



Technical Service Bulletin

Systems

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Bulletin Type: As Needed

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SAP DIR #: 20011922

Subject: TSB-ACUITY NETWORK NTP CONFIGURATION

CAR Number: PCR 25448

Distribution Scope: WA Internal
WA Technical Support, Product Service, & International Service Centers

Product(s) Referenced: Acuity Network

SW Version: Acuity 6.40 and higher

Summary: Acuity time synchronization to external source using NTP.

Issue: Acuity Network time drifts off time standard causing customer concern.

Action: Configure no more than two Acuity systems on a network to synchronize with customer's network time source.

Reference to Standards:

- 21 CFR Part 820, ISO 13485, MPD SOP-0002

Updates:

Technical Manual	<input type="checkbox"/>	Repair Tool	<input type="checkbox"/>
Service Plan	<input type="checkbox"/>	Internet/Intranet	<input type="checkbox"/>
Procedures	<input checked="" type="checkbox"/>	Price List	<input type="checkbox"/>
Training Material	<input checked="" type="checkbox"/>	Other	

Service Strategy: N/A

Required Training: N/A

Required Tools: None

Required Materials: None

Procedure: **System requirements to configure NTP reference source.**

- Acuity 6.40 and up
- No more that 2 Acuity systems per network pointing to NTP source
- NTP source must be network accessible
- Source must provide true NTP not SNTP

Note: Acuity and WACS do not use standard NTP applications. Time communication and synchronization is handled through the PNSD. Non-Acuity devices should not expect Acuity to provide NTP services outside of the Acuity application.

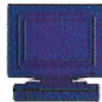
1. Check Design Documentation - Refer to the Network Diagram to determine the NTP source and which system(s) should be configured to query the NTP source.

a. The Network Diagram will have a reference to the NTP source on the "Legend" Page. See example below:



b. Acuity systems to be configured to communicate with the NTP source will be documented on the Overview page. An example is shown below.

hostname / UNIT / Support
172.17.0.x
RAD 1, SQL, DHCP 1, NTP 1
xx Flat Panels



c. Acuity systems communicating with the NTP source will also be documented on the Legend. See example below

IP Address Defaults:	
Acuity Workstations	172.17.0.101-150
Ethernet Printers	172.17.0.91-100
Ethernet Switches	172.17.0.11-29
Aruba Controllers	172.17.0.31-50
Terminal Server	172.17.0.51-90
DHCP Address Ranges:	
DHCP 1	172.17.2.1-254
DHCP 1	172.17.3.1-254
DHCP 1	172.17.4.1-254
DHCP 2	172.17.5.1-254
DHCP 2	172.17.6.1-254
DHCP 2	172.17.7.1-254
DHCP Address Ranges:	
SQL	172.17.0.101
DHCP 1	172.17.0.101
DHCP 2	172.17.0.102
RAD 1	172.17.0.101
RAD 2	172.17.0.102
NTP 1	172.17.0.101
NTP2	172.17.0.102

2. **Add NTP to host File** - Login to those Acuity system(s) designated to communicate with the NTP source. Using the vi command, add the NTP host and source IP number to the system's hosts file. An Acuity system reboot is not necessary. The PNSD service picks up the configuration change at next time sync interval.

```
#
# Internet host table
#
::1      localhost
127.0.0.1    localhost
172.29.32.5  testfire2    sqlserver localhost.localdomain.com    loghost
172.29.0.6   ntp
172.29.32.81 train186     tx1
```

3. **Check NTP access and synchronization** – Using the ntpq command, check NTP access and remote synchronization.

```
Hostname% ntpq -p ntp
      remote           refid      st t when poll reach  delay  offset  disp
=====
*167.112.164.21  18.145.0.30    2 u  583 1024  377    3.36   -0.684   4.97
+167.112.164.25  167.112.164.21 2 u   59   64   377    1.97   -4.255  16.97
Hostname%
```

4. **PNSD and NTP Synchronization** - Login to the PNSD on port 5000 and use the "clock" command to check NTP status. Specifically observe PNSD indications of **NtpClientSync**, **NtpClientTraceable**, **NtpSlaveSync**, or **NtpSlaveTraceable**. All these indicate that NTP and the PNSD are being time synchronized.

```

cs0003% telnet localhost 5000
... (skipped login text)
pnsd.cs00003> clock
Response from host <cs00003> IP <10.250.100.231> clock <Jan 8 12:57:06> ntp <NtpClientSync>
Response from host <bmtu> IP <10.250.100.238> clock <Jan 8 12:57:06> ntp <NtpSlaveSync> delay <0.7ms>
Response from host <floor4d> IP <10.250.100.246> clock <Jan 8 12:57:06> ntp <NtpSlaveSync> delay <1.2ms>
Response from host <floor6b> IP <10.250.100.252> clock <Jan 8 12:57:06> ntp <NtpSlaveSync> delay <1.4ms>
...
    
```

Note that the synchronization indicators of Acuity PNSD can fluctuate between sync and nosync conditions. This is normal operation.

Quality Documents: **All service centers using SAP to record service transactions:** For each monitor serviced, record the service activity in SAP.
All other service centers and Field Service: For each monitor serviced, complete and file a service report and attach to the service DHR.

Notes:

1. Contact the Welch Allyn Complaints Department to initiate or process a medical device complaint resulting from this or other issues.
2. Drawings, illustrations, and part numbers in this document are for reference purposes only and subject to change.

End of Bulletin

Revision History					
Version	Description	Change #	Init	Release Date	Appr
A	Initial creation of TSB	5009725	RH	D*	D*
D* - Refer to SAP DIR digital signature log for approval details.					