SANCHAR NIGAM EXECUTIVES' ASSOCIATION

KERALA CIRCLE

(Largest Association of Executives in BSNL)

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To

Sh. C V Vinod,

Chief General Manager Telecom,

BSNL, Kerala Circle,

Thiruvananthapuram-33

Respected Sir,

Sub: Issues related to CPAN system maintenance in Kerala Circle, necessity of keeping spare B2 Nodes in each BAs/Zones and urgent need to resolve many unsettled issues between KL NOC and Zonal NOC BLR/FH team BLR, our suggestions, reg:

As we are aware, the transmission network in Kerala Circle has now been dominated by CPAN equipments which are working based on MPLS-TP technology. The CPAN System in the circle has around 671 B-Nodes and 2027 A-Nodes. Many BAs have already migrated from legacy MADM/SDH networks to the CPAN and in some BAs the work is underway. A few BAs are not able to complete migration for want of adequate CPAN capacity. In this regard, we would like to bring the following with regard to operations and maintenance of CPAN system in the Circle for your kind consideration please.

The main CPAN Nodes have been installed in almost all BAs to which uplink of various Node Bs and BTSs of different GSM Vendors are concentrated. There will be multiple uplinks for each and every GSM vendor towards various CPAN Nodes in BAs. But the technology/method called Pseudo Wire (PW) redundancy which enables the CPAN Service to route itself to a nearby uplink in a different node when it is designated or when the original uplink node fails (Node failure) is still under implementation stage only. It is understood that it will take a few more months' time to complete this activity as reported by the Kerala CPAN NOC team. **At this point, we may appreciate the efforts taken by the Kerala CPAN NOC team who could device their own methods to test and experiment PW redundancy in the CPAN equipments deployed in the Circle despite refusal of the FH Bangalore team to share their knowledge on the same to Kerala NOC team.** The Kerala CPAN NOC team could achieve this breakthrough after many trials only because of their relentless efforts put in to carry out intense research and analysis of the system with the help of various technical manuals.

We would like to invite your kind attention towards an incident occurred recently on 29-09-2020 evening on which the B2 Node in Kalpetta went out of service due to some issue. The resolution of the issue was beyond the scope of BSNL NOC teams in KL NOC (EKM) and regional NOC (BLR). Expert support from Chinese engineers was required to restore the same that too by 9 AM on 1-10-2020, almost 36 hours after the time of failure. 105 2G/ 80 3G BTSs sites, leased lines and other EB circuits were affected during the Node failure. While troubleshooting the failure, it was suspected by the maintenance team (KL NOC as well as BA teams) that the B Node back plane at Kalpetta had gone faulty. At that time the only spare B Node available in the Circle was the one which was under diversion from Kasargod to Palakkad BA. It could be utilized for Kalpetta restoration work only because it was not loaded by the Kasargod transmission team till that time.

Here we would like to point out that even though the PW redundancy provides Node redundancy to BA Nodes, the uplink from various BA Nodes are accumulated in various STR Nodes from where it is linked to RNC Router/Switch. It may also be noted that the KL NOC team can operate only in KL nodes and not in STR nodes. STR Vellayil B Node is an example where whole NOKIA and ZTE uplinks of CLT, KNR and MLP BAs are accumulated. If some untoward incidents occur at this STR Node, the entire mobile network in North Kerala gets collapsed. While speaking about Node outages all the while we don't dare to think of a catastrophe like a fire incident in any of these stations.

Hence we propose to keep at least one B2 Node as maintenance spare in each Zone (TVM/EKM/CLT) in Kerala circle. At present we have been supplied 10% spare A Nodes, of course many of which have already been put to use by most BAs for various reasons. In case of B Nodes, 10% cards only are given free of cost. We don't have any spare Chassis or Nodes in KL circle which is a critical requirement while dealing with unexpected failures as occurred in Kalpetta.

The CPAN system in Kerala Circle is being monitored by the CPAN NOC team in Ernakulum, who has two numbers of Level 2^+ user privilege and six numbers of Level 2 user privilege. Service creations, A Node integrations, trouble shooting, optimization and other related activities are being carried out centrally by the KL NOC team round the clock, 08:00 hrs to 21:00 hrs in office and 21:00 to 08:00 hrs through remote login. The Level 3 privilege is concentrated in STR BLR NOC.

The following requirements which can help to enhance the working efficiency of KL CPAN NOC and performance level of KL CPAN system need to be taken up with the FH team Bangalore for early resolution.

1. **Read only database access to the CPAN EMS Server from the CPAN NOC/OMCR EKM Kerala:** If a read only access to CPAN EMS database can be made available to Kerala NOC, it would help to alert field staff even during service level faults in addition to escalation of NE level faults. For example, if the Rx power level of a CPAN port connected to an LCO goes low,

we can escalate SMS alert to concerned LCO & exchange in charge in addition to transmission staff. Similar escalation can be given for EB, GSM, NGN and other services as well which would further enhance our performance level and reduce outage duration. Further, it is possible to develop a Decision Support System for integrating alarms of GSM & CPAN in a single portal/OMC web and link alarms of major uplinks. This would facilitate easy trouble shooting and early identification of network outages thereby reducing MTTR considerably. Already similar systems are working for GSM as part of OMC web and the same team had implemented similar facility for WiMax network earlier.

2. **Non availability of KPI Reports for CPAN Nodes (History Performance/Traffic flow):** In order to perform preventive and proactive network maintenance, the NOC/field team and the Management may require various history performance KPIs. It is observed that such parameters are generated and available in EMS which provides only instantaneous values. Option for obtaining history performance is available in EMS, but the same has been observed not working properly. If the data is available in any database, giving a read only access to it would be the solution. Alternatively, providing output of scheduled reports like 15 minutes & 24 hours granularities on a periodic basis [daily and hourly] in a server is also another temporary solution.

3. **Lack of proper issue escalation system [between Kerala NOC and BGL NOC]:** There is no web-based issue escalation system/mechanism between Kerala NOC and BGL/FH NOC. At present it is being done through a WhatsApp group, which makes it difficult for tracking and proper accounting.

4. **AMC Management Software not yet provided:** There is no web-based AMC management portal for booking Node/card faults. Now it is being done through phone calls and emails. This may later lead to disputes when AMC bills are processed. As per the tender, it is the responsibility of the vendor to provide such a portal.

5. **B Node Integration:** At present, B Node integration is being done by the BLR NOC. The privilege for the same may also be extended to KL NOC users as Fibre Home support from Bangalore FH NOC is getting reducing in the COVID-19 situation and due to payment issues. More over maximum knowledge transfer need to take place especially when there are security related concerns between India & China.

6. **A Node Integration**: At present only two usernames are having privilege for A Node integration ($L2^+$) in KL NOC. All the other five are L2 users only. When requirement for integration of A Nodes arise, the $L2^+$ usernames are shared among the NOC Officials, which need to be avoided as per BSNL security policy. The privilege for the same may be extended to all usernames in KL NOC.

7. **Access to MNG PAN EMS (for NEs of Kerala Circle):** MNG PAN Service creations are done by BL NOC at present. MNG PAN being an MPLS TP network similar to CPAN and at present from the same vendor, KL CPAN NOC would be able to handle creations in MNG PAN also thereby improving network efficiency. This will help a lot in the localization of faults thereby reducing outage duration.

8. **View access for OTN EMS**: Most of the aggregation uplinks (intra BA) of KL GSM network are extended via OTNs. The privilege for viewing OTN EMS would be useful for easy fault localization which at present is difficult as we have to coordinate between Circle and BLR STR OTN NOC teams. At present, KL Circle STR teams are also not provided with OTN EMS access which makes the process further difficult.

If we are able to take early positive decisions regarding the above mentioned suggestions, we can further enhance our capability to respond swiftly to any network operational requirements even during network abnormalities happening in the CPAN system from time to time so that we can always ensure prompt and uninterrupted service delivery to our esteemed customers in Kerala Circle.

Thanking You,

Sincerely Yours

Jithesh K P
Circle Secretary
SNEA Kerala Circle