

## **APPLICATION NOTE**

### **APP #146**

**Revision History** 

Date Author		Description		
10-07-2020	DEW	Setup		

# <u>MCS-Controls</u> <u>with</u> <u>Siemens BMS Bacnet MSTP</u>

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	365	
MAC Address	1	
Baud Rate	38400	~
Token Usage Timeout (ms)	50	~

#### **PXCC MSTP Settings:**

MS/TP BLN/FLN Configuration					
Enable MS/TP Port					
Network #:	365				
Node Address:	0				
Baud Rate:	38400 💌				



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	366				
IP Port	47808				

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

Devi.	.   System Name	User Name	Description	Network Number	IP Address	Fort Number	MAL Address	Application Number	Device Lype
1810	1 TrainingClass00900	TrainingClass00900	server	366	192.168.10.235	47808	192.168.10.235.186.192	10101	BACnet IP
1000	DAC	DAC		200	100 100 10 007	47000	100 100 10 007 100 100	CEEDE	DACALID

#### Normal communication from Insight/Commissioning tool

Subpoint # Name:Suffix		Description	Description Value		Status	
Dev Na	me: TrainingClass00900	Descriptor: ser	ver			
1 Tr	ainingClass00900:ChilWtr In		-99.9	DEG F -	N-	NONE
2 Tı	ainingClass00900:ChilWtrOut		-99.9	DEG F -	N-	NONE
3 Tı	ainingClass00900:SUCT PSI 1		-99.9	psi -	N-	NONE
4 T.	ainingClass00900:DISC PSI 1		-99.9	psi -	N-	NONE
5 Tı	ainingClass00900:OIL PSI 1		-99.9	psi -	N-	NONE
6 T.	ainingClass00900:AMPS 1		0.0	A –	N-	NONE
7 Tı	ainingClass00900:SUCT TMP 1		-99.9	DEG F -	N-	NONE
8 T.	ainingClass00900:DISC TMP 1		-99.9	DEG F -	N-	NONE
9 Tı	ainingClass00900:MTR TMP 1		-99.9	DEG F -	N-	NONE

#### Normal Communication from Desigo CC

	System Livianagem Circon #2_STATE [ naming State 2 Information	Value Iviu	unitistate
	System1.Managem CMP2_DISCHARGE_PRESSUR 0.00 Normal 😪	Value Ani	nalog
Verseenaal/Gau (Decised)	System1.Managem CMP2_LEAVING_TEMP_SEN 0.00 Normal 🗞	Value Ana	nalog
ManagementView [Project] FieldNetworks [Field Networks]	System1.Managem CMP2_MOTOR_TEMP_SENS 0.00 Normal 9	Value Ana	alog
BACnet Network [BACnet Network]	System1.Managem CMP2_OIL_PRESSURE_SENS 0.00 Normal 🖏	Value Ana	nalog
▼ Hardware [Hardware]	System1.Managem CMP2_OIL_SEAL_TEMP_SEN 0.00 Normal 😪	Value Ani	nalog
136PXCM01 [136PXCM01]	System1.Managem CMP2 OIL TEMP SENSOR 0.00 Normal	Value Ani	nalog
▼ FLN_366 [FLN 366]	System1.Managem CMP2 PRE-OIL FILTER PSI S 0.00 Normal	Value Ani	nalog
TrainingClass00900 [server]	System1.Managem CMP2 REFRIG LEVEL SENS 0.00 Normal	Value Ani	nalog
AMPS_1 [TrainingClass00900 (006) AMPS 1]	System1.Managem CMP2 REFRIG TEMP SENSO 0.00 Normal 9	Value Ani	nalog
ChiWtr In TrainingClass00900 (001) ChiWtr In ChiWtr0ut [TrainingClass0090 (002) ChiWtr0ut] DISC_PSI_1 [TrainingClass00900 (004) DISC PSI 1] DISC_TMP_1 [TrainingClass00900 (008) DISC TMP 1] MTR FL1 [TrainingClass00900 (100) MTR FL1 ]	System1.Managem CND FAN1-1 [TrainingClass Inactive Normal 9	Command Bin	nary
	System1.Managem CND VFD1% [TrainingClass0 0.00 Normal 9	Command Ani	polog
	System1.Managem CND VFD2% [TrainingClass0 0.00 Normal 9	Command Ani	nalog
	System1.Managem COMP 1 [TrainingClass0090 Inactive Normal 9	Command Bin	nary
MTR_TMP_1 [TrainingClass00900 (009) MTR_TMP_1]	System1.Managem COMP 2 [TrainingClass0090 Inactive Normal 9	Command Bin	nary
OIL_LVL_1 [TrainingClass00900 (011) OIL LVL 1]	System1.Managem EXV1 % [TrainingClass0090 0.00 Normal 9	Command Ani	polog
OIL_PSI_1 [TrainingClass00900 (005) OIL PSI 1]	System1.Managem EXV2 % [TrainingClass0090 0.00 Normal 9	Command Ani	nalog
SUCT_PSI_1 [TrainingClass00900 (003) SUCT PSI 1]	System1.Managem LLS 1 [TrainingClass00900 ( Inactive Normal 9.	Command Bin	nary
SUCT_TMP_1 [TrainingClass00900 (007) SUCT TMP 1] ALARM [TrainingClass00900 (010) ALARM]	System1.Managem LOAD 1 [TrainingClass0090 Inactive Normal	Command Bin	nary
	System1.Managem MOTOR INJ1 [TrainingClass Inactive Normal	Command Bin	nary
C1_FLA% [TrainingClass00900 (007) C1_FLA%]	System1.Managem Step Delay [TrainingClass00 180.00 Normal	Value Ani	nalog
C1_Sat_Disch [TrainingClass00900 (011) C1_Sat Disch] C1 Sat Suct [TrainingClass00900 (010) C1 Sat Suct]	System1.Managem Steps On [TrainingClass009 0.00 Normal	Value Ani	nalog
CHILLER STATE [TrainingClass00900 (000) CHILLER STATE]	System1.Managem Steps Wanted On [Training 0.00 Normal	Value Ani	nalog

#### Shows networks connections:

Siemen	BAS BACnet IP Netwo	ork	Siemens to SMC MSTF	P Network	SMC to MCS IP Network
	IP Network 100	MSTF	P Network 365	IP Network	366
Insight/D	0esigo <b>∢</b> ▶	-XCC	◄► SMC F	ieldserver ◀	► MCS Magnum

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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