



APPLICATION NOTE

APP #146

Revision History

Date	Author	Description
10-07-2020	DEW	Setup

MCS-Controls with Siemens BMS Bacnet MSTP

Any questions regarding this release, contact: support@mcscontrols.com

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1.1. Fieldserver MSTP Settings

In the Fieldserver, change the MSTP network number to match the MSTP network number defined in the Siemens PXC controller. The MSTP network numbers must match since they are the same network and both the Siemens PXC and SMC Fieldserver are acting as IP to MSTP routers.

MSTP Settings

BACnet MSTP R1

Enable

Network Number

MAC Address

Baud Rate

Token Usage Timeout (ms)

PXCC MSTP Settings:

MS/TP BLN/FLN Configuration

Enable MS/TP Port

Network #:

Node Address:

Baud Rate:



Configure the IP network in the SMC router to a new unique IP network number. This network number must be unique on the entire BAS BACnet network. The default network of 1 is very likely to be use as it is also the default IP network number for Siemens and most other manufacturers routers and will almost certainly always need to be changed.

Fieldserver IP network settings:

BACnet IP Wired 1

Enable

Network Number

IP Port

With the network number configured correctly, discover and communicate to the MCS Magnum panel.

Devi...	System name	User Name	Description	Network Number	IP Address	Port Number	MAC Address	Application number	Device Type
18101	TrainingClass00900	TrainingClass00900	server	366	192.168.10.235	47808	192.168.10.235.186.192	10101	BACnet IP
1000	BACnet Data...	BACnet Data...		366	192.168.10.237	47808	192.168.10.237.100.100	05505	BACnet IP

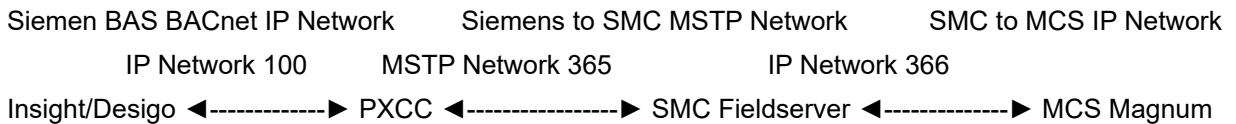
Normal communication from Insight/Commissioning tool

Subpoint #	Name:Suffix	Description	Value	Status	Priority
Dev Name: TrainingClass00900		Descriptor: server			
1	TrainingClass00900:ChilWtr In		-99.9	DEG F -N-	NONE
2	TrainingClass00900:ChilWtrOut		-99.9	DEG F -N-	NONE
3	TrainingClass00900:SUCT PSI 1		-99.9	psi -N-	NONE
4	TrainingClass00900:DISC PSI 1		-99.9	psi -N-	NONE
5	TrainingClass00900:OIL PSI 1		-99.9	psi -N-	NONE
6	TrainingClass00900:AMPS 1		0.0	A -N-	NONE
7	TrainingClass00900:SUCT TMP 1		-99.9	DEG F -N-	NONE
8	TrainingClass00900:DISC TMP 1		-99.9	DEG F -N-	NONE
9	TrainingClass00900:MTR TMP 1		-99.9	DEG F -N-	NONE

Normal Communication from Desigo CC

The screenshot shows the Desigo CC interface. On the left is a tree view of the project structure, including 'FieldNetworks [Field Networks]', 'BACnet_Network [BACnet Network]', 'Hardware [Hardware]', '136PXC01 [136PXC01]', 'FLN_366 [FLN 366]', and 'TrainingClass00900 [server]'. The right pane displays a list of system management points with columns for Name, Value, Status, and Priority. The list includes various sensors and actuators such as 'CMP2_DISCHARGE_PRESSUR...', 'CMP2_LEAVING_TEMP_SEN...', 'CMP2_MOTOR_TEMP_SEN...', 'CMP2_OIL_PRESSURE_SEN...', 'CMP2_OIL_SEAL_TEMP_SEN...', 'CMP2_OIL_TEMP_SENSOR...', 'CMP2_PRE-OIL_FILTER_PSI_S...', 'CMP2_REFRIG_LEVEL_SENS...', 'CMP2_REFRIG_TEMP_SENSO...', 'CND_FAN1-1 [TrainingClass...', 'CND_VFD1% [TrainingClasso...', 'CND_VFD2% [TrainingClasso...', 'COMP_2 [TrainingClass0090...', 'COMP_1 [TrainingClass0090...', 'EXV1_% [TrainingClass0090...', 'EXV2_% [TrainingClass0090...', 'LLS_1 [TrainingClass00900 (...', 'LOAD_1 [TrainingClass0090...', 'MOTOR_INJ1 [TrainingClass...', 'Step_Delay [TrainingClass00...', 'Steps_On [TrainingClass009...', and 'Steps_Wanted_On [Training...'. The values are mostly 0.00, -99.9, or 180.00, and statuses are Normal, Inactive, or Command.

Shows networks connections:



If a site is having problems with communication in this configuration, the issue is in how the network numbers are configured.



Tests were done using current Siemens Software (Comm Tool 3.16, DesigoCC 4.1) and PXC firmware (Version 3.5.2).

Routed FLNs have been supported the last few firmware revs, but software older than Insight 3.14 or DesigoCC 3.0 and PXC Firmware older than 3.4 would likely not work as desired.



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