Advantech TIPD product FAQ

RTC Sync Feature on Advantech ATCA Blades

Applicable model list	MIC-5332, MIC-5345D, MIC-5345S
Model name version	N/A
BIOS Version	N/A

Description:

To avoid system time differences, a synchronization mechanism among all sources that are available in an ATCA environment is needed.

The BIOS sends a “SET SEL TIME” command to synchronize RTC time to IPMC during every BIOS booting. Format conversion between IPMI time format and BIOS format will be handled in the BIOS.

In BIOS setup menu, user can modify the RTC time in the main page. Before exit BIOS setup menu, BIOS will synchronize RTC time to IPMC via “SET SEL TIME”.

The RTC synchronization mechanism available on the Advantech ATCA blades have some configuration settings and modes that are described in detail in following tables

DO consider this RTC setting for those systems **WITHOUT** Shelf Manager (SHMM) or user wants to treat this ATCA blade as standard x86 platforms, or system time would be reset to default on every boot.

Table 1: RTC Synchronization Mechanism

	Synchronization mechanism
0x00 (default)	Shelf Manager & Payload Time Sync - IPMC gets time from ShMM, - x86 payload gets time from IPMC during BIOS execution, - IPMC time is updated, if time is changed in BIOS menu
0x01	Shelf Manager Time Sync only - IPMC gets time from ShMM, - x86 payload gets time from IPMC during BIOS execution, - IPMC time is NOT updated, if time is changed in BIOS menu
0x02	Payload Time Sync only - x86 payload gets time from IPMC during BIOS execution, - IPMC time is updated, if time is changed in BIOS menu
0x03	No Time Synchronization - Time sync feature disabled page6image23312
0x04	IPMC Time Sync from x86 payload - IPMC time is overwritten with x86 payload time by BIOS page6image27632

Table 2: RTC Synchronization Options

Setting	IPMC reads ShMC	BIOS reads IPMC	BIOS can write IPMC
00h	Yes	Yes	Yes
01h	Yes	Yes	No
02h	No	Yes	Yes
03h	No	No	No
04h	No	No	Yes

Methodology:

Read RTC synchronization setting:
ipmitool raw 0x2e 0x41 0x39 0x28 0x00 0x07 0x00
Response:
39 28 00 *<setting>*

Set RTC synchronization setting:
ipmitool raw 0x2e 0x40 0x39 0x28 0x00 0x07 0x00 *<setting>*

example:

(1)
Read Current configuration
ipmitool raw 0x2e 0x41 0x39 0x28 0x00 0x07 0x00
39 28 00 00
---> It's config 00h , our default settings

(2)
Set config to 0x02
ipmitool raw 0x2e 0x40 0x39 0x28 0x00 0x07 0x00 0x02
39 28 00

Read Back
ipmitool raw 0x2e 0x41 0x39 0x28 0x00 0x07 0x00
39 28 00 02
---> It's changed to 02h , settings will be applied in next power cycle