IOC Manager for Users

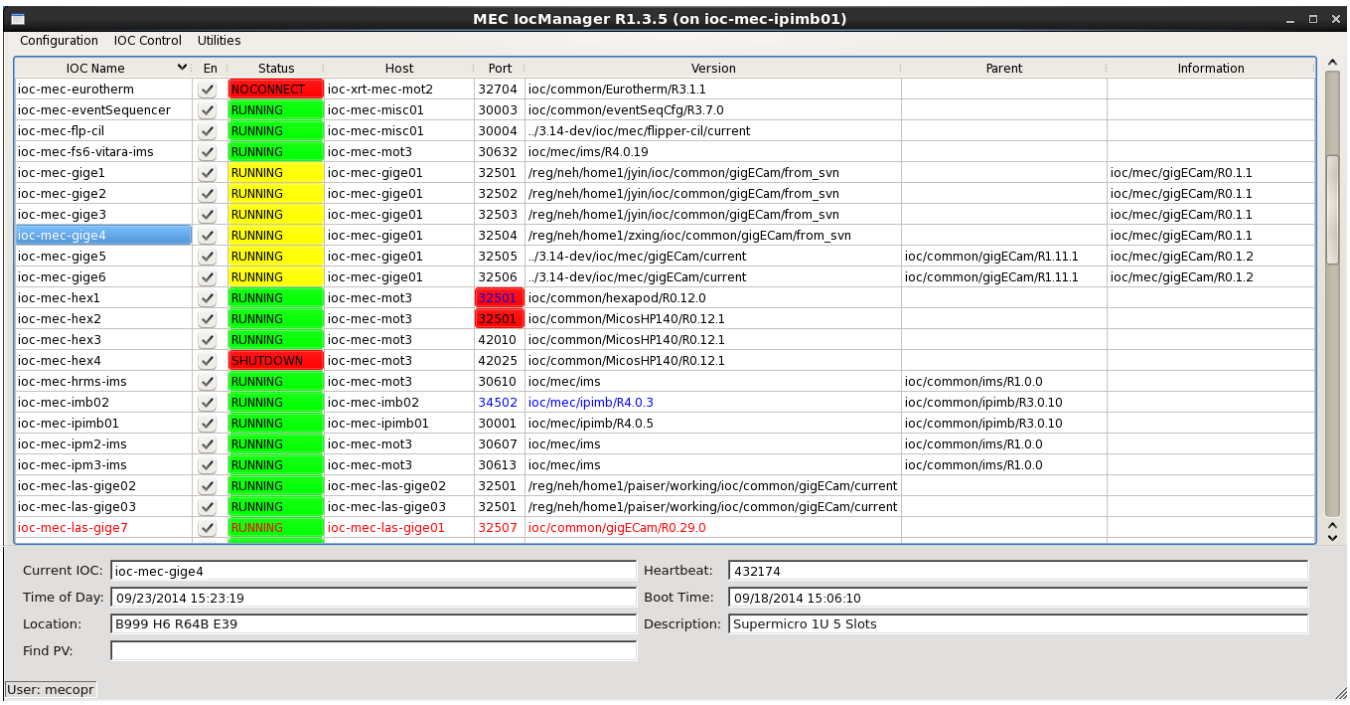
How to Find It

Use "(/reg/g/xpp/scripts/)iocmanager" from a terminal. It will guess the hutch you want the IocManager for by looking at the hostname of the machine. If you would like to see another hutches/areas IocManager, do e.g. "iocmanager **XXX**".

where **XXX** is a three-letter lowercase hutch name (ie: fee, las, amo, sxr, xpp, xrt, xcs, cxi, mec).

The IocManager GUI

Starting version R1-1-2 or later of the IocManager will open a window similar to the following:



IOC Name	En	Status	Host	Port	Version	Parent	Information
ioc-mec-eurotherm	✓	NOCONNECT	ioc-xrt-mec-mot2	32704	ioc/common/Eurotherm/R3.1.1		
ioc-mec-eventSequencer	✓	RUNNING	ioc-mec-misc01	30003	ioc/common/eventSeqCfg/R3.7.0		
ioc-mec-flp-cil	✓	RUNNING	ioc-mec-misc01	30004	../3.14-dev/ioc/mec/flipper-cil/current		
ioc-mec-fs6-vitara-ims	✓	RUNNING	ioc-mec-mot3	30632	ioc/mec/ims/R4.0.19		
ioc-mec-gige1	✓	RUNNING	ioc-mec-gige01	32501	/reg/neh/home1/jyin/ioc/common/gigECam/from_svn		ioc/mec/gigECam/R0.1.1
ioc-mec-gige2	✓	RUNNING	ioc-mec-gige01	32502	/reg/neh/home1/jyin/ioc/common/gigECam/from_svn		ioc/mec/gigECam/R0.1.1
ioc-mec-gige3	✓	RUNNING	ioc-mec-gige01	32503	/reg/neh/home1/jyin/ioc/common/gigECam/from_svn		ioc/mec/gigECam/R0.1.1
ioc-mec-gige4	✓	RUNNING	ioc-mec-gige01	32504	/reg/neh/home1/zxing/ioc/common/gigECam/from_svn		ioc/mec/gigECam/R0.1.1
ioc-mec-gige5	✓	RUNNING	ioc-mec-gige01	32505	../3.14-dev/ioc/mec/gigECam/current	ioc/common/gigECam/R1.11.1	ioc/mec/gigECam/R0.1.2
ioc-mec-gige6	✓	RUNNING	ioc-mec-gige01	32506	../3.14-dev/ioc/mec/gigECam/current	ioc/common/gigECam/R1.11.1	ioc/mec/gigECam/R0.1.2
ioc-mec-hex1	✓	RUNNING	ioc-mec-mot3	32501	ioc/common/hexapod/R0.12.0		
ioc-mec-hex2	✓	RUNNING	ioc-mec-mot3	32501	ioc/common/MicosHP140/R0.12.1		
ioc-mec-hex3	✓	RUNNING	ioc-mec-mot3	42010	ioc/common/MicosHP140/R0.12.1		
ioc-mec-hex4	✓	SHUTDOWN	ioc-mec-mot3	42025	ioc/common/MicosHP140/R0.12.1		
ioc-mec-hrms-ims	✓	RUNNING	ioc-mec-mot3	30610	ioc/mec/ims	ioc/common/ims/R1.0.0	
ioc-mec-imb02	✓	RUNNING	ioc-mec-imb02	34502	ioc/mec/ipimb/R4.0.3	ioc/common/ipimb/R3.0.10	
ioc-mec-ipimb01	✓	RUNNING	ioc-mec-ipimb01	30001	ioc/mec/ipimb/R4.0.5	ioc/common/ipimb/R3.0.10	
ioc-mec-ipm2-ims	✓	RUNNING	ioc-mec-mot3	30607	ioc/mec/ims	ioc/common/ims/R1.0.0	
ioc-mec-ipm3-ims	✓	RUNNING	ioc-mec-mot3	30613	ioc/mec/ims	ioc/common/ims/R1.0.0	
ioc-mec-las-gige02	✓	RUNNING	ioc-mec-las-gige02	32501	/reg/neh/home1/paiser/working/ioc/common/gigECam/current		
ioc-mec-las-gige03	✓	RUNNING	ioc-mec-las-gige03	32501	/reg/neh/home1/paiser/working/ioc/common/gigECam/current		
ioc-mec-las-gige7	✓	RUNNING	ioc-mec-las-gige01	32507	ioc/common/gigECam/R0.29.0		

Each IOC in the configuration file is displayed along with its status:

- **En** is checked if the IOC is enabled and unchecked if disabled. Starting with R2-0-4, this is replaced by **State**, which can be either "Off" (disabled), "Prod" (enabled with a version in the release area), or "Dev" (enabled with a non-release version). Clicking on this, users can toggle between "Off" and "Dev/Prod".
- **Status** is either "RUNNING" (the IOC is up), "SHUTDOWN" (the procServ process is up, but the IOC is down), or "NOCONNECT" (the procServ process for the IOC is not reachable). Furthermore, the color indicates the correctness of the IOC state relative to the configuration: green is OK (the IOC is either running the correct version if enabled, or down if disabled), yellow indicates an incorrect version, and red indicates an actual problem (the IOC is up when disabled, or down when enabled).
- **Host** and **Port** are the host and telnet port for this IOC. ⭐ See Port Ranges, below for advice on selecting a port number.
- **Version** is the current directory setting for this IOC.
- **Parent** is the parent version, if this is a templated IOC.
- **Information** currently holds the running version if the IOC is running some other version than the one that is configured.

Unapplied changes to the host, port, or version fields are shown in blue. In this picture, for example, **ioc-mec-imb02** is running version **ioc/common /ipimb/R4.0.5**, but the user has made an uncommitted change to version **ioc/common/ipimb/R4.0.3**. The port that this IOC should be run on has also been changed to 34502.

Port conflicts are shown highlighted in red. In the example, both **ioc-mec-hex1** and **ioc-mec-hex2** are configured to be on port 32501 on host **ioc-mec-mot3**, due to a recent uncommitted change to **ioc-mec-hex1**.

Deleted but still running IOCs are shown in red. In the example, **ioc-mec-las-gige7** has been deleted.

Clicking on the header of any column will sort the display by that attribute, either up or down.

Clicking on a particular IOC Name selects that IOC and displays status information at the bottom of the screen, along with id of the currently authorized user.

Starting with R1-3-3, the **IocManager** has limited support for hard IOCs. If an IOC is created with port number -1, it will be considered a hard IOC, and the **Port** field will be greyed out and the **Information** field will show "**HARD IOC**". In general, hard IOCs cannot be reconfigured or disabled using the **IocManager**, but an alias may be set and changed.

The menu bar at the top of the screen contains commonly performed actions. Under "**Configuration**", the actions are:

- **Apply** will save the current configuration and make all requested changes.
- **Save** will save the current configuration without changing any IOCs.
- **Revert** will discard all user changes and re-read the saved configuration.

Under "**IOC Control**", the options are:

- **Soft IOC Reboot** will write the reset PV to restart the currently selected IOC, whether it is a soft IOC or a hard IOC. (It should be noted that the "soft" in the name refers to the reboot, **not** the type of IOC!)
- **Hard IOC Reboot** will send a ^X to the IOC console of a soft IOC, killing it and forcing a restart. For a hard IOC, the "**exit**" command will quit any iocsh, and "**rtemsReboot()**" will restart the server.
- **Reboot Server** will use IPMI to attempt to power cycle the server of a soft IOC. For a hard IOC, the "**power**" script is run to attempt to power cycle it.
- **Show Log** will open a window to display the last 1000 lines of the log for the currently selected IOC.
- **Show Console** will open a telnet connection to the console of the currently selected IOC, hard or soft.

"**Utilities**" contains a few miscellaneous functions:

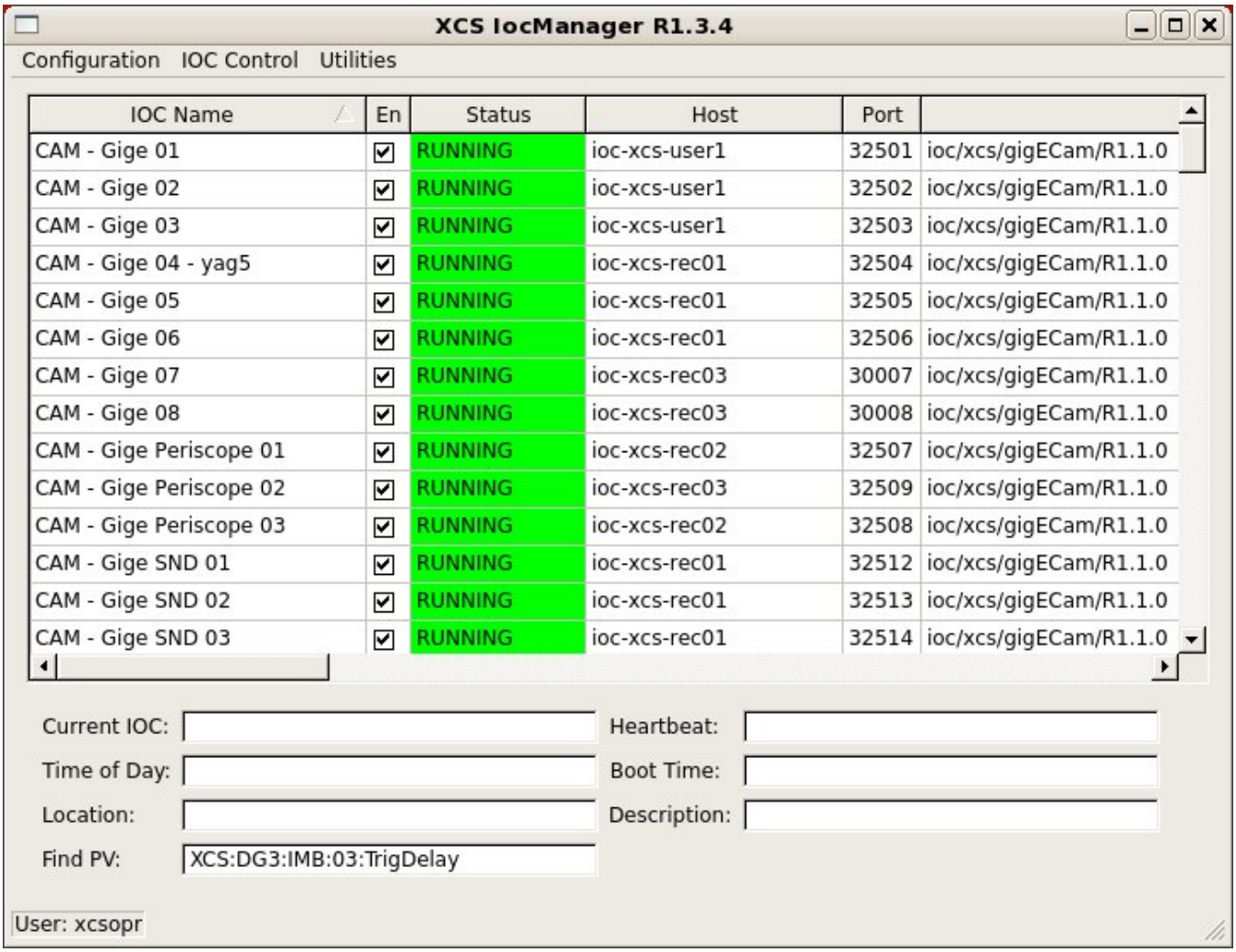
- **Help** provides a link to this confluence page.
- **Remember Versions** will add each current version to the **history** list for that IOC, if not already there.
- **Authenticate User** will login an alternate user with privileges to modify the configuration, etc.
- **Quit** will exit the program and kill all log viewers an telnet sessions.

Right-clicking on an IOC name will bring up a context menu that will have some or all of the following options:

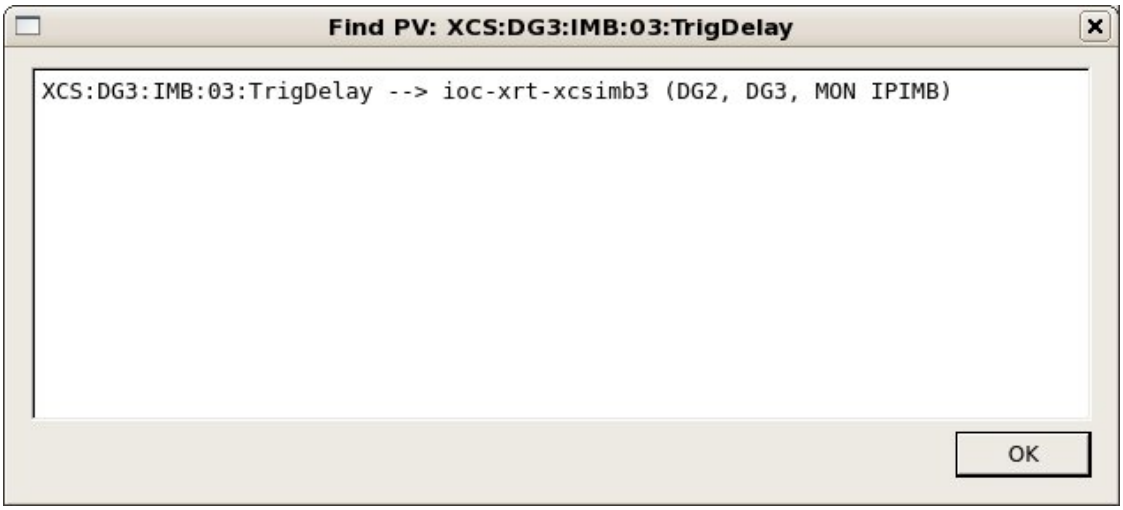
- **Delete IOC** will delete the current IOC from the configuration.
- **Add New IOC** will bring up a window to prompt for parameters for a new IOC to be managed.
- **Add Running to Config** will add an IOC that was found to be running but not in the configuration file to the configuration. (This could also be considered an "undelete" function.)
- **Set from Running** will change the configured parameters to agree with what is currently running.
- **Revert IOC** will discard all unapplied user changes to this IOC and restore the values saved in the configuration file.
- **Remember Version** will add the current version to the **history** list for this IOC.
- **Edit Details** will allow the changing of the rarely changed fields **cmd**, **flags**, and **delay**.

FindPV

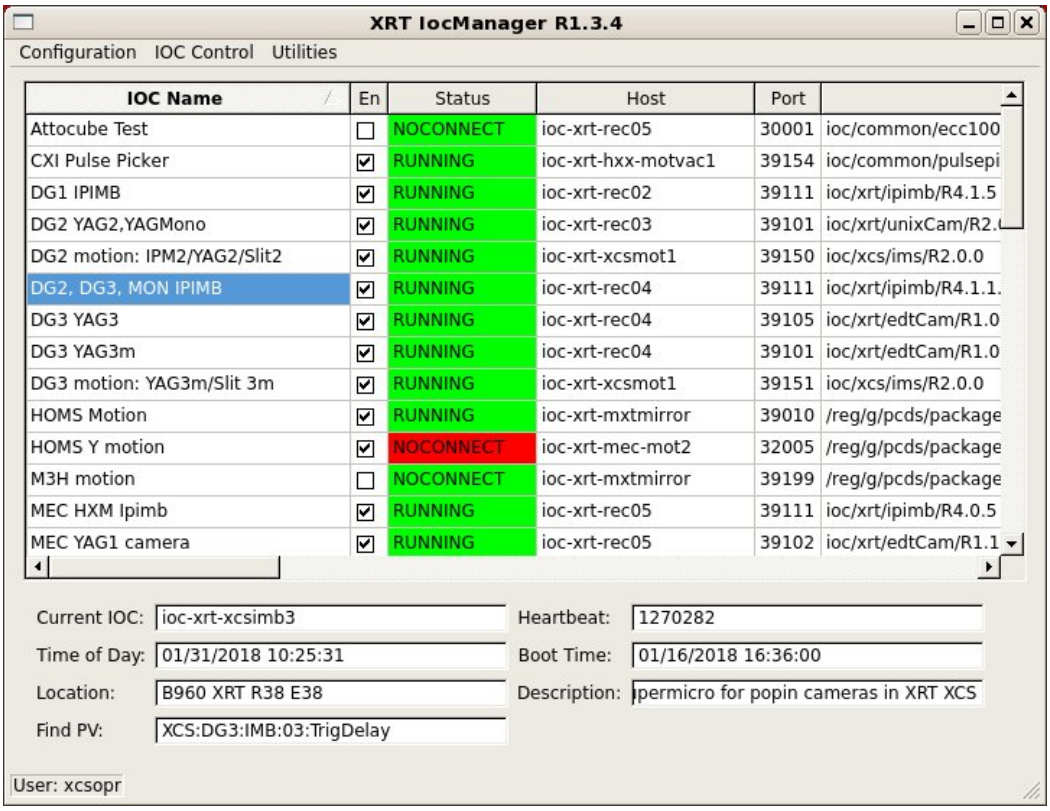
In version R1-3-4, a tool was added to assist finding IOCs by PV name. Enter a regular expression contained in the PV into the "Find PV" field and hit enter. A popup window will show which IOCs have a matching PV. If only one IOC has a match, it will be selected as well.



Should this window remain empty, then this PV is not served from any IOC controlled by this IOC manager. Try another area (e.g. the XRT for some of the IOCs serving hutches in the FEH). In case of success, you should see something like:



In the IocManager, this IOC is now also selected (if there is only a single IOC found as findPV allows for regular expressions).



More details

More information about the IocManager (mostly aimed at PCDS personnel) can be found here: IOC Manager Staff Guide

Procserv

The 'console' option will drop you into the procServ session running the IOC. How to use procServ to reboot the underlying process/IOC (and how to connect to a session if you have issues with the console option) is described here.

So you do:

telnet <hostname> <port>

Among the printout you will see:

@@@ Use ^X to kill the child, auto restart mode is ON, use ^T to toggle auto restart

So you type ctrl-t until you have auto restart in ON or OFF, depending on what you want. With ON, ctrl-x will restart. With autorestart OFF, ctrl-x will stop the process and you will see:

@@@ ^R or ^X restarts the child, ^Q quits the server

So with ctrl-q, the session will be closed.