



GW3-TRBO®
SysVista
Software Version 2.12
Module Book

GW3-TRBO®

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Refer to the *Troubleshooting & Support* section of the GW3-TRBO Manual Shell (Book 600-2.12.0-AA.1) for complete support and contact information.

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Goals

This manual describes the role and function of the SysVista module in the GW3-TRBO solution.

Who Should Read This Manual?

This manual is written for the intended audience of novice to mid-level MOTOTRBO radio system users and novice to mid-level PC users.

How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Describes the SysVista module and SysVista graphical user interface (GUI).

This manual contains the following images, used to indicate that a segment of text requires special attention:

-  **Additional Information:** Additional information is used to indicate shortcuts or tips.
-  **Warning:** Warnings are used to indicate possible problem areas, such as a risk of data loss or incorrect/unexpected functionality.

This chapter describes the SysVista module and SysVista GUI.

This chapter contains the following sections:

- **SysVista Terms:** Defines some crucial terms used in SysVista.
- **What is SysVista?:** Describes the purpose of SysVista.
- **Resource Options:** Describes the resources used in SysVista.
- **Connection Options:** Describes the options for defining a connection activity.
- **Statistics:** Describes the statistics displayed in SysVista.
- **Interval Options:** Describes the interval options available in SysVista.
- **SysVista Alert:** Describes the alert feature of SysVista.
- **View Options:** Describes the view options available in SysVista.

SysVista Terms

The following terms are used in SysVista. In order to understand the information shown in SysVista, you must understand these terms:

- **Calls:** In general terms, this is a conversation. A call can be:
 - **Group-based:** All radios affiliated to the target group hear the conversation and can key up and speak in the conversation.
 - **Private:** Radio to radio.
- **PTTs:** Calls can contain multiple PTTs. PTTs occur in a call when something about the call changes. Changes can include:
 - Who is speaking in the call.
 - Sites added and removed as radios included in the Call roam between sites.
- **Radio Activity:** This is activity that originates from the radio. See the *Radio Activities* section of *Appendix A* for a list of radio activities.
- **Connections:** A connection occurs when a radio becomes known to SysVista. This process is described in the *Connection Options* section below.

What is SysVista?

SysVista is a real-time, interactive statistical reporting interface. The SysVista module receives packets from each GW3-TRBO input connection. SysVista then compiles these packets into statistics. The SysVista GUI (Figure 1.1) displays these statistics for the selected time period and resource(s).

By design, the SysVista View window shows you easy-to-read, high-level information about your system(s). The large analog dials and straightforward

options make SysVista easy to read and understand. SysVista is *the* dashboard for your radio system(s).



Figure 1.1 – SysVista View Window

Resource Options

Resources are the systems, zones and sites monitored by GW3-TRBO. All systems have a system ID and at least one site, but not all systems have a zone (such as single-site systems). For these systems, the zone acts as a placeholder to give them the same organization as multisite systems.

Behind the scenes, SysVista gathers statistics specific to each of these resources. SysVista then allows you to *drill down* on your statistics, by choosing a resource:

- **Systems:** Select *All* for all systems. Choose a specific system ID to view statistics for the selected system ID and to allow selection for a specific zone.
- **Zone:** Select *All* for all zones under the selected system. Choose a specific zone to view statistics for the selected zone under the selected system and to allow selection for a specific site ID.
- **Sites:** Select *All* for all site IDs under the selected zone for the selected system. Choose a specific site ID to view statistics for the selected site ID under the selected zone. SysVista ignores activity from “console” sites with a site ID of zero.



Drill Down: This refers to eliminating some data in order to view specific data. It is also known as a filter.

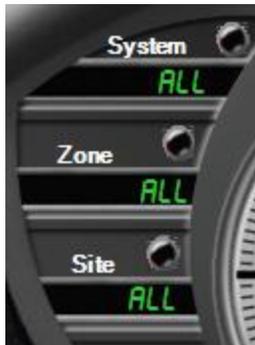


Figure 1.2 – Dashboard Resource Selection

Connection Options

A connection occurs when a radio becomes known to SysVista. A connection is the result of one of the following activities:

- Affiliations
- Radio Activity (See the *Radio Activities* section of *Appendix A* for a list of radio activities)

Connections are used to determine the **Radios Connected** and **Connections per Second** statistics. The **Connections per Second** statistic does not include radio activity.



Figure 1.3 – Connection Options Window

A radio is counted in the **Radios Connected** value if its most recent activity is one of the following and its corresponding option is checked in the *Connection Options* window.

- Affiliation
- Radio Activity

A radio is **not** counted in the **Radios Connected** value if its most recent activity is one of the following and its corresponding option is checked in the *Connection Options* window.

- Deaffiliation

A radio is **not** counted in the **Radios Connected** value if its most recent activity is older than the specified **Time Out** period and the **Time Out** option is checked. The recommended time out period is 12 hours.

Time Out Period options include:

- 1 Hour
- 2 Hours

- 4 Hours
- 8 Hours
- 12 Hours
- 24 Hours
- 48 Hours
- 1 Week
- 2 Weeks
- 3 Weeks
- 4 Weeks

These options are saved to your GW3-TRBO user profile and are restored when you open the SysVista GUI.



Connect Plus ID 16776410 will be ignored and not displayed in this module. This ID represents the XRC 9000 controllers rather than an actual radio.

Ignore Consoles

Option to not consider Consoles in connected radios statistics.

Statistics

SysVista tracks the following statistics:

- **Total Calls:** Total number of *Calls* (for multisite input) or *PTTs* (for single-site input) initiated (started) on all selected resources within the selected time period. For multisite systems, a call might initiate on multiple sites. For this reason, the sum of **Total Calls** for each site in a zone may be greater than the **Total Calls** for the sites' zone or system. In the Dashboard view this statistic does not provide an analog dial.
- ***Connections per Second (Con./Sec. or Connections/Sec.):** Shows how many connections per second have been received among all selected resources within the selected time period. This is based on your connection options.
- ***Calls per sec. (Calls/Sec.):** Indicates how many *Calls* (for multisite input) or *PTTs* (for single-site input) per second have been active among all selected resources within the selected time period.
- ****Radios Connected:** Shows how many radios are known to be connected within all selected resources. This is based on your connection options.
- ****Calls in Progress:** Shows how many *Calls* (for multisite input) or *PTTs* (for single-site input) are known to be in progress among all selected resources.
- ****Busies:** Shows how many busies are known to be in progress among all selected resources.



* - SysVista shows these values as decimal numbers, rounded to the nearest 0.1. Values between 0.05 and 0.1 are rounded to 0.1. All values less than 0.05 are shown as 0.

** - This value does not consider the selected time period.

Each analog dial (gray dial with red needle) contains a multiplier value (x1, x10, x100, etc.). The multiplier value indicates which multiple of 10 the analog dial represents. This multiplier does not apply to the digital value (green number in the black box) within the analog dial.

Usage Overview

SysVista shows the following value in graphical format (graphical bar on the rightmost side of the SysVista GUI):

- **Usage Overview:** This bar is an estimate of your total system usage. System usage is calculated using the following formula:
 - *Unit Time / (Voice Slots x Period Time)* where:
 - **Unit Time** = Total unit airtime among the selected resource in the selected time period.
 - **Voice Slots** = Total voice slots among the selected resources. Each Channel in Alias has a **Channel Type** option. This option determines the channel's slots.
 - **Period Time** = Total time that has elapsed in the selected time period since the GW3-TRBO service started.



Figure 1.4 – Usage Overview

Each segment in the **Usage Overview** bar represents about 10% system usage. When the system reaches 10% usage, the bottom bar will light up. When the system reaches 90% usage all bars will light up.



The **Usage Overview** determines the number of channels for a site by referencing the Alias database. If you feel your usage is too high or too low, please check the channels under the site or sites you are monitoring. Verify the following:

- The channels exist in Alias.
- Each voice channel is marked as **Voice Channel** in the **Channel Options** section of Alias.
- Each voice channel's correct **Channel Type** is selected in the **Channel Options** section of Alias.



The values in SysVista are cleared each time the GW3-TRBO service is stopped and each time the GW3-TRBO service machine is restarted. If you restart the GW3-TRBO service machine, the statistical values will need to rebuild over time to show entire daily, monthly, etc. values.

Interval Options

An interval is the amount of time SysVista includes when showing the following values:

- Total Calls
- Con./Sec.
- Calls/Sec.

SysVista will show statistics for the selected time period. SysVista allows you to view system statistics for the following time periods:

- **Year:** Current Year. If the current date/time is 3/21/2010 3:34 PM, then the statistics will only include 1/1/2010 12:00 AM to 3/21/2010 3:34 PM. When the year on your system time changes, the values will clear.
- **Month:** Current Month. SysVista will only show statistics for the current month. If the current date/time is 3/21/2010 3:34 PM, then the statistics will only include 3/1/2010 12:00 AM to 3/21/2010 3:34 PM. When the month on your system time changes, the values will clear.
- **Day:** Current Day. If the current date/time is 3/21/2010 3:34 PM, then the statistics will only include 3/21/2010 12:00 AM to 3/21/2010 3:34 PM. When the day on your system time changes, the values will clear.
- **Hour:** Current Hour. If the current date/time is 3/21/2010 3:34 PM, then the statistics will only include 3/21/2010 3:00 PM to 3/21/2010 3:34 PM. When the hour on your system time changes, the values will clear.
- **30 Minutes:** Current 30 minutes. If the current date/time is 3/21/2010 3:29 PM, then the statistics will only include 3/21/2010 3:00 PM to 3/21/2010 3:29 PM. If the current date/time is 3/21/2010 3:43 PM, then the statistics will only include 3/21/2010 3:30 PM to 3/21/2010 3:43 PM. When the minute on your system time changes to 30 or 00, the values will clear.
- **15 Minutes:** Current 15 minutes. If the current date/time is 3/21/2010 3:29 PM, then the statistics will only include 3/21/2010 3:15 PM to 3/21/2010 3:29 PM. When the minute on your system time changes to 15, 30, 45 or 00, the values will clear.
- **5 Minutes:** Current 5 minutes. If the current date/time is 3/21/2010 3:29 PM, then the statistics will only include 3/21/2010 3:25 PM to 3/21/2010 3:29 PM. When the minute on your system time changes to 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55 or 00, the values will clear.

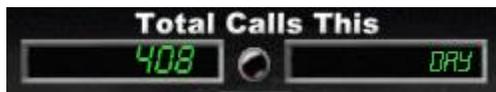


Figure 1.5 – Dashboard Interval Selection

Interval ▾ 5 Minutes

Figure 1.6 – Multi-View Interval Selection

SysVista Alerts

SysVista activates (lights up) its Alert light when it receives an interface board related diagnostic within its selected resources. Click on the Alert light to acknowledge (deactivate) this alert. Deactivating the Alert light will notify all other active SysVista screens that the alert was acknowledged.



Figure 1.7 – SysVista Alert Light (active)

These diagnostic alerts can then be investigated via other GW3-TRBO modules, such as Reports if you are archiving or Channel if you have Channel open when the alert occurs.

View Options

SysVista offers two statistical views:

Dashboard

This view shows all statistics (described in the Statistics section above) for the selected resource(s). The only options on this view are the interval and the resources.

Multi-View

This view shows up to 20 customized dials. Each dial shows a statistic on the selected resource for the selected interval. You can add or remove dials at any time. The settings in this view are saved in your GW3-TRBO user's profile.



Figure 1.8 – Multi-View Window

Multi-View Banner

Located at the top of the Multi-View screen is the *Banner*.



Figure 1.9 – Multi-View Banner

This banner can be hidden by unchecking the **Multi-View Banner** option located under **View** in the menu bar at the top. The picture for the banner can be changed with the following steps:

1. Create a jpeg graphic that is between 200 x 100 pixels and 2,000 x 1,000 pixels.
2. Save the image as *Banner.jpg*.
3. Place the new file in the
C:\Program Data \Genesis\GenWatch3\Images\SysVista folder

Adding a Dial

To add a dial:

1. Click the **Add** button.
2. Select a **System**: For all Systems, select All.
3. Select a **Zone**: For all Zones, select All (you must select a System before you can select a Zone).
4. Select a **Site**: For all Sites, select All (you must select a Zone before you can select a Site).
5. Select a **Statistic**.
6. Select an **Interval**. Some statistics are not interval based and this option will be disabled for those.
7. Enter a **Title** for the dial (50 characters maximum).
8. Checking the **Thresholds** option will put a colored ring around the edge of the dial. This ring represents a percentage of the thresholds specified until the red threshold is met or exceeded. When the value of the dial meets or exceeds the specified threshold, this ring will turn the respective color.
9. Select a background for the dial. The background selection does not affect dial functionality.

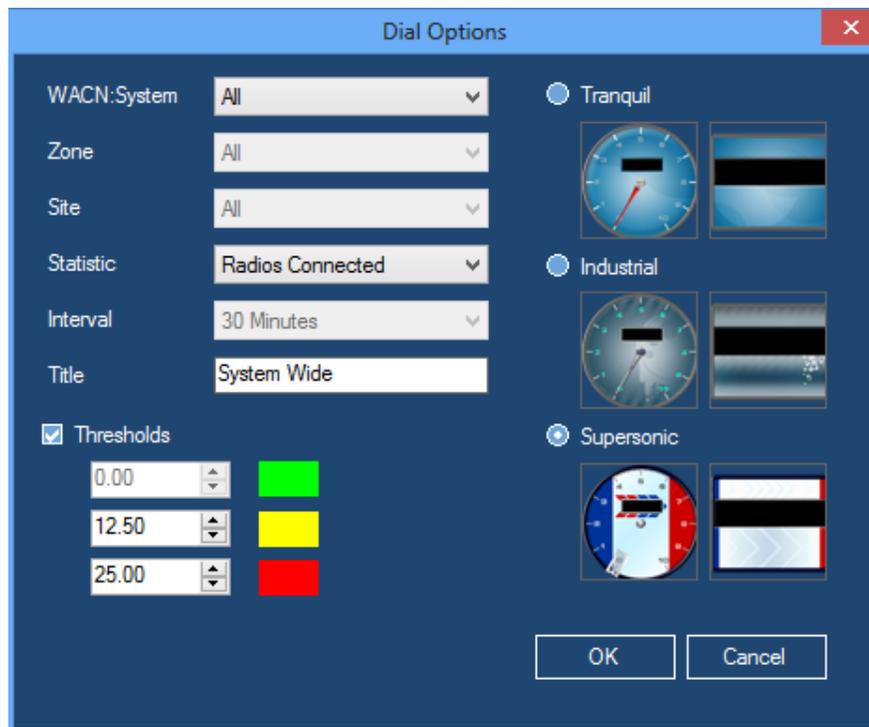


Figure 1.10 – Multi-View Dial Options Window

Updating a Dial

To update a dial:

1. Select a dial by clicking on it: SysVista shows the dial outlined in blue.
2. Right-click the dial.
3. Select the **Properties...** option from the menu that appears.
4. Follow the steps from the *Adding a Dial* instructions above.

Removing a Dial

To remove a dial:

1. Select a dial by clicking on it: SysVista shows the dial outlined in blue.
2. Click the **Remove** button.

toggling a Dial to Number Only view

To toggle Number Only view:

1. Select a dial by clicking on it: SysVista shows the dial outlined in blue.
2. Right-click the dial.
3. Select the **Number Only** option from the menu that appears.
4. To go back to Dial view repeat steps 1-3.

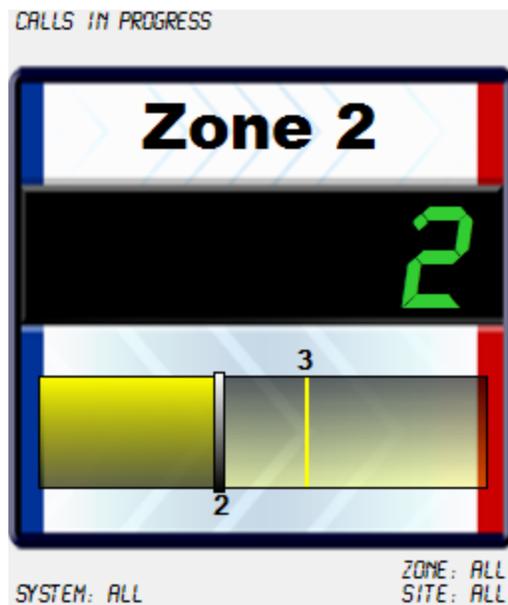


Figure 1.11 – Multi-View Dial in Number Only view

This chapter describes SysVista's Key Performance Indicators (KPIs) feature.

This chapter contains the following sections:

- **What are KPIs?:** Provides a high-level overview of KPIs.
- **KPI Storage and Availability:** Describes where KPIs are stored and how KPI data is accessed.
- **KPI Table Definitions:** Provides a detailed description of each KPI table and its columns.
- **KPI View Definitions:** Provides a detailed description of each KPI table's view and its columns.
- **KPI Options:** Describes the available KPI feature options and how to set them.

What are KPIs?

KPIs are statistical values, at each resource level, that are aggregated and stored on a specified interval. An example of a KPI is "Radios Currently Connected to Site 1 under Zone 1 under System A4A".

KPI Storage and Availability

KPIs are stored in three following tables within the GW3-TRBO database:

- **KPISysVistaSystems:** KPIs aggregated to the system level.
- **KPISysVistaZones:** KPIs aggregated to the zone level.
- **KPISysVistaSites:** KPIs aggregated to the site level.

These tables are accessible via the following views in the GW3-TRBO database:

- **Kpi.SysVista.Systems:** Access to the KPISysVistaSystems table.
- **Kpi.SysVista.Zones:** Access to the KPISysVistaZones table.
- **Kpi.SysVista.Sites:** Access to the KPISysVistaSites table.



The following database structures include Interconnect values even though Interconnect service is not supported in the current version of MOTOTRBO.

KPI Table Definitions

KpiSysVistaSystems

Genesis will store existing SysVista system KPIs in the following table structure. Each row in this table will represent the current set of SysVista KPIs for a system, qualified by WACN. Columns include:

- **WACNId:** System's WACN
- **SystemId:** System Id
- **RadiosConnected:** Radios currently connected to this system. These include radios that have issued affiliations, registrations, associations and other radio-based or acknowledged activity (PTTs, Statuses, Dynamic Regrouping Ack, etc.) within the last 8 hours.
- **GroupCallsInProgress:** Group calls currently in progress on this system.
- **InterconnectCallsInProgress:** Interconnect calls currently in progress on this system.
- **PrivateCallsInProgress:** Private calls currently in progress on this system.
- **EmergencyCallsInProgress:** Emergency calls currently in progress on this system. NOTE: this value is a sub-category of group calls and is included in the *GroupCallsInProgress* value.
- **GroupVoicePathsInUse:** Voice paths (slots) currently in use for group calls on this system.
- **InterconnectVoicePathsInUse:** Voice paths (slots) currently in use for interconnect calls on this system.
- **PrivateVoicePathsInUse:** Voice paths (slots) currently in use for private calls on this system.
- **EmergencyVoicePathsInUse:** Voice paths (slots) currently in use for emergency group calls on this system. NOTE: this value is a sub-category of group calls and is included in the *GroupVoicePathsInUse* value.
- **AvailableVoicePaths:** Number of voice paths (slots) not in use on this system. This value is $TotalVoicePaths - GroupVoicePathsInUse - InterconnectVoicePathsInUse - PrivateVoicePathsInUse$.
- **TotalVoicePaths:** All voice paths (slots) on this system. NOTE: This value is derived from channel-level settings in the GW3-TRBO Alias database.
- **BusiesInQueue:** Busies currently in queue on this system.
- **ConnectionsPerSecond:** Connections per second on this system, within the current 5-minute interval. This is based on all radio-based activity types. These include affiliations, registrations, associations and other radio-based or acknowledged activity (PTTs, Statuses, Dynamic Regrouping Ack, etc.)
- **CallsPerSecond:** Start of Calls received per second on this system within the current 5-minute interval.
- **DT:** Date and Time these statistics were written.

NOTE: The current calls/second and connections/second will be taken from SysVista's 5-minute interval values. Every 5 minutes, this interval is reset and will show 0 for a few seconds, until the next call or connection is received. Example: If the first call is received 3 seconds into the new interval, we will show 0.333 calls/second.

KpiSysVistaZones

Genesis will store existing SysVista zone KPIs in the following table structure. Each row in this table will represent the current set of SysVista KPIs for a zone, qualified by WACN and System. Columns include:

- **WACNId:** System's WACN
- **SystemId:** Zone's System
- **ZoneId:** Zone Id
- **RadiosConnected:** Radios currently connected to this zone. These include radios that have issued affiliations, registrations, associations and other radio-based or acknowledged activity (PTTs, Statuses, Dynamic Regrouping Ack, etc.) within the last 8 hours.
- **GroupCallsInProgress:** Group calls currently in progress on this zone.
- **InterconnectCallsInProgress:** Interconnect calls currently in progress on this zone.
- **PrivateCallsInProgress:** Private calls currently in progress on this zone.
- **EmergencyCallsInProgress:** Emergency calls currently in progress on this zone. NOTE: this value is a sub-category of group calls and is included in the *GroupCallsInProgress* value.
- **GroupVoicePathsInUse:** Voice paths (slots) currently in use for group calls on this zone.
- **InterconnectVoicePathsInUse:** Voice paths (slots) currently in use for interconnect calls on this zone.
- **PrivateVoicePathsInUse:** Voice paths (slots) currently in use for private calls on this zone.
- **EmergencyVoicePathsInUse:** Voice paths (slots) currently in use for emergency group calls on this zone. NOTE: this value is a sub-category of group calls and is included in the *GroupVoicePathsInUse* value.
- **AvailableVoicePaths:** Number of voice paths (slots) not in use on this zone. This value is $TotalVoicePaths - GroupVoicePathsInUse - InterconnectVoicePathsInUse - PrivateVoicePathsInUse$.
- **TotalVoicePaths:** All voice paths (slots) on this zone. NOTE: This value is derived from channel-level settings in the GW3-TRBO Alias database.
- **BusiesInQueue:** Busies currently in queue on this zone.
- **ConnectionsPerSecond:** Connections per second on this zone, within the current 5-minute interval. This is based on all radio-based activity types.

These include affiliations, registrations, associations and other radio-based or acknowledged activity (PTTs, Statuses, Dynamic Regrouping Ack, etc.)

- **CallsPerSecond:** Start of Calls received per second on this zone within the current 5-minute interval.
- **DT:** Date and Time these statistics were written.

KpiSysVistaSites

Genesis will store existing SysVista site KPIs in the following table structure. Each row in this table will represent the current set of SysVista KPIs for a site, qualified by WACN, System, Zone. Columns include:

- **WACNId:** System's WACN
- **SystemId:** Zone's System
- **ZoneId:** Site's Zone
- **SiteId:** Site Id
- **RadiosConnected:** Radios currently connected to this site. These include radios that have issued affiliations, registrations, associations and other radio-based or acknowledged activity (PTTs, Statuses, Dynamic Regrouping Ack, etc.) within the last 8 hours.
- **GroupCallsInProgress:** Group calls currently in progress on this site.
- **InterconnectCallsInProgress:** Interconnect calls currently in progress on this site.
- **PrivateCallsInProgress:** Private calls currently in progress on this site.
- **EmergencyCallsInProgress:** Emergency calls currently in progress on this site. NOTE: this value is a sub-category of group calls and is included in the *GroupCallsInProgress* value.
- **GroupVoicePathsInUse:** Voice paths (slots) currently in use for group calls on this site.
- **InterconnectVoicePathsInUse:** Voice paths (slots) currently in use for interconnect calls on this site.
- **PrivateVoicePathsInUse:** Voice paths (slots) currently in use for private calls on this site.
- **EmergencyVoicePathsInUse:** Voice paths (slots) currently in use for emergency group calls on this site. NOTE: this value is a sub-category of group calls and is included in the *GroupVoicePathsInUse* value.
- **AvailableVoicePaths:** Number of voice paths (slots) not in use on this site. This value is $TotalVoicePaths - GroupVoicePathsInUse - InterconnectVoicePathsInUse - PrivateVoicePathsInUse$.
- **TotalVoicePaths:** All voice paths (slots) on this site. NOTE: This value is derived from channel-level settings in the GW3-TRBO Alias database.
- **BusiesInQueue:** Busies currently in queue on this site.
- **ConnectionsPerSecond:** Connections per second on this site, within the current 5-minute interval. This is based on all radio-based activity types. These include affiliations, registrations, associations and other radio-based or acknowledged activity (PTTs, Statuses, Dynamic Regrouping Ack, etc.)

- **CallsPerSecond:** Start of Calls received per second one this site within the current 5-minute interval.
- **DT:** Date and Time these statistics were written.

KPI View Definitions

KPI data is available via the following views:

Kpi.SysVista.Systems

Values aggregated at the System level within SysVista: Each row is qualified by WACN:

- [KpiSysVistaZones].WacnId
- [KpiSysVistaZones].SystemId
- [KpiSysVistaZones].ZoneId
- [KpiSysVistaZones].RadiosConnected
- [KpiSysVistaZones].GroupCallsInProgress
- [KpiSysVistaZones].InterconnectCallsInProgress
- [KpiSysVistaZones].PrivateCallsInProgress
- [KpiSysVistaZones].EmergencyCallsInProgress
- [KpiSysVistaZones].GroupVoicePathsInUse
- [KpiSysVistaZones].InterconnectVoicePathsInUse
- [KpiSysVistaZones].PrivateVoicePathsInUse
- [KpiSysVistaZones].EmergencyVoicePathsInUse
- [KpiSysVistaZones].TotalVoicePaths
- $\text{GroupVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{GroupVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- $\text{InterconnectVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{InterconnectVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- $\text{PrivateVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{PrivateVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- $\text{EmergencyVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{EmergencyVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- [KpiSysVistaZones].BusiesInQueue
- [KpiSysVistaZones].ConnectionsPerSecond
- [KpiSysVistaZones].CallsPerSecond
- [KpiSysVistaZones].DT

Kpi.SysVista.Zones

Values aggregated at the Zone level within SysVista: Each row is qualified by WACN and System:

- [KpiSysVistaZones].WacnId
- [KpiSysVistaZones].SystemId
- [KpiSysVistaZones].ZoneId
- [KpiSysVistaZones].RadiosConnected
- [KpiSysVistaZones].GroupCallsInProgress
- [KpiSysVistaZones].InterconnectCallsInProgress
- [KpiSysVistaZones].PrivateCallsInProgress
- [KpiSysVistaZones].EmergencyCallsInProgress
- [KpiSysVistaZones].GroupVoicePathsInUse
- [KpiSysVistaZones].InterconnectVoicePathsInUse
- [KpiSysVistaZones].PrivateVoicePathsInUse
- [KpiSysVistaZones].EmergencyVoicePathsInUse
- [KpiSysVistaZones].TotalVoicePaths
- $\text{GroupVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{GroupVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- $\text{InterconnectVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{InterconnectVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- $\text{PrivateVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{PrivateVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- $\text{EmergencyVoicePathUtilization} = \frac{[\text{KpiSysVistaZones}].\text{EmergencyVoicePathsInUse}}{[\text{KpiSysVistaZones}].\text{TotalVoicePaths}}$
- [KpiSysVistaZones].BusiesInQueue
- [KpiSysVistaZones].ConnectionsPerSecond
- [KpiSysVistaZones].CallsPerSecond
- [KpiSysVistaZones].DT

Kpi.SysVista.Sites

Values aggregated at the Site level from the **KpiSysVistaSites** table. Each row is qualified by WACN, System, and Zone.

- [KpiSysVistaSites].WacnId
- [KpiSysVistaSites].SystemId
- [KpiSysVistaSites].ZoneId
- [KpiSysVistaSites].SiteId
- [KpiSysVistaSites].RadiosConnected
- [KpiSysVistaSites].GroupCallsInProgress
- [KpiSysVistaSites].InterconnectCallsInProgress
- [KpiSysVistaSites].PrivateCallsInProgress
- [KpiSysVistaSites].EmergencyCallsInProgress
- [KpiSysVistaSites].GroupVoicePathsInUse
- [KpiSysVistaSites].InterconnectVoicePathsInUse
- [KpiSysVistaSites].PrivateVoicePathsInUse
- [KpiSysVistaSites].EmergencyVoicePathsInUse
- [KpiSysVistaSites].TotalVoicePaths
- $\text{GroupVoicePathUtilization} = \frac{[\text{KpiSysVistaSites}].\text{GroupVoicePathsInUse}}{[\text{KpiSysVistaSites}].\text{TotalVoicePaths}}$
- $\text{InterconnectVoicePathUtilization} = \frac{[\text{KpiSysVistaSites}].\text{InterconnectVoicePathsInUse}}{[\text{KpiSysVistaSites}].\text{TotalVoicePaths}}$
- $\text{PrivateVoicePathUtilization} = \frac{[\text{KpiSysVistaSites}].\text{PrivateVoicePathsInUse}}{[\text{KpiSysVistaSites}].\text{TotalVoicePaths}}$
- $\text{EmergencyVoicePathUtilization} = \frac{[\text{KpiSysVistaSites}].\text{EmergencyVoicePathsInUse}}{[\text{KpiSysVistaSites}].\text{TotalVoicePaths}}$
- [KpiSysVistaSites].BusiesInQueue
- [KpiSysVistaSites].ConnectionsPerSecond
- [KpiSysVistaSites].CallsPerSecond
- [KpiSysVistaSites].DT

KPI Options

Option Definitions

The KPIs feature provides the following options (defaults shown in **bold**):

- **KpiEnabled**: Write KPI values out to KpiSysVistaSites table
 - **1 = Enabled**
 - 0 = Disabled
- **KpiInterval**: Number of seconds between each time KPIs are calculated and written to the database. Default is **5**.
- **KpiUseTimeout**: Consider the values in KpiConnectionDefinitionTimeout and KpiConnectionDefinitionOption
 - **1 = True**
 - 0 = False
- **KpiConnectionDefinitionTimeout**: Actions to consider for a radio connection. Bitmask field. Value is sum of all applicable options. (Effects Radios Connected and Connections Per Second KPIs)
 - **0 = None**
 - **1 = Associations**
 - **2 = Affiliations**
 - **4 = Registrations**
 - **8 = RadioActivity**
- **KpiConnectionTimeoutPeriod**: Period in which a radio must issue a connection action in order to be considered connected. (Effects Radios Connected and Connections Per Second KPIs)
 - 0 = 1 Hour
 - 1 = 2 Hours
 - 2 = 4 Hours
 - **3 = 8 Hours**
 - 4 = 12 Hours
 - 5 = 1 Day
 - 6 = 2 Days
 - 7 = 1 Week
 - 8 = 2 Weeks
 - 9 = 3 Weeks
 - 10 = 4 Weeks

Setting KPI Options

KPI options are stored in the *ModuleSettings* table of the GW3-TRBO database under the module Id of the SysVista module (see the *Modules* table) and a Parent of 0. If a setting is not present, the KPIs feature uses the default shown above.

Once you change a KPI feature setting, you must restart the GW3-TRBO service in order for the change to take effect.

Example KPI setting in the ModuleSettings table for KpiInterval:

ModuleSettings				
ID	ModuleId	Parent	FieldName	FieldValue
14289	23	0	KpiInterval	10

Radio Activities

This section shows each packet activity that is considered radio activity by the logic in SysVista. If your connection definition includes **Radio Activity**, SysVista will consider radios connected via these activities in the **Radios Connected** statistic. These activities do not affect the **Connections per Second** statistic.

Activity
Busy
Channel Assignment
RM/RT Command ACK

Radio Disconnected Activity

This section shows each activity that is considered a radio disconnection by the logic in SysVista. These packets will result in SysVista removing a radio from one or more connected radios lists. These radio disconnected activities may differ from other GW3-TRBO modules.

Activity	List(s) Affected
Deaffiliation	Affiliations
Selective Inhibit ACK	Affiliations