

Technical Note 81

1.UCA/MMS and UR Wizard Topics for PMCS

Subject: Additional Integrator information when developing a PMCS system using AXS4MMS and Universal Relays

Applies To: PMCS

This document highlights some additional topics when integrating a PMCS system using AXS4MMS and universal relays including registry settings, level 3 system considerations and advanced UR wizard topics.

I. AliasTableMaker , Aliases & registry settings

When the PMCS installation runs from the CD, it calls a program called the AliasTableMaker. **Note: You must leave the CD in even after the computer reboots for the AliasTableMaker to run.** The program populates the Alias table (assessable in \Osill2\siscinf3.mdb "Axs4MmsAlias" table or from the configuration utility Configuration->AXS4MMS->Item Aliases) which aliases the MMS items via the following DDE Item:

@<Modbus Mnemonic>

So if I was trying to access AMPS_A from a device called PLV_F60 via MMS, the DDE Excel function would be:

=AXS4MMS|PLV_F60!@AMPS_A

The AliasTableMaker is located in the root directory on the GE_PMCS CD. The file Alias.csv contains the Aliases which are populated in the database. **Note: If you wish to add new Aliases to the Alias.csv file, they must be added in alphabetically by the Alias, otherwise the AliasTableMaker will not work.**

The AliasTableMaker adjusts the following registry values:

REGISTRY KEY	VALUE
\HKEYLOCALMACHINE\SOFTWARE\SISCO\AXS4MMS\CURRENTVERSION\MMS-EASE\MAXTYPES	10,000
\HKEYLOCALMACHINE\SOFTWARE\SISCO\AXS4MMS\CURRENTVERSION\MMS-EASE\MAXVARS	10,000

These are set so that AXS4MMS can maintain up to 10,000 MMS items.

In addition the AliasTableMaker sets the following in the Sicsinf3.mdb Hlmparimeters table:

COLUMN	VALUE
NumCalledChannels	256
NumCallingChannels	256

These setting allow up to 256 URs to communicate with AXS4MMS.

II. Creating Additional Aliases

If additional Aliases are needed for MMS items that do not have aliases currently (ie items in the UCA Domain), they can be added to the siscinf3.mdb through use of the configuration utility. To optimize MMS communications when using DDE, the following syntax should be used for the MMS item string:

<MMS Item String>~Type Rate=1

The "Type" is very important because this will optimize the number of MMS requests on the LAN.

Question: If I make up my own Aliases will they be wiped out when I upgrade PMCS?

Answer: Absolutely not. The Alias Table Maker utility will not modify or delete any custom Aliases already in the database.

Question: Are there any requirements or conventions for custom Aliases that I should be aware of?

Answer: The only thing to be aware of is that the Aliases name must be unique. Example there cannot be two @AMPS_A aliases. If a second Alias was needed (for the amps A value in the UCA domain for example), it would be necessary to make up an Alais such as @UCA_AMPS_A.

III. Other AXS4MMS registry settings to consider

REGISTRY KEY	VALUE	PURPOSE
\HKEYLOCALMACHINE\SOFTWARE\SISCO\OSILL2\CURRENTVERSION\PARAMETERS\RUNHIDDEN	1	Will not show the OSI Stack on the Task Bar. Refer to the AXS4MMS manual to run this a service as opposed to just hidden
\HKEYLOCALMACHINE\SOFTWARE\SISCO\OSILL2\CURRENTVERSION\PARAMETERS\OSIREQUIRED	0	If the OSI LLC Protocol cannot be found or loaded, this parameter will cause the OSI Stack not to enunciate the condition by displaying a message box
\HKEYLOCALMACHINE\SOFTWARE\SISCO\AXS4MMS\CURRENTVERSION\Tuning\CbbSupport	0	When asking for a value that is not present, the UR will sometimes respond causing the polling to abort. (This condition is evident in the axs4mms.log with RTAA error log messages). Setting this to 1 will suppress these errors.

Complete AXS4MMS registry information can be found in the AXS4MMS user's manual.

IV. Adding UR device type to the UR Wizard

Process for adding a UR device type to the UR Wizard:

- Open up the PMCSWZRD.INI file in the c:\winnt directory
- Under the [UR models] section add a line which reads:

<New UR TYPE>=<New UR Type>

Ex- for a G30 the entry would be:

G30=G30

- At the bottom of the file, enter the <New UR Type> heading for the device and the screens .dlls information underneath it that apply to the wizard type.

Ex - The G30 type will have a quality, control, elements, inputs and counter tab. The entry will look like:

[G30]

Quality=URH01

Control=URC01

Elements=URD01

Inputs=URV01

Counter=URN01

When you drop the wizard in WindowMaker, the new UR type will show up UR model box with the information. The current list of screens that are available:

Metering	URM01.DLL
Quality	URH01.DLL
Control	URC01.DLL
Elements	URD01.DLL
Inputs	URV01.DLL
Counter	URN01.DLL
Xform	URT01.DLL
Power	URP01.DLL
Source2	URS02.DLL
Source3	URS03.DLL
Source4	URS04.DLL
Source5	URS05.DLL
Source6	URS06.DLL

V. Adding a new UR screen DLL

If a new UR screen dll is created, the following must be done to utilize it:

1. Include the DLL in the \Intouch directory

2. In each of the UR device headings that the new screen will apply to include a line which indicates what the name of the tab will be and what the name of the dll is.

Ex- I have a new screen for the L90 that I want to call Differential and has a DLL called URDIFF.DLL. In the PMCSWZRD.INI the following modification would be made:

[L90]

Metering=URM01

Quality=URH01

Control=URC01

Elements=URD01

Inputs=URV01

Counter=URN01

Power=URP01

Source2=URS02

Source3=URS03

Source4=URS04

Source5=URS05

Source6=URS06

Differential=URDIFF

VI. Level 3 System Considerations

Currently the UR can only support one client requesting its event file or oscillography file. In a substation it is possible to have a level two communications system (PMCS) and a level three system (Enterprise Scada) polling for events at the same time. Future UR platforms should correct this error, but for now it is up to the two systems to deal with the unavoidable race condition (both systems request the events, first one gets it, second one is locked out). The PMCS 6.6 event logger has added to following registry items to deal with the situation.

[HKEY_LOCAL_MACHINE\SOFTWARE\GE\PMCS\6.0\EventLogger\Configuration]

KEY	DEFAULT VALUE	DESCRIPTION
UR_SHORT_RETRIES_NUMBER	5	value that tells how many retries should be done in case of being unsuccessful while retrieving Events.txt file from UR
UR_SHORT_RETRY_DELAY	1000	delay between # attempts (UR_SHORT_RETRIES_NUMBER) in milliseconds
UR_LONG_RETRIES_NUMBER	3	If the server is unsuccessful in getting the file after the allot "short retries" attempt, this is the total number of additional retries to be done
UR_LONG_RETRY_DELAY	30000	Delay between # of long attempts(UR_LONG_RETRIES_NUMBER) in milliseconds
UR_FILE_RETRIEVAL_TIMEOUT	1000	Maximum time allowed in between packets of event.txt file from UR in milliseconds

Similar parameters should be included in the level 3 system. By staggering the retries, both systems should get access. Set these parameters to ensure that PMCS will get the events file even if it misses it on the first try.

VII. Known Issues with AXS4MMS

The AXS4MMS release 4.10p2 and 4.20p2 contains the following issues:

Asking for items which don't exist that begin with the "@" can cause a Dr. Watson error. This is a known issue with parsing AA specific variables – it will be corrected in a future release according to SISCO.

Performance note:

Leaving full logging on the AXS4MMS server uses huge CPU utilization. Once the system is fully installed and at a stable state, it is recommended that logs be set to standard or none.

Keywords

AXS4MMS, UCA/MMS, OSI, TCP/IP

Related Notes

none

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