metaswitch

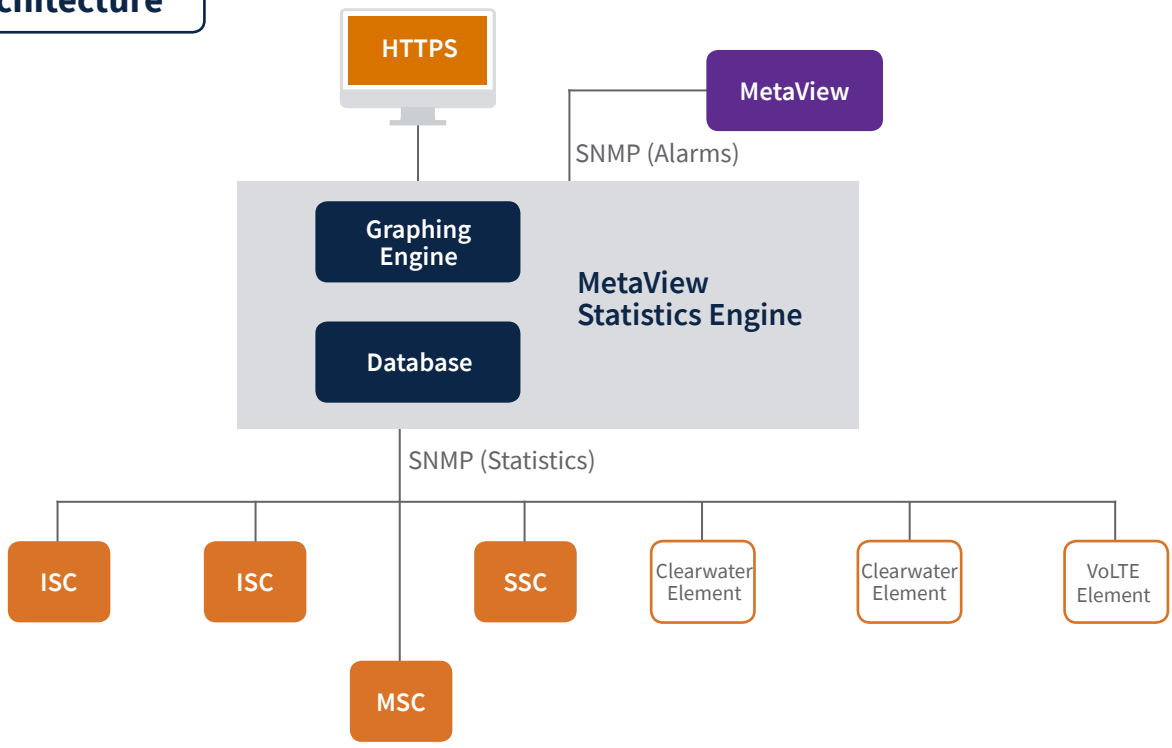
MetaView Statistics Engine (MVSE)

Cloud Native Statistics

In a cloud native world with a range of node types and multiple nodes all combining to create VNFs and ultimately deployed solutions, you need a cloud-native approach to handling statistics and KPIs.

- Provides a single repository for statistics in cloud-native deployments
- Aggregates statistics from disparate and possibly transitory entities
- Raises alarms based on aggregated metrics
- Displays aggregate statistics northbound over SNMP, so customer OSS systems only have a single location to monitor for deployment-wide statistics
- Presents graphical dashboards useful for NOCs and admin users to monitor your deployment

Architecture

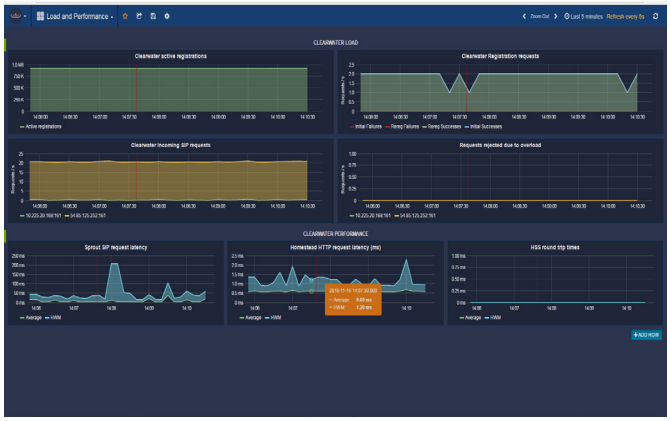


Dashboards

MVSE provides dashboards for Perimeta, Clearwater Core and the Metaswitch VoLTE solution. For each supported product or solution, a range of dashboards are available, presenting information at different levels of granularity, from a view of the entire deployment to detailed statistics for a single SBC adjacency.

Sample Clearwater Resources Dashboard

Perimeta Instance Health Dashboard



Sample Clearwater Performance Dashboard

Perimeta Deployment Health Dashboard

Specifications

MVSE Infrastructure

- MVSE runs as a VM
- Uses CentOS 7
- Incorporates open source packages
  - Influx DB – time series database
  - Grafana – graphing engine
- Polls Perimeta SBC (covering all of Integrated Session Controller (ISC), Signaling Session Controller (SSC), Media Session Controller (MSC)), Clearwater IMS and/or VoLTE solution elements over SNMP to load statistics into the database
- Presents graphical views of the data Northbound over a Web GUI
- Raises alarms to MetaView Server
- Statistics history up to one month
- No redundancy
- VM Requirements:
  - 8 vCPUs
  - 16GB RAM
  - 20GB Storage (200 IOPS)
- Network Requirements:
  - NICs: 1
  - Bandwidth: min 100 Mbit/s

KPI Dashboards

- Perimeta SBC
  - User selection of Perimeta SBCs to display, adjacencies to display and update period
  - Default dashboards display these statistics:
    - Number of critical alarms
    - Registered subscribers
    - Call attempts per second — total and failing
    - Active signaling and media sessions
    - Packet throughputs — including breakout into signaling and media classification
    - Dropped packets (5XX responses, congestion, blacklisting)
    - Signaling (max CPU) and media (MRU, basic and advanced) resource usage
    - Memory usage
  - Two deployment options – with and without adjacency statistic collection (commissioning time option)
    - With adjacencies: max 20 Perimetas and 1,000 adjacencies in total, max 250 adjacencies per Perimeta
    - Without adjacencies: max 30 Perimetas
- Clearwater IMS
  - Default dashboards display:
    - Number of critical alarms for the cluster
    - Registered subscribers
    - Signaling rate
    - Count of rejected requests
    - CPU and Memory averages across the cluster
    - Disk utilization
- Mouse-over display of snapshot metrics, and marker highlight of selected time period across all graphs
- User-editable dashboards, allowing custom displays for different SBCs, for example
- Collects subset of total available statistics currently
- Will not impact the performance of the elements being monitored