SnT 2021
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CTBTO
PREPARATORY COMMISSION

State of Health Monitoring of the IMS Network

Han*, D.; Campus, P.; Cruz, P; Ekimov, P.; Guenther, M.; Hoffmann, T. ; Malephane, H.; Malakhova, M.; Nava, E.; Nizamska, M.; Parithusta, R.A. ; Villarreal, R.E.

CTBTO Preparatory Commission

POSTER

P4.5-333

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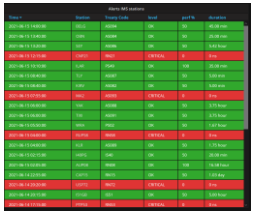
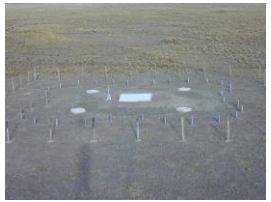
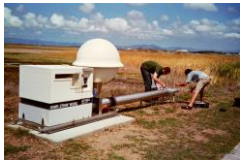
ABSTRACTS

The IDC Operations Section makes daily use of operation tools to over see and manage the Operation of the IMS network and the communications between the PTS and station operators. Some tools and their features are already available to station operators through Single-Sign-On (SSO). As part of the COVID-19 resilience enhancement, new features and functionalities are under development to facilitate station operators with notifications, monitoring, and troubleshooting of IMS station incidents and communication between PTS and station operators. Different monitoring tools, including the PTS centralized monitoring tools, the monitoring capabilities for station operators with a large number of stations, station operator tools for a single or a small number of stations, and the Station Standard Interface(SSI) at IMS stations, will complement each other. All these tools will make the monitoring of the IMS network more reliable and incident identification and resolution more efficient and thus contribute to achieve as the highest possible overall IMS network data availability, data quality, and data surety.







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RESPONSIBILITIES

PTS: Supervision and Coordination of Network Operations

- Concluding agreements, arrangements, or contracts with SO;
- Coordinating operations through reporting and messaging system;
- Providing assistance as needed;

SO: Operation and Maintenance of Individual IMS Station

To ensure station is operating properly, meeting Data Availability, Data Quality, and Data Surety requirements;

- Filling the proper reports;
- Scheduling Preventive Maintenance;
- Providing timely troubleshooting;
- Conducting timely repair in case of Unscheduled data outage;
- Reporting any unauthorized access to the station facilities;

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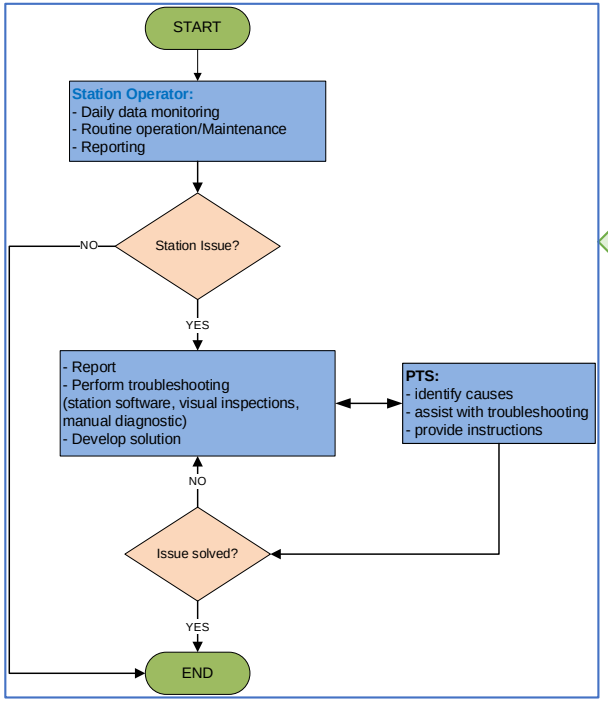
RN MONITORING

SO: Monitoring of Individual Station



Interfaces

SOH Tool

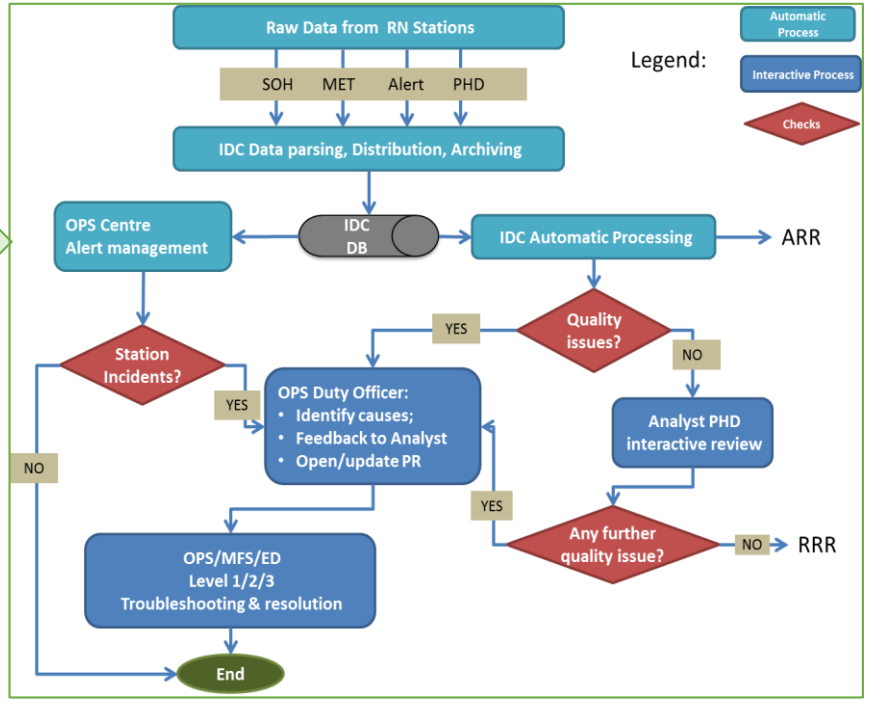
IRS

DOTS

PR Tool

SOPET

PTS: Monitoring Process for the RN Network



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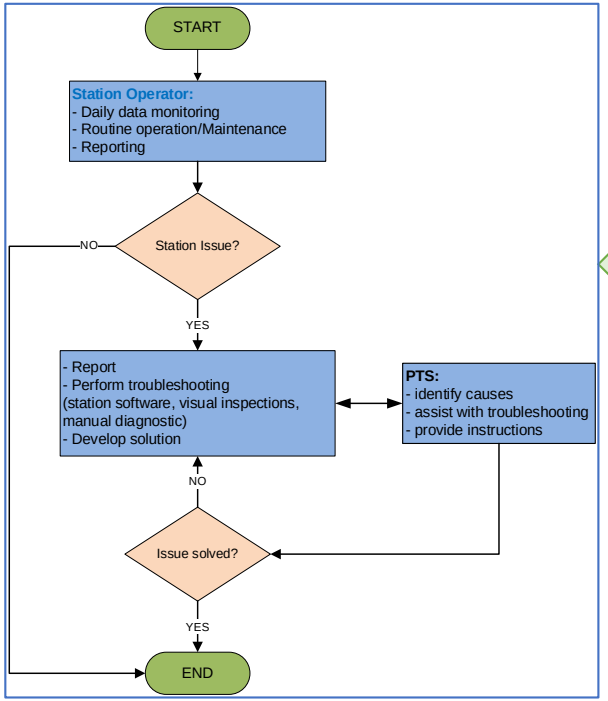
SHI MONITORING

SO: Monitoring of Individual Station



Interfaces

SOH Tool

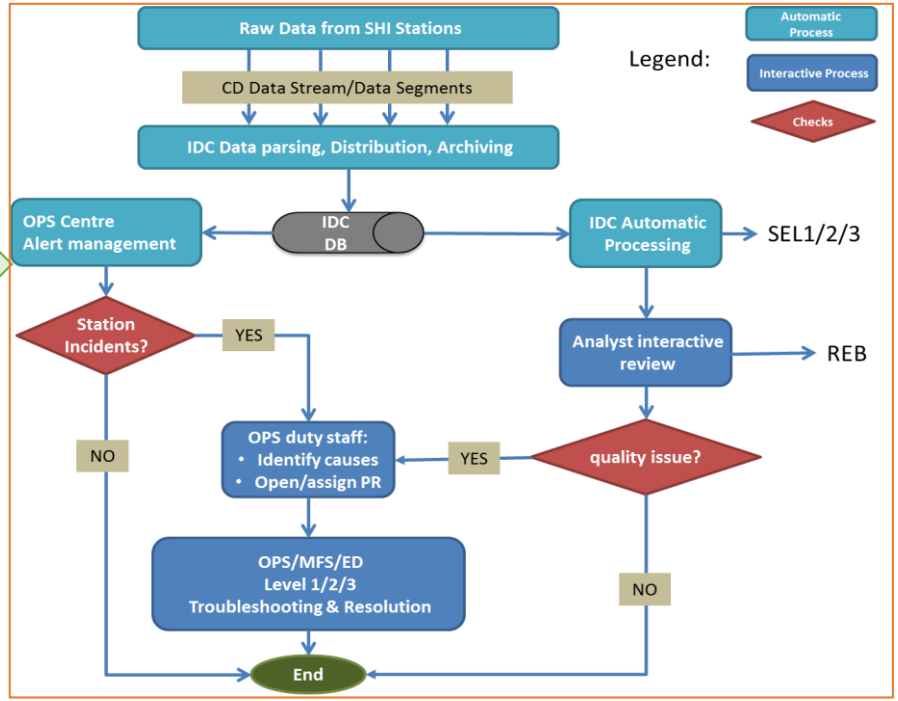
IRS

DOTS

PR Tool

SOPET

PTS: Monitoring Process for the SHI Network



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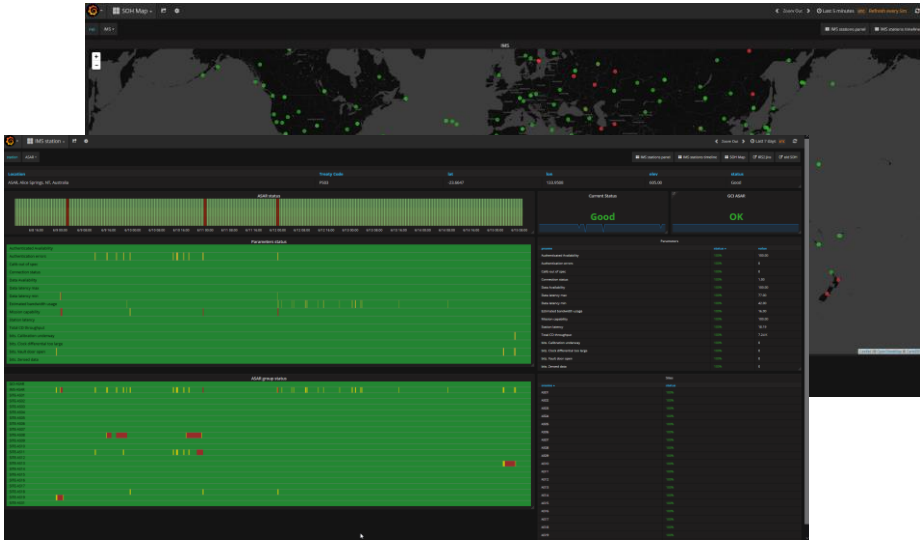
PTS Monitoring and Communication Tools

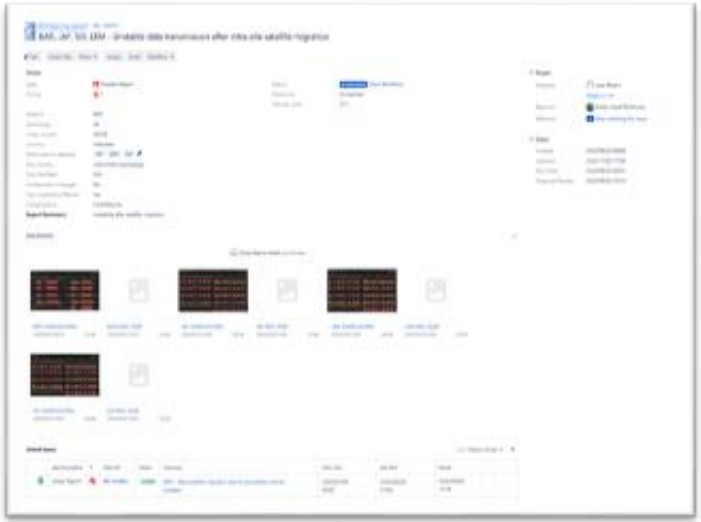
PTS TOOLS

State of Health Monitoring (SOH)

This allows the Operations Centre to view the overall state of health of the IMS network and drill-down to individual components of stations.



IMS Reporting System – **IRS**



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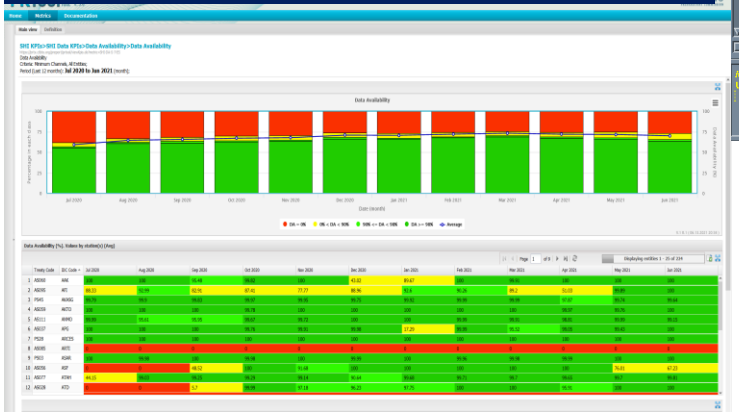
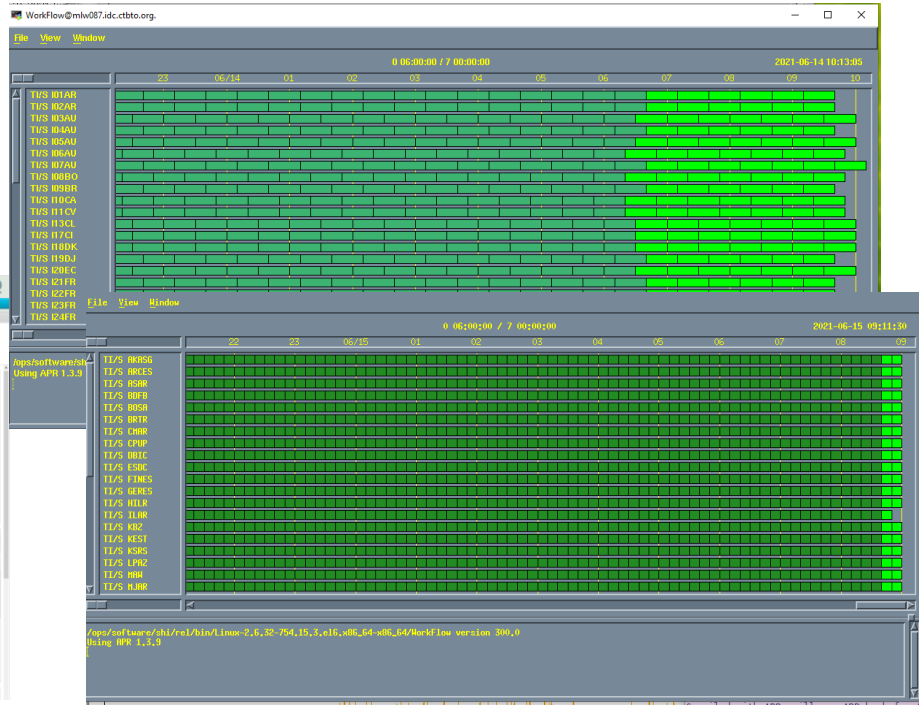
PTS Monitoring and Communication Tools

PTS TOOLS

PRTools:
The Station performance statistics over a certain time interval for a number of Key Performance Indicators (KPIs): Data Availability (%, Authenticated, Unauthenticated); Data Timeliness (%); Mission Capability (%); and Data Quality (%)(Constant values, Data gaps).





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IMPROVEMENTS

IRS:

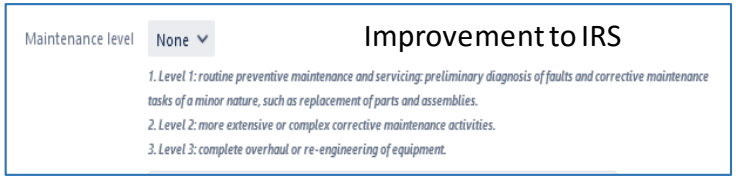
- Maintenance Levels are introduced in accordance with IMS manual.
- Other improvements made to help cross-monitoring of the overall network status.

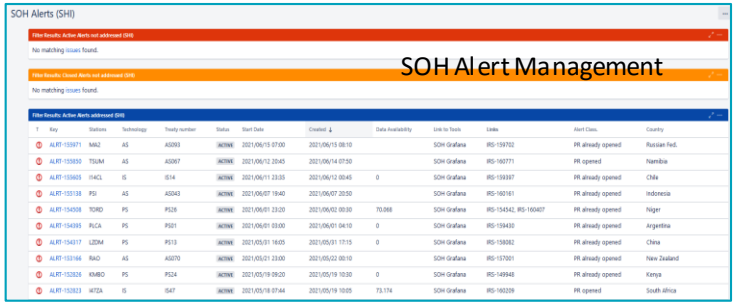
SOH:

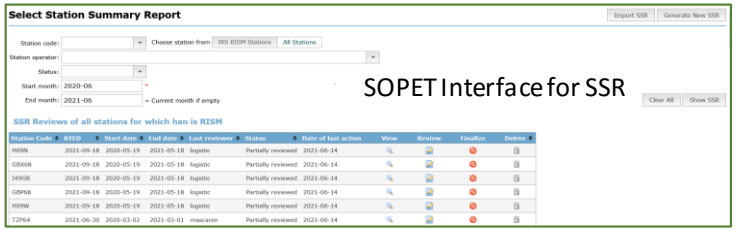
- Alert Manager will be available to SO => facilitate SO to take proactive action
- Make other features available to SO = > Allow SO to have more comprehensive overview of station status

SOPET:

- Provide access to SOPET through SSO:
- SO can create Operation report for all its stations in selected period.
- MR: O&M plans to be available to compile MRs to facilitate submission and review of MR.
- Create SSR through the interface.







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WAY FORWARD

- Inputs from station operators are appreciated for their requirements of new features to:
  - Facilitate notification, monitoring, troubleshooting of station incidents
  - Enhance communication between PTS and station operators
  - Create station performance report

Send recommendations to Support@ctbto.org with the subject "Inputs for monitoring tool development"

- Test New Features before moving to Product Version
  - Selected station operators will be contacted by PTS to test new features before publishing any new product version

(Thanks to station operators who are willing to support this project)

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