Linux Clock Stuff

Glossary

System Clock	Linux operating system clock. This operates after the PC has booted.
Hardware Clock	A Real Time Clock chip on the PC motherboard. This is battery backed up and runs all the time.
NTP	Network Time Protocol. A network clock service to which clients can be synchronized.
UTC	Universal Time. Standard time analogous to GMT
Locatime	Time adjusted to the locale. Includes adjustment for daylight savings time.

General

On MX-One servers, the System Clock must be set to 'localtime' and the Hardware Clock must be set to 'UTC'.

MX-One systems use NTP to maintain co-ordination between all the servers. LIM 1 is an NTP source from which all other servers (LIMs and standby servers) take their clock. LIM 1 can optionally be synchronized to a network/Internet NTP source.

The mode used on the NTP client will synchronise the Hardware Clock to the System Clock every 11 minutes. This ensures that if the server is rebooted, the System Clock will be accurate as this is initially set from the Hardware Clock at start-up.

Commands

On MX-One there is a useful command to show the current time on all LIMs in the system.

```
MXLIM1:/home/eri_sn_admin/install_sw # sh maintenance.sh check_time
```

`# yast timezone`	Configure locale and set current date/time.
`# yast ntp-client`	Configure LIM 1 ntp client if an external ntp server is to be used.
`$ date`	Print the System Clock.
`# hwclock`	Print the Hardware Clock. Note "The time shown is always in local time, even if you keep your Hardware Clock in Coordinated Universal Time."
`# hwclock --systohc`	Set the Hardware Clock to be the same time as the system clock.
`$ /etc/init.d/ntp`	Start | stop | status | force-reload
`$ ntpd -gq`	Force clock synch. Override sanity check of 1000 seconds. (Stop ntp first).
`$ ntpdate -qd <host>`	Query the given host, NTP source.
`# adjtimex -p`	status =1 OK, status=65 NOK . To confirm that ntp hardware clock synchronisation mode is in operation.
`# adjtimex –S 1`	Force the Kernel status to be 1. (clock synchronized)