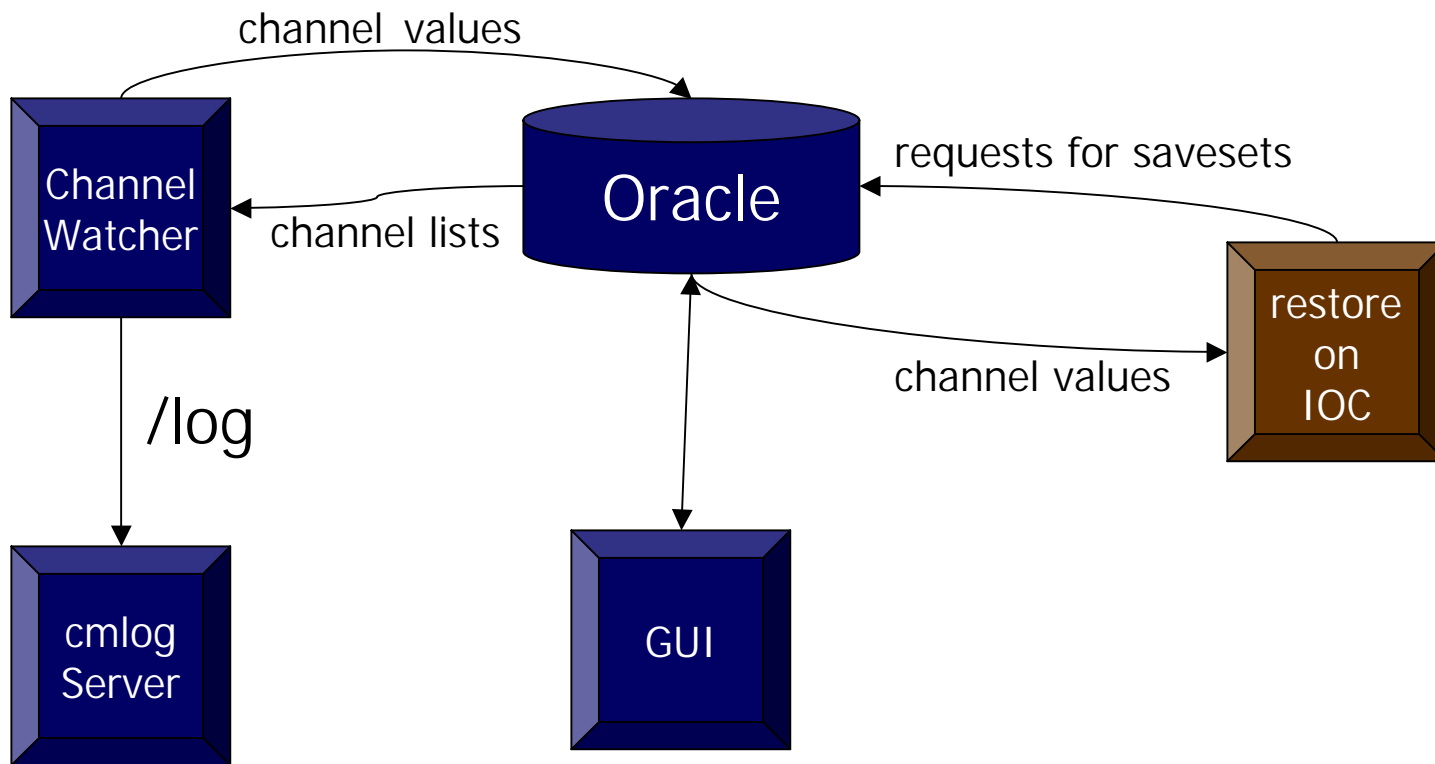


Bumpless Reboot's Shortcomings

- File writing via NFS from IOC. We've seen some failure modes during disk i/o which caused savesets to become corrupted.
- IOC power loss can cause incomplete savesets
- Loss of saved values when IOC booted with incomplete database
- Writes entire saveset when any channel changes
- Difficult to add or remove a channel during operation
- Difficult to add new features to tasks running on IOCs



Channel Watcher





Staged Implementation

- Stage 1: Simple move to UNIX with enhancements (in production by end of 2001)
- Stage 2: Convert Restore Savesets to caGet/caPut file format.
- Stage 3: Web interface for statistics
- Stage 4: Wildcarding using regular expressions
- Stage 5: Channel Lists and Restore Savesets in Oracle Database
- Stage 6: Restore from Oracle Database



Stage 1 Enhancements

- /nowrite option for logging only.
- Don't write unknown values to Restore File for when Channel Watcher can't connect to IOC
- Allow other Channel List File filenames inside the Channel List File
- Web documentation
- Add a channel alias name which will be supplied as a comment next to the channel name on the Channel List File.
- Allow Restore Savesets to be in a different directory
- Throttle logging of channel changes
- Create a health summary PV and additional cmlog messages when this PV goes into alarm state.
- Don't tie Channel Watcher to a specific file system such as afs or nfs.