Subject: DCS Requirements Collection
Posted by Dan Protopopescu on Tue, 06 May 2008 14:52:53 GMT
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Dear DCS experts,

We started the DCS requirements collection process a short while ago, and by now we already gathered data on threee susbsystems, which is a very good start.
You could browse this database at:
http://nuclear.gla.ac.uk/DCS/
and eventually use the existing entries as an rough example of what we expect to collect from your detector, DAQ or target subgroup. Let us have as much data as we can input now, so that we have a good basis for discussion when we meet in Krakow.
Any feedback on the database structure or the user interface will be welcome, and the earliest the better.

Cheers,
Dan

Subject: Re: DCS Requirements Collection
Posted by Brand on Wed, 07 May 2008 07:32:41 GMT
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Dear colleagues,
I like the DB web page and I have some comments on the DB.

Units: Some Quantities are duplicated with different powers of 10. I would recommend to use always the basic unit only. Numbers could be displayed in scientific format with exponent in multiples of three or SI notation with prefix, e.g. f,p,n,u,m,k,M,G,T,P.
Type: I guess Boolean means True or False, Continuos means double or float and Discret means Integer. I would like to have an data type entry like I32, U8, DBL64, FLT32 or [DBL64] array.
Hardware: I would like to have an connectivity entry, like TCP/IP-Socket, OPC, DIM, ChannelAccess, Profi-Bus, CAN-BUS, GPIB, RS232, RS485, etc.

Holger

Subject: Re: DCS Requirements Collection
Posted by Dan Protopopescu on Thu, 08 May 2008 09:41:26 GMT
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Dear Holger,

Thank you very much for the feedback. I added the descriptions you suggested for the available types, and a new column 'connectivity' in the Hardware table (''alter table Hardware add column connectivity varchar(60) after driver;''). Or you would rather propose to replace the 'hardware' column in the ProcessVariables table with a 'connectivity' column and rename the 'Hardware' table as 'Connectivity' to hold the types you propose ?

DP

Subject: DCS database tables are all editable once you log in
Posted by Dan Protopopescu on Thu, 08 May 2008 09:47:08 GMT
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Dear colleagues,

In general, all tables are editable by the user once he/she logs in. To contribute directly, please register, log in and edit or add to the tables to see how it works out.
You could add new types, units, your subgroup, name and institution, hardware and parameter names - besides PVs, of course.

DP

Subject: Re: DCS Requirements Collection
Posted by Peter Zumbruch on Thu, 08 May 2008 12:11:40 GMT
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Dan Protopopescu wrote private Mail on Thu, 08 May 2008Dear Holger,

Thank you very much for the feedback. I added the descriptions you suggested for the available types, and a new column 'connectivity' in the Hardware table ("alter table Hardware add column connectivity varchar(60) after driver;"). Or you would rather propose to replace the 'hardware' column in the ProcessVariables table with a 'connectivity' column and rename the 'Hardware' table as 'Connectivity' to hold the types you propose ?

DP

Hello Dan,
Quote:In your opinion, what do you think would be better: having the 'boolean, integer, float, double' as types rater than the 'boolean, continuous, discrete' ? Would that be better from an EPICS point of view ?

I had a look to the comments of Holger,
although EPICS itself does not make a difference between float, double, integer, but rather analog (integer, continuous), binary (boolean), arrays, waveforms (arbitrary, general purpose), I would consider the recommendations of Holger to be useful.
I would take this information in addition to the general statement (continuous (array), boolean (array), integer (array), wave struct (arbitrary content, not so easy to display with standard tools)
This will make an implementation easier.
Quote: Would it make more sense to replace 'hardware' with a 'connectivity' ?
Would that be more relevant ?

Add it, don't replace it. It's an additional useful information.

Peter

Subject: Re: DCS Requirements Collection
Posted by Brand on Thu, 08 May 2008 12:48:23 GMT
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Hi Dan,
do not replace.

A hardware can have more than one communication interface.
The interface to be used in an extra requirement. The reason could be a driver that is already available or realtime requirements etc.

Holger

Subject: Re: DCS Requirements Collection
Posted by Brand on Thu, 08 May 2008 12:58:59 GMT
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I think it is good to specify the concrete data type and size if already known.

It is also good to know whether the data is a simple value, array or other structure, e.g. waveform, image etc.

Boolean, discrete, continuos, array, complex would be the first guess for the kind of process variable that could be specified later on when the information becomes available.

So, the kind of process variable is demanding, the details are optional. On the other hand the kind could be derived from the details.

Holger

Subject: Re: DCS Requirements Collection
Posted by Dan Protopopescu on Thu, 08 May 2008 14:14:49 GMT
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I would really like to have some meaningful entries in the Hardware table but my expertise on this is almost null. Would you be able to fill in some common hardware interfaces for example ? The ones likely to be used by us.

Subject: Re: DCS Requirements Collection
Posted by Dan Protopopescu on Thu, 08 May 2008 14:20:25 GMT
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Is a PV of type continuous with 128 channels, for example, not an equivalent description for array of doubles of size 128 ?

Subject: Inidivdual PVs vs. PV of array type
Posted by Brand on Fri, 09 May 2008 05:56:46 GMT
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I think there is a fundamental difference:

- N Process Variables (any type) changing individually and may need individual logging intervals, alarm limits and actions in case of exceeding limits, etc.
- One Process Variable of array type where the array is an coherent set of data that belongs to only that one PV, with one set of alarm limits, etc.

Of course, it can be useful to handle N PVs as array, but that would be more of technical interest at implementation time and it is specific for the task to perform.

Holger