Microsemi Corporation
September 29, 2016

Customer Notification No: 098-50620-89 Rev A (Field Service Bulletin)

Customer Advisory Notice (CAN)

Subject: Handling of leap second insertion on December 31st, 2016 within various products.

System: N/A

Product Identity: List provided below. **CLEI Code:** N/A

Product Code(s): List provided below.

This FSB is to provide information on the leap second insertion on December 31st, 2016 for current products listed below. This is with reference to the current software release for each of the products.

For the products listed in Table 1, recovery to the correct time following the leap second insertion will range from 30 to 180 seconds. While in the recovery mode, it is not recommended for the system to be reset as this will cause loss of outputs. The system should be allowed to continue running in order for the time to be auto corrected.

Table 1

Product	Part Number	Pass	Fail
TP500 PTP Translator v. 2	990-03863-02		X
TPE10 PTP/SyncE Expansion	990-50401-01		X
TPE30 1PPS+TOD/E1 Expansion Shelf	990-50401-02		X
TimeProvider 1000/TP1100 with NTP ST2 (Peer Mode)	090-58031-01 090-58041-01		X
SSU 2000 Comms NTP ST2 (Peer Mode)	23413012-000-0		X
TimeHub 5500 with Packetime NTP ST2 (Peer Mode)	090-55582-01		X

For the products listed in Table 2, following the leap second insertion the time stamping will be displayed in one of three formats:

23:59:59		23:59:59		23:59:59
23:59:59	or	23:59:60	or	00:00:00
00:00:00		00:00:00		00:00:00

For older versions of software, please check the Microsemi website for leap second behaviors. Products within table 2 require no action if they are using the latest revision of software. For products which are using an older revision of software, it is recommended to upgrade to the latest release or check the FSB's released in 2008, 2012 (FSB 098-40621-69) and 2015 (FSB 098-40621-84) to see the potential impact to the product.

Table 2

Product	Part Number	Pass	Fail	Leap Indicator Set
TimeProvider 5000 IMC Logs	090-50331-xx	X		NA
TimeProvider 5000 Packetime NTP ST1	090-5032x-01	X		24 hrs before the event
TimeProvider 5000 Packetime PTP	090-5032x-01	X		12 hrs before the event
TimeProvider 2700 PTP	090-50201-xxx	X		12 hrs before the event
TimeProvider 2300 PTP	090-50240-xxx	X		12 hrs before the event
TimeHub Packetime NTP	090-55582-01	X		24 hrs before the event
TimeHub Packetime PTP	090-55584-01	X		12 hrs before the event
TimeProvider 1000/TP1100 with NTP ST1	090-58022-01	X		24 hrs before the event
TimeSource 3500	090-72050-01	X		24 hrs before the event
TimeSource 3000	090-72010-01	X		24 hrs before the event
TimeSource 3600	090-72060-01	X		24 hrs before the event
TimeSource 3100	090-72020-01	X		24 hrs before the event
TimeSource 3550	090-72055-01	X		12 hrs before the event
TimeSource 3050	090-72015-01	X		12 hrs before the event
TimeCreator 1000 DTI Output in Subtending Mode	090-93121-01	X		24 hrs before the event
TimeCreator 1000 DTI Output with GPS Source	090-93121-01	X		24 hrs before the event
TimeCreator 1000 DTI Output with NTP Source	090-93121-01	X		24 hrs before the event
SSU 2000 Comms Logs	23413012-000-0	X		NA
SSU 2000 Comm-R Logs	23413012-002-0	X		NA
SSU 2000 Comms NTP	23413012-000-0	X		24 hrs before the event
SSU 2000 PackeTime NTP ST1	23413325-000-0	X		24 hrs before the event
SSU 2000 PackeTime PTP ST1	23413325-001-0	X		12 hrs before the event
Xli	1510-6x2	X		24 hrs before the event
Xli SAASM	HAE-6x2-GBGRAM-xxx	X		24 hrs before the event
SyncServer 100	1520R-S1xx	X		6 hrs before the event
SyncServer 200/250/I	1520R-S2xx-xxx	X		6 hrs before the event
SyncServer 300/350/I	1520R-S3xx-xxx	X		6 hrs before the event
XL GPS	1530-602-1	X		24 hrs before the event
Domain Time II	183-0029	X		NA
BC637PCI-V2	BC637PCI-V2	X		NA
BC637PCIe	BC637PCI-e	X		NA

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Table 2 (Cont.)

S600	090-15200-601	X		24 hrs before the event
S650	090-15200-651	X		24 hrs before the event
IGM (1100i, 1100x)[Note1]	090-11003-000, 090-11008-000	X		12 hrs before the event

Note1: firmware Release 2.0 or greater.

Products with no change/update from the 2008 leap second insertion: These products are MD and no longer supported. These products have not been tested for current leap second insertion in December 31st, 2016.

Table 3

Product	Part Number	Pass	Fail
OT-21	MD		X
700	MD	X	
560-5202 GPS	MD	X	
560-5900/01	MD	X	
560-5908-u	MD	X	
56K	MD	X	
58503B	MD	X	
AL AK	MD	X	
BC637PCIu	MD		
ET 6000	MD	X	
GPS 605	MD	X	
GPSTM	MD		
LPR-GTI	MD		
Network Time Server200/150	MD	X	
TimeProvider 1500	MD		
TimeProvider 100	MD		
PRR-10	MD		
SMCB	MD		
SyncServer-S100	MD		
SymmTime	MD		
TM 7000	MD	X	
Time Server 2100	MD	X	
XL DC	MD	X	
XL DC MK F22	MD	X	
XL GPSV1	MD	X	
XL750	MD	X	
4370A DVB Sync Source (4370A-xxx)	MD	X	
560-5151	MD	X	
DCD	MD		

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Leap Second Indication Flag

The pending Leap Second flag is indicated differently on each of the products.

SSU-2000: There is no indication on the product for pending leap second. User cannot verify on any of the interfaces if there is a pending leap second. But each of the respective NTP or PTP card will declare a pending leap prior to the event reporting to the Comm card, either 24 hours for an NTP card or 12 hours for a PTP card, listed below is a capture from the event log:

2016-12-31T00:00:01Z 1A10 Rep Leap Sec Pending (This is a NTP card, note the 24 hour notification)

2016-12-31T12:00:01Z 2A10 Rep Leap Sec Pending (This is a PTP card, note the 12 hour notification)

2016-12-31T12:00:01Z 2A12 Rep Leap Sec Pending (This is a PTP card, note the 12 hour notification)

SSU-2000 NTP: There is no indication on the NTP card of pending leap second. User cannot retrieve pending leap second information from the NTP card. The status of the pending leap second flag is available in the NTP protocol and it is set 24 hours before the event. User will have to examine the NTP packets from the NTP card to confirm that there is a pending leap second. There is an event message generated about the pending leap second and it is available in the log. The event is generated 24 hours before the event.

SSU-2000 PTP: There is no indication on the PTP card of pending leap second. User cannot retrieve pending leap second information from the PTP card. The status of the pending leap second flag is available in the PTP protocol and it is set 12 hours before the event. User will have to examine the PTP packets from the PTP card to confirm that there is a pending leap second. There is an event message generated about the pending leap second and it is available in the log. The event is generated 12 hours before the event.

TH5500: There is no indication on the product of pending leap second. User cannot verify on any of the interfaces if there is a pending leap second.

TH5500 NTP: There is no indication on the NTP card of pending leap second. User cannot retrieve pending leap second information from the NTP card. The status of the pending leap second flag is available in the NTP protocol and it is set 24hrs before the event. User will have to examine the NTP packets from the NTP card to confirm that there is a pending leap second.

TH5500 PTP: There is no indication on the PTP card of pending leap second. User cannot retrieve pending leap second information from the PTP card. The status of the pending leap second flag is available in the PTP protocol and it is set 24hrs before the event. User will have to examine the PTP packets from the PTP card to confirm that there is a pending leap second.

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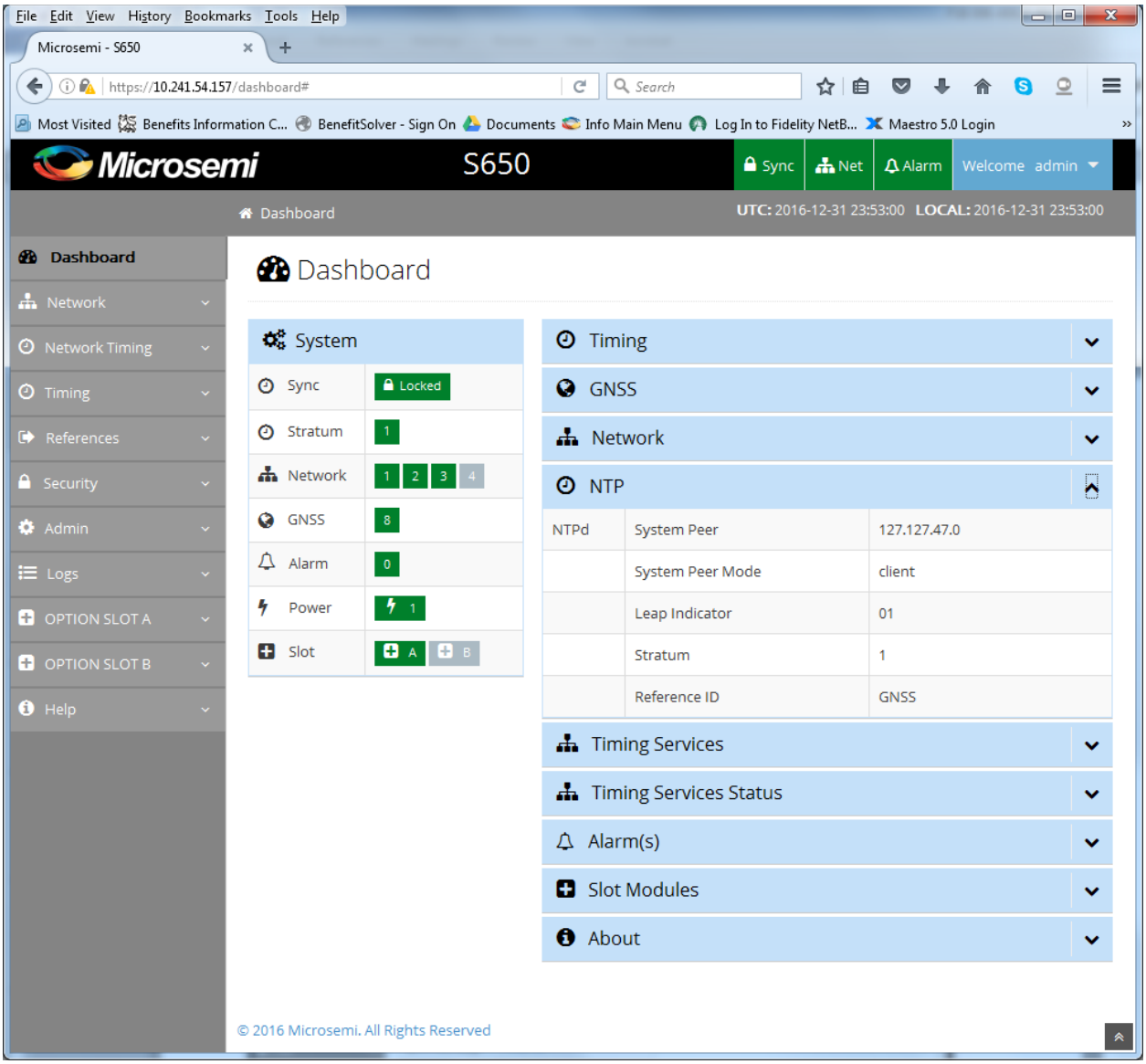
SyncServers:

S100: The pending leap indicator flag is available on multiple web pages of the product. It is available on ‘Sysinfo’ page and ‘NTP’ web page.

S200, S250: The pending leap indicator flag is available on multiple web pages of the product. It is available on ‘Sysinfo’ page and ‘NTP’ web page.

S300, S350: The pending leap indicator flag is available on NTP web page of the product. If PTP option is available then the Leap indicator is also available on the PTP web page.

S600, S650: The pending leap indicator flag is available on the Dashboard NTP web page of the product and also available on the Network Timing NTPd Sysinfo web page.



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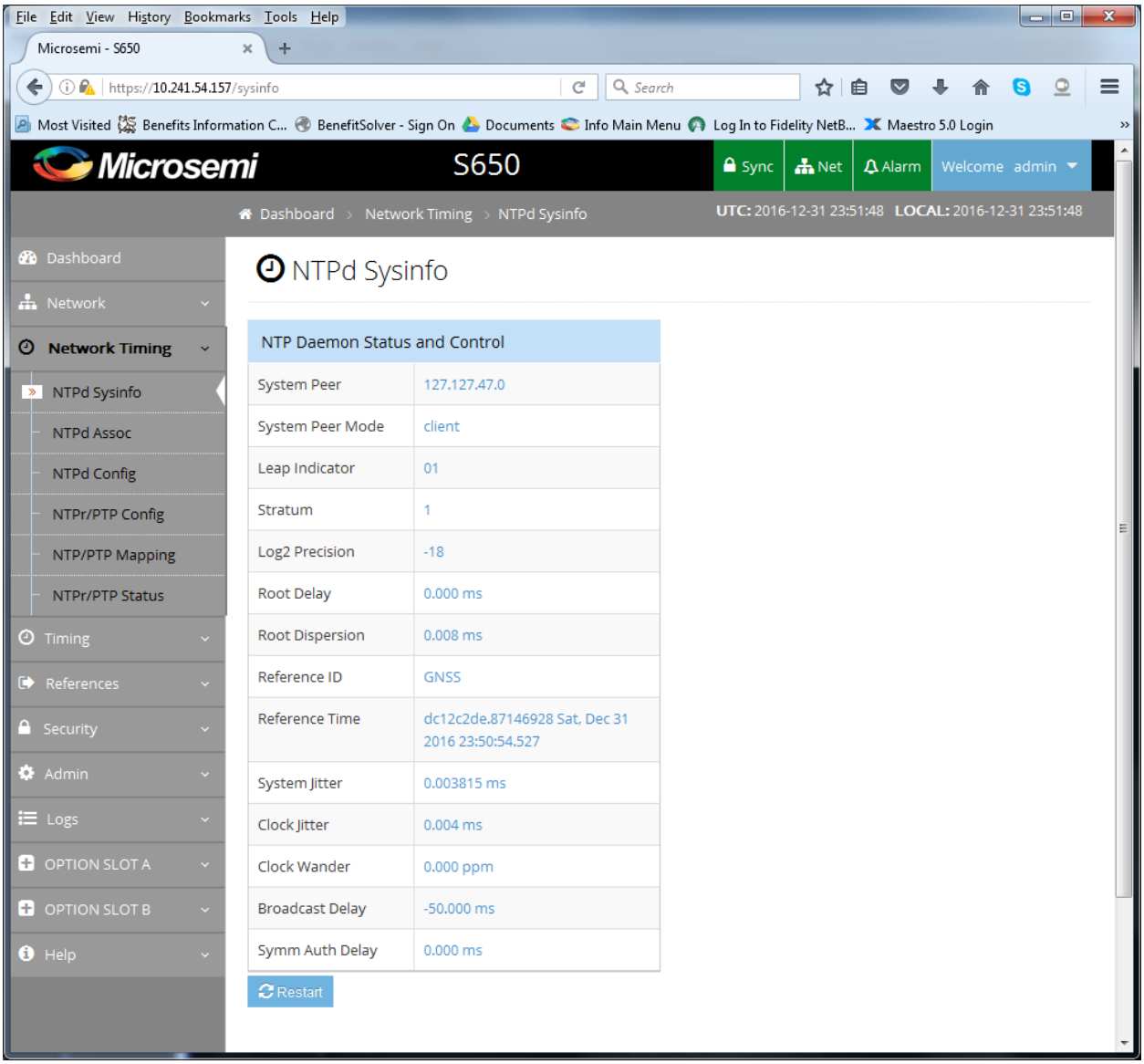

Recommended Actions:

To ensure that the pending leap second is handled properly by the products, do ensure that they are currently operating with the latest firmware releases. Details about the latest firmware release for each of the product is available on Microsemi's online support website.

Microsemi Action:

No action required as all the active products had any issue with the leap second insertion.

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Regards,

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