Adding Channels to the Archiver

Introduction

This document discusses the information you will need to provide when requesting one or more channels be added to the *Mya* archiver. There are two categories of channels, called the *Core Archiver Set* (CAS) and the *User Archiver Set* (UAS). The sections below describe which channels belong in these sets, and what is required to update the list of channels in each set.

Core versus User archive sets

The CAS is those mainstream general interest channels for which we maintain many years of archive records. The archives are backed up regularly, having particular requirements on reliability and stability. These differ from the *User Archive Set* (UAS), which includes channels of short term interest and may be associated with an IOC application or a particular experiment. These tend to be used for debugging a problem or monitoring a transient activity. Only the most recent span of history is maintained for UAS channels, and UAS requests will expire.

All CAS change requests will be reviewed by an administrator; therefore there will be some delay in getting changes made to the core set. The administrator may contact the requestor when dead bands are not supplied or seem inappropriate.

The UAS changes occur automatically, even at the risk of jeopardizing the integrity of the set. For example a user could request that 100,000 channels, each changing 100 times per second, be archived. This would have a detrimental impact on the portion of *Mya* dedicated to the UAS, but have no impact on the CAS. The hardware resources allocated to the UAS are far less capable than those allocated to the CAS.

The tendency will be to want to add channels to the CAS, but please consider carefully whether or not the channels you are requesting actually belong in the CAS. It is to everybody's best interest if we segregate less important channels into the UAS.

If a channel belongs in the CAS, but there is immediate need to start archiving; the user may both add it to the UAS and submit a CAS request. The administrator will convert the archive specification for the channel after review. Note that the accumulated UAS channel history will just be discarded unless the requestor specifically notes that the data needs to be kept.

Core set requests

Our goals for the CAS is to reliably provide to the user community the channel history they need; while keeping the channel set well organized, the disk footprint reasonably small, and the history fetch times to a minimum. To reach these goals, change requests will be reviewed by an administrator. Please provide the names of the desired channels, dead-bands, and organizational groupings. Requests for CAS additions are made via a <u>web form</u>. Click the "Help" buttons on the web form to get brief and useful information.

Please provide all of the channel names explicitly. Requesting "all of the channels in the East *Transmogrifier*" is not acceptable. Neither is asking for things like "*R…DORK.XYZ*". You need to supply names, not expressions.

The dead-band associated with a channel being archived is very important. By default, the archiver saves every change in value of a channel it is archiving. When a dead-band is supplied, only significant changes are saved. For example, one channel was analyzed recently using data obtained from both the previous archiver and *Mya*. The older data set contained 5,400 points, almost all identical; while the newer data set contained three points. Having the reduced amount of data saves on-line disk storage space, backup tape units, and history retrieval times. The dead-bands must be chosen carefully by system experts. Set too low and they do not filter out

signal noise. Set too high and we lose valuable information. Note that *Mya* does not require that a channel has a dead-band, but it is recommended for most channels. Refer to <u>Mya dead-band</u> <u>documentation</u> for details.

All of the channels in the CAS are organized into groups. This is an organizational feature. It helps users locate channels and allows sets of channels to be selected as one entity. You need to supply a group name when requesting the archiving of channels. You can see the current set of groups using the signal browse feature of *MyaViewer* or the drop down list on the web form. You do not need to choose one of the existing groups, but may request the creation of a new one. Note that a channel may exist in more than one group. For example there could be groups called *BPMs* and *WestArcBPMs*, with the latter being a subset of the former.

You may request a "keep span" and "duration" with your request. Since they are more typically associated with the UAS, they are described below.

User set requests

Some of the characteristics of the user set include not being backed up and not having to worry about dead-bands and archive groups. Additionally, *Mya* has some capabilities that will typically be used on the UAS, although these features are available for the Core Set as well. These features are most useful considering the short term nature of the UAS.

Mya can be given a period of relevancy for channels, to keep the disk footprint of the history set at a minimum. You may explicitly declare that a channel's relevance, or "keep span", is some short period of time like three days or one week. If a relevancy period is specified, *Mya* will clip channel history older than the specified span. This can be a huge disk space saving when we are only interested in the most current span of a channel's history and never need to recall data any older.

Another feature is the automatic shutdown of a channel group. *Mya* has the ability to stop archiving all of the channels in a group after a specified duration. Therefore you can request that a set of channels are only archived during the running of some experiment, automatically stopping at the completion date. When archiving expires, previously accumulated history is not discarded; no additional data is appended.

The *archive* command is used to make requests that channels be included in the UAS. Any control system user may enter this command on an OPS fieldom Linux workstation to get short term archiving of a desired set of channels. Refer to online documentation for using the *archive* command (<u>http://devweb.acc.jlab.org/controls_web/certified/archive</u>).

Channels can be added to the UAS automatically. If a channel is not being archived and is viewed on the *MyaViewer* "Strip Chart", it will be added to the UAS. The desire to view live control system channel activity implies a possible interest in temporary archiving of the channel.