Failures and Troubleshooting

Networking failures

a) Due to OFC/Quad cable cut without protection path.
b) Local lead fault/ local wiring fault.
c) Equipment fault like modem failure, communication card failure.
d) Port failure in MUX.
e) Hanging of MUX.
f) Parameters like Cable loss, high resistance, noise, earth fault, joint failures, cross talk and ant bite of OFC.
g) Failure of surge protection arrangement like GDT (Gas discharge tube), Class 'A' & 'B' protection.
h) Wrong mapping/interference in NMS.

Troubleshooting

a) To know the status of networked data loggers from CMU with NMDL software.

i) Check the Latest Time screen for each Data logger in the Network.
ii) Latest Packet Time should be Online.
iii) Data logger State should be either in Normal(N)/ Wait (W).

b) One Modem fails

i) Data is not transmitted in that direction. If Bidirectional facility available, data continues to be transmitted in the other direction.

c) Both Modems fail

i) Data is not transmitted from the Data logger to both the directions.
ii) If 'T' port is connected data flows in that direction.

d) ***To know that the data logger is sending data to the network in Efftronics***.

i) By looking at LCD screen of data logger- T 0256 F 000 D 000.
ii) T – Stands for total transmitted packet count up to that time after the data logger is powered.
iii) F – Stands for fail packet count.
iv) D – Stands for Pending packet count.
v) The above display says; at that moment; total transmitted Packets - 256 failed packets are zero and no pending packets.

e) To know that the data logger is sending data to the network in HBL.

i) By looking at LCD screen of data logger.
ii) BFL 01 – BFL Stands for Buffer Full, 01 stands for originate modem. It denotes data is not flowing due to a break in the network.
iii) BFR 01 – BFR Stands for Buffer Free, 01 stand for originate modem. It denotes that no data is pending.
iv) BFL 02 – BFL Stands for Buffer Full, 02 stands for answer modem. It denotes data is not flowing due to a break in the network.
v) BFR 02 – BFR Stands for Buffer Free, 02 stand for answer modem. It denotes that no data is pending.

f) To know that the data is sent by data logger in both directions in Efftronics.

i) On data logger LCD screen display Com1 T 0256 F 000D 000 Com2 T 0256F 000 D 128.

ii) Com1 direction pending packets are zero. It means that the transmission is proper.

iii) But on Com2 direction communication buffer is full. It means transmission is not proper on com2 direction.

g) To know that the data is sent by data logger in both directions in HBL.

i) On data logger LCD screen display.

ii) Com1 if 967295 displayed all data sent to network

iii) Com2 if 967295 displayed all data sent to network

iv)If 967295 is not displayed packets are pending and not sent to network due to modem hanging or network problem.

h) To know that the modem is in link and sending data in Efftronics.

i) On the modem card, CD Green LED continuous indication and TX, RX LEDs blinking indicates that the modem is working correctly.

ii) However data flow can be ensured by looking at the LCD screen on the data Logger.

i) To know that the modem is in link and sending data in HBL.

i) On the modem card, CD Green LED continuous indication and TD, RD LEDs blinking indicates that the modem is working correctly.

ii) However data flow can be ensured by looking at the LCD screen on the data Logger.

j) ***To check the failure of the link.i.e. communication media from CMU/FAS-PC.*** (Copper cable, OFC channel.Microwave channel, leased line from BSNL).

i) By seeing link status in online options menu.

k) To RESET the modem from CMU/FAS-PC?

i) From link status in online options menu, right click on the modem CD status of the corresponding data logger port.

l) When does the Data Logger get by-passed and allow the remaining network to function correctly?

i) In case of Data Logger failure.

m) When does a Data Logger break the network?

i) In case of its modem failure and the Data Logger is working all right in standalone mode.

n) What are the reasons for lag in the packets of few Data Loggers in the network?

i) In uni-direction data logger network, any one link becomes slow, all data loggers after the directive link go to lag. Or, if any data loggers starts generating more packets than can be handled by the network. If the data logger time is less than the CMU time, it may be wrongly thought as lagging even though the data is on line. In case link is restored after a long break – this is temporary, which gets all right on its own. Similar cases occur in case of bi-directional networks if more than one path is effected.

o) What are the reasons for lag in the packets of all Data loggers in the network?

i) Restoration of a link in between FEP and first data logger after long failure this is temporary, which gets all right on its own. Low data rate between FEP and first data logger. In CMU the following may affect the speed, Insufficient space in C drive; improper installation of display drivers; database size exceeding its limits; virus in the CMU; any log file size in NMRH/Yard viewer server folder of C drive exceeding its limits; any system related events as can be seen in event viewer of administrative tools of

control panel.

p) What are the reasons for no packets arrival at test room from few Data loggers in the network?

i) Link break/ low baud rate/heavy packet generation from one/few data loggers.

q) What are the reasons for no packets arrival at test room from all the Data loggers in the network?

i) Failure of link between FEP and first Data logger.