

Work Report (period 1.8.2013 to 31.08.2013) by RRU

1. Installed Ubuntu 12.04 On Miltec Machine.
Tested the Ethernet communication on Miltec PC by running Server on Teleset machine & client program on Miltec PC.
Installed Readline server program on Miltec PC, statically assigned IP 192.168.4.87 to Miltec PC so that it can be check for MCM communication. Readline server on Miltec PC was connected with the MCM kept at C03 antenna & checked for command-response.
All test concluded that Ethernet communication works well on Miltec PC.
2. As per the discussion on Communication protocol, studied the ModBus communication protocol.
3. Wrote a short note describing communication protocol employed between Online_v2 software program & MCM program.
4. Extensively worked on the optimization of Online_v2 program.
Tried to reduce the time interval of background monitoring from 2 sec to 1 sec by using the option *SO_RCVBUF* option using *setsockopt()*, increasing priority of Online_v2 process by giving command *ionice*, increasing the *MTU* buffer size, using *Ethtool* command to change the RX ring buffer.
5. Used TCPDUMP network sniffer command to test the Online_v2 performance as well as to find the root cause of packet dropping when time interval between command -response is 1 sec.
Conducted various test using Tcpcdump to reach at conclusion that as the response packet is 5000 bytes size, kernel drops half of the chunks when the time interval is 1 sec. When time interval is 2 sec kernel gets enough time to accumulate two chunks of response packet.
6. Tested FE box & Common box monitoring command in FE lab using MCM communication program (USB to RS-485).
As per FE group requirement converted the Raw data into corresponding voltage for both FE box & Common box monitoring response.
7. Started working on GUI interfacing with Online_v2 program. Started understanding the GUI code written & developed by Naresh Sisodiya.