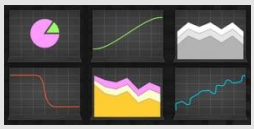
Performance Management and Interactive Dashboard System (PMID)



Exceleron Communication Solution Guide

INTRODUCTION

Performance Management and Interactive Dashboard System is a next generation performance management solution for IT & Telco networks used by engineers and management for detailed and overall performance of a network. It is targeted to make sure network high availability for better performance and services for end customers.

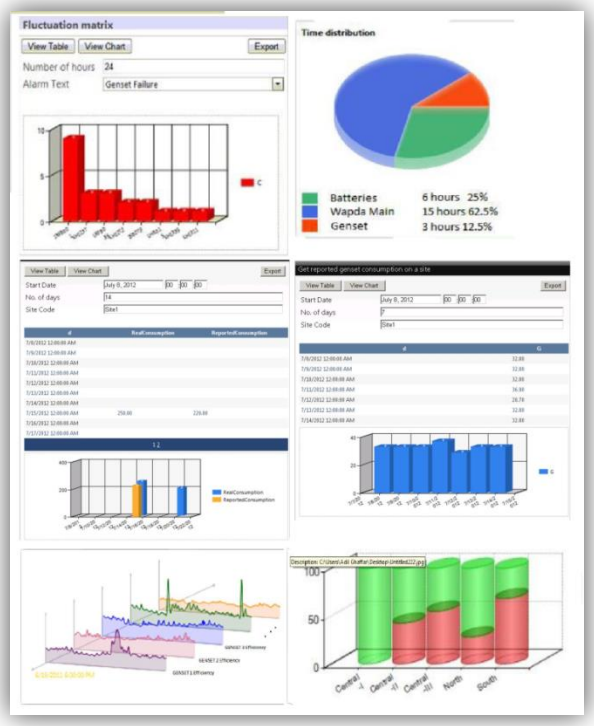
SOLUTION OVERVIEW

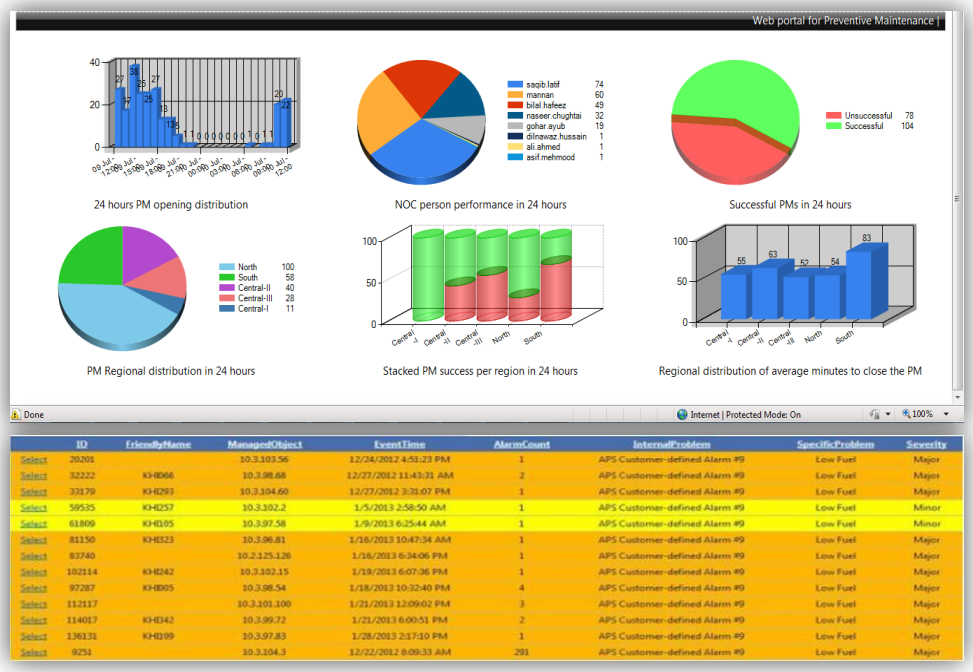
- Ability to collect and analyze bulk of network and service platform performance data in the form of raw statistical counters delivered by each network entity
- Parsing raw counters and store in the database
- Implement Customized KPI formulae for different interfaces to visualize, manage and optimize system performance in real-time
- Easy to Use tool to build complex workflows and on-demand dashboard portlets

KEY FEATURES

- Designed for multiple technologies that provides a framework utilizing modern database, visualization and analytical techniques
- Enables network operators to truly reap the value and benefit of large data sets available in their network
- Provide complete performance visibility of all integrated nodes
- Extract data in a way that can be acted upon to maximize use, performance and profitability of existing network assets
- Ability for provisioning of customizable reports with alerts for degraded parameters

- KPIs and Analysis results be presented in Graphical and Tabular format
- Graphs can be customized for drilling down on a particular value or time instance
- Synthetic events generation in case user defined or vendor defined parameters breach
- Integrated with Google Maps, highlight the sites having degraded services and send the notification to defined hierarchy
- Notifications in case of non-availability of counters data and error in counters observed





- Send notifications directly to Object Server

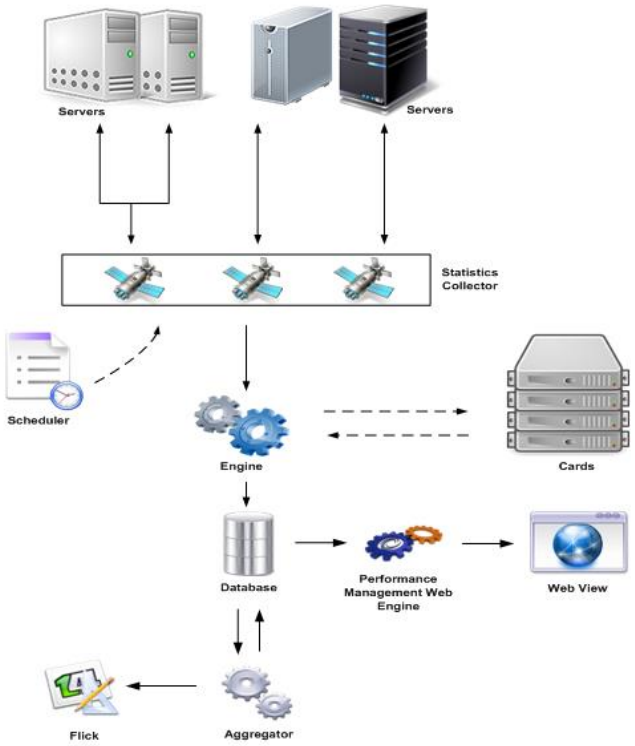
- Dash board view is available for user with following features

    - Drill down functionality
    - Reporting (using manually specify filters) with graphs and charts.
    - Overall performance summary of a network

- Flexibility of user defined threshold parameter values creation through Designer tool that provides facility to customer to do the changes on the fly

FUNCTIONAL DESCRIPTION

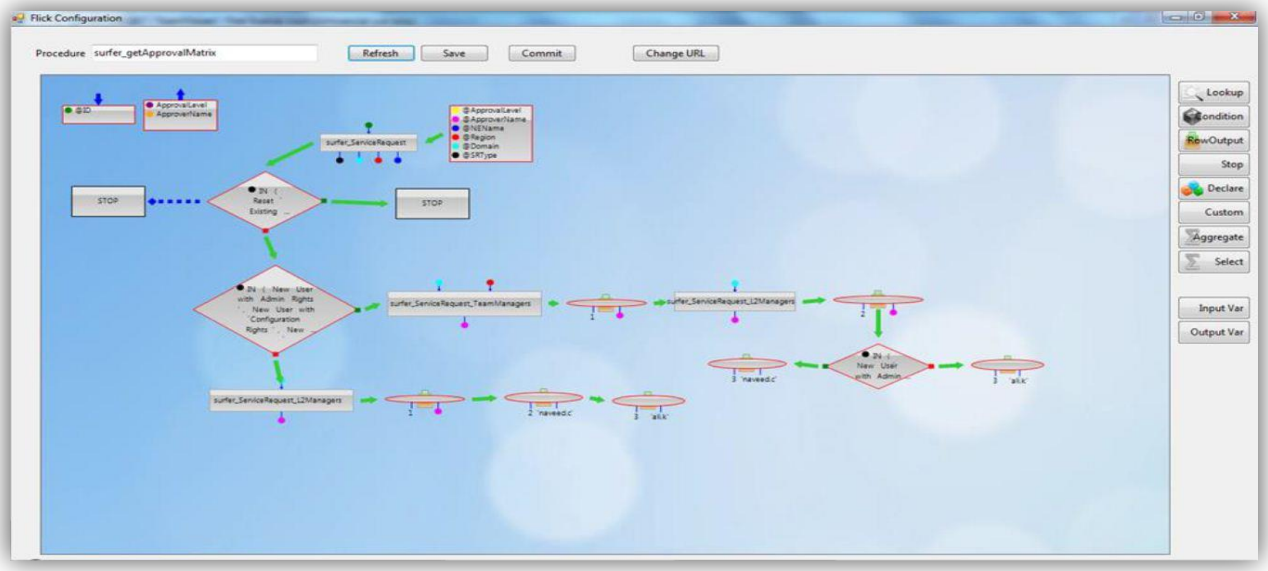
- PMID module integrates with different network Entities on Industry's standard protocols including SNMP, CORBA, Q3, WCF, telnet, raw TCP, UDP, ftp
- Statistics collector collects network and service platform performance raw data/counters for different entities based on the time defined on scheduler by user for different domains
- Statistics collector forwards the collected data to the *Engine*
- *Engine* pass data to logical cards defined for different domains of unique vendors which parse the raw data, send back to *Engine* and store it in the database accordingly
- PMID Web Engine use the processed data to calculate the KPIs using different formulae defined by user for different entities/services
- PMID Flick tool provides complete flexibility to define customized KPIs and thresholds which can be modified in real time



PMID GRAPHICAL WORK FLOW MANAGER (FLICK)

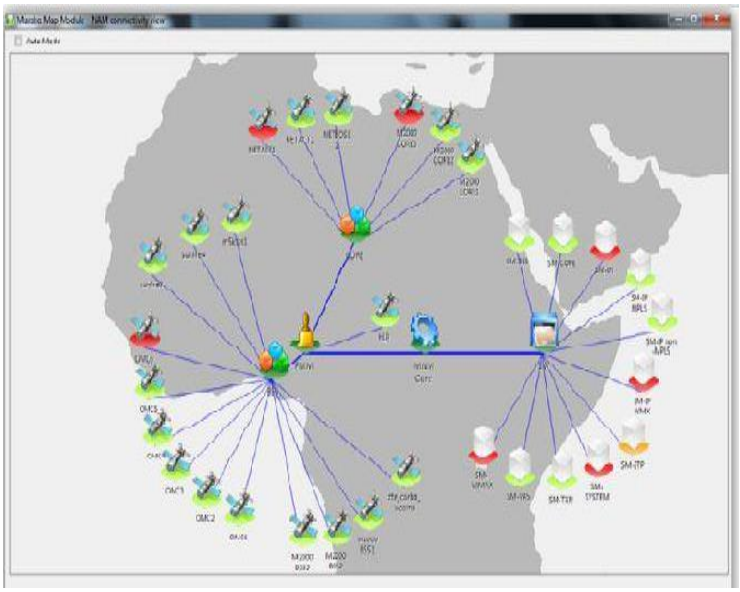
The Graphical Work Flow Manager can build customized workflows and on-demand dashboard portlets. It has multiple benefits like

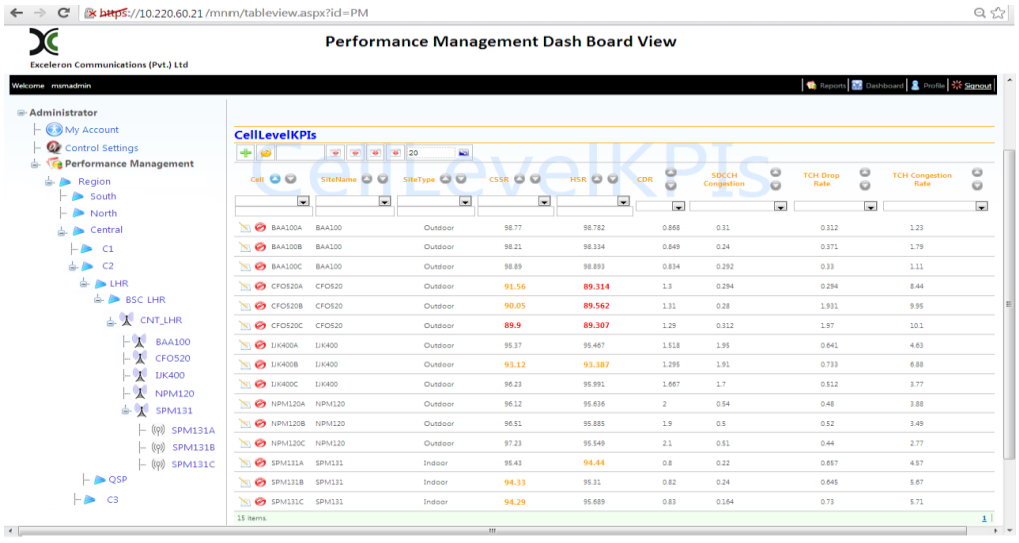
- Ease of Use
- Coder Independent
- On the fly deployment
- Drag and drop ability
- Empower customer to do customization in real time without any system outage
- Flexibility to create and modify network KPI formulas, conditions and thresholds
- Flexibility to define escalation hierarchy



PMID SYSTEM WEB INTERFACE

- Web interface view provides hierarchy which can be drilled down to any level to view current performance of network based on the KPIs defined
- Flexibility to define customized KPIs at each level of hierarchy
- Different Filtering options are available to view current network performance reports in the form of graphs and charts
- Provides overall performance summary of a network for management view





PRE-DEFINED REPORTS AND GRAPHS

- Pre-defined reports provide valuable decision making information targeted at specific roles within organization, ranging from engineering reports narrating performance of network equipment, to management reports showing network overviews

- Real-time, daily, weekly and monthly reports & graphs can be generated as

Pre-defined report packs are available for the below

Different Performance KPIs in IT Network

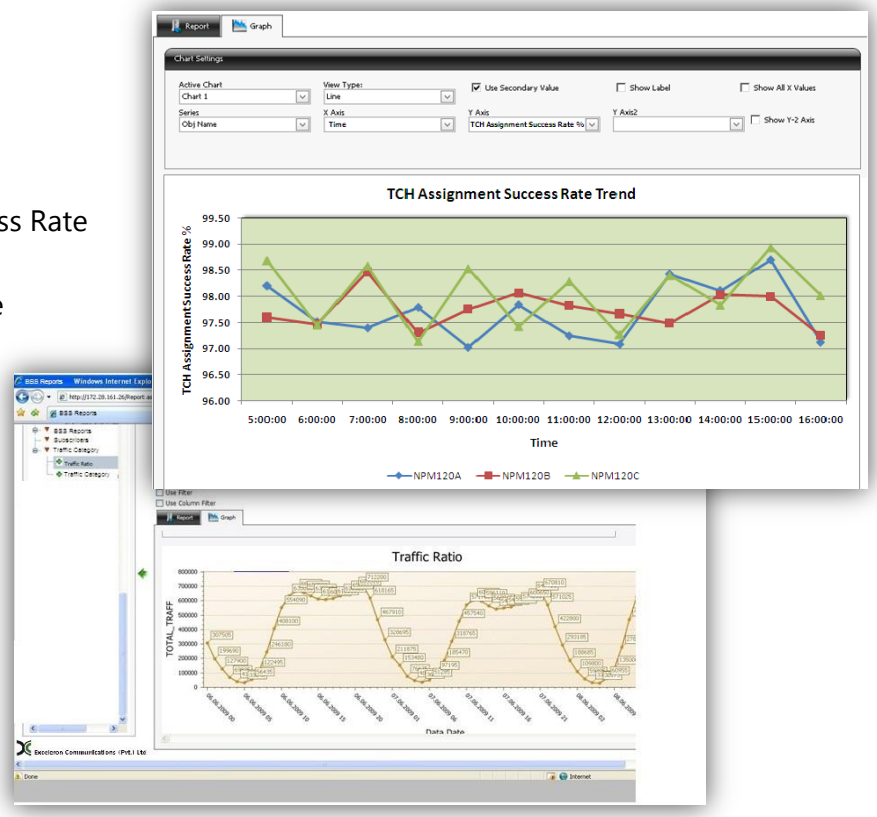
- SNMP Based Traffic Monitoring
- Packet Sniffer based traffic monitoring
- Latency Monitoring (with custom scripts)
- Classifies network traffic by IP address, protocol and other parameters
- Monitoring of custom script results
- Reports on Devices, Model, IP, processor, reach ability, uptime, traffic utilization

Different Performance KPIs in Databases e.g.

- Number of sessions
- Commit & Roll back by users
- User hit ratios
- CPU usage by session
- Cursor usage by session

Some of the performance parameters are mentioned below which are not limited to this only and can be defined as per user requirement to generate pre-defined graphs and reports

- Call Setup Success Rate
- Handover Success Rate
- SDCCH Call Drop Rate
- SDCCH Congestion Rate
- TCH Call Drop Rate
- TCH Congestion Rate
- Immediate Assignment Success Rate
- Paging Success Rate
- TCH Assignment Success Rate



Note: *In addition to pre-defined reports, customized reports can be easily created using different filtering options available on PMID*

PMID ALARMS/EVENT VIEWER

- Alarms/Events generated when user-defined threshold values or other conditions are breached. For example, network alarms can alert a NOC team to a “sleeping cell” or “degraded KPI values” within the network, which, if left undetected, could degrade network performance

- Reports are generated with the fields red highlighted having alarm conditions and requires immediate action

- Notifications to customized defined hierarchy for the improvement of parameters

- Historical data stored in the database to monitor trends that could identify performance degradation