Kalibre/Genesis
Manager of Managers

Integrated Fault & Performance Monitoring for Public Safety Communications Networks
Solution Components – Collection Layer

• Genesis GenGET Reader
  – Collects Motorola ASTRO25/Dimetra ATIA and GTP call data

• Genesis GenGET Trap Forwarder
  – Collects, filters and forwards Motorola ASTRO25/Dimetra UEM SNMP traps

• HP BSM Connector
  – Provides fault, performance and topology integration with element managers

• HP Operations Manager & Agents
  – Provides agent-based monitoring of server hardware, OS and applications

• HP Network Node Manager
  – Provides SNMP based monitoring of IP network devices
Solution Components – Management Layer

• **Genesis GenGET**
  – Provides collection, decoding and storage of Motorola ASTRO25/Dimetra voice, HPD/IV&D/EID data calls, and GPS updates
  – Provides report templates for radio network activity and performance

• **Genesis GenWatch3**
  – Provides real-time views of radio network status and performance
  – Collects GPS updates from the MUPS server

• **Genesis iVista**
  – Filters Genesis data by agency
  – Provides web-based ad-hoc reporting interface

• **HP Business Service Management**
  – Provides single-pane-of-glass fault monitoring across the network
  – Provides service health and SLA monitoring and reporting
  – Integrates with trouble-ticketing, notification and GIS systems
Solution Components – Management Layer

- Kalibre BSM Content Pack for ASTRO/Dimetra
  - Provides out-of-the-box content for BSM for monitoring Motorola ASTRO and Dimetra networks
  - Automatically discovers and builds the radio network topology in the RTSM
  - Provides extensive event filtering, normalization and event correlation to provide human-readable events in the BSM browser
  - Provides service health views to show the actual impact of faults on the radio services, such as loss of redundancy or reduction in call processing capability
  - Integrates performance data and events from Genesis applications
Operations Management

• Web browser based interface
  – Operator functions
  – All administrative functions

• Comprehensive fault management functionality

• Fully integrated network topology

• Role based access with granular permissions model
Ops Mgmt – Single Pane of Glass

All network infrastructure combined in a single consolidated view:
- ASTRO radio network
- Dispatch
- Voice Logging
- Transmission
- IP networks
- Servers and applications
Drill down all the way from the network to the individual modules on each device.
Alarms translated into plain English. Allows NOCC operators to quickly understand what equipment has faults and where.
Clicking anywhere in the View Explorer instantly filters to just the events from that infrastructure.
Ops Mgmt – Single Pane of Glass

Quickly filter events by related device or title

<table>
<thead>
<tr>
<th>Sev</th>
<th>C</th>
<th>N</th>
<th>D</th>
<th>Time Received</th>
<th>Related CI</th>
<th>Title</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2/19/15 07:02:02 PM</td>
<td>LRDO ZC Trunked Site Link 1</td>
<td>DOWN, INTERFACE FAILURE</td>
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<td></td>
<td></td>
<td>2/19/15 03:30:41 PM</td>
<td>DLLS Base Radio 2 ZC Trunked Site Channel: Site 2 Channel 2</td>
<td>OUT OF WIDE SERVICE, NOT ABLE TO CONNECT FROM SITE</td>
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<td>2/19/15 03:30:38 PM</td>
<td>DLLS Base Radio 3 ZC Trunked Site Channel: Site 2 Channel 3</td>
<td>OUT OF WIDE SERVICE, NOT ABLE TO CONNECT FROM SITE</td>
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<td>2/19/15 03:29:31 PM</td>
<td>SNAG Base Radio 2 ZC Trunked Site Channel: Site 11 Channel 2</td>
<td>OUT OF WIDE SERVICE, NOT ABLE TO CONNECT FROM SITE</td>
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<td></td>
<td></td>
<td></td>
<td>2/19/15 03:29:31 PM</td>
<td>SNAG Trunking Status</td>
<td>DISABLED - TEST</td>
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<td>2/19/15 03:29:31 PM</td>
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<td>2/19/15 01:47:47 PM</td>
<td>AMRL Base Radio 1 ZC Trunked Site Channel: Site 14 Channel 1</td>
<td>OUT OF WIDE SERVICE, NOT ABLE TO CONNECT FROM SITE</td>
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</tbody>
</table>
Define, save and share filters with other users.
Ops Mgmt – Event Correlation

- Visual indication of correlated events
- Symptomatic events are removed from the browser to reduce clutter, but readily available from the event details
- Correlation rules are created quickly and easily within the web interface
- Correlates events from multiple devices
Events detected by Genesis applications are forwarded into the event browser.

Triggers can be based on events in the network (e.g., use of a particular talkgroup) or based on performance statistics (e.g., Grade of Service threshold breaches).
Service Health monitoring

- Maps infrastructure events to service impact
- Allows operators to more quickly identify service impacting faults
- Multiple visualizations available
  - Tile-based watch-lists
  - Hierarchical tree views with traffic light status
  - Geographic maps
  - KPI dashboards
Service Health - Watchlist

At a glance visibility of key services and sites

Configure and group services to fit the way the business wants to see it
Flip the tiles to see which services are impacted.
Add an event browser to the bottom of the view, then select a tile to instantly filter the events to the ones impacting that service.
Service Health – Hierarchy View

- Provides a quick summary of key statuses for each site
- Can be combined with an event browser for quick filtering of service impacting events
BSM provides URLs for integration with Google Earth clients.

Can be used in conjunction with other Google Earth layers.
Service Health – Geographic Views

Popups show key statuses for selected site
Virtual Earth (Bing Maps) with basic overlays
If an Internet connection is not available from the operator’s machine then BSM provides a basic map interface.
Heat charts provide a breakdown of KPIs over time, configurable for periods including hours, days and weeks.

Headline availability and downtime figures at a glance.

Quickly select different time scales and periods.
Fault Scenario – Loss of wide trunking at a site

The Dallas site has lost wide trunking due to a backhaul network issue.
Fault Scenario – Loss of wide trunking at a site

As a result of the site losing wide trunking, a number of additional events are also received regarding channel trunking status and from the site controller – these are automatically correlated to keep the event browser uncluttered.
Fault Scenario – Loss of wide trunking at a site

On the service health view attention is immediately drawn to the service-impacting fault at Dallas.
Fault Scenario – Loss of wide trunking at a site

The fault is automatically escalated to the Service Manager system, which responds and provides an incident number back to OMi.
Fault Scenario – Loss of wide trunking at a site

The fault is resolved, and the events are automatically closed in OMi.
Fault Scenario – Loss of wide trunking at a site

The KPI dashboard reflects the outage, showing the total downtime and the availability percentage, as well as showing the KPIs impacted by the fault.