

# **Oracle® Tuxedo System and Application Monitor (TSAM)**

Console Users Guide

11g Release 1 (11.1.1.1.0)

March 2010

**ORACLE®**

Copyright © 2007, 2010, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

This software and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

# Contents

## Oracle TSAM Console Users Guide

Overview . . . . .	1-1
User Accessibility . . . . .	1-1
Top Menu Bar . . . . .	1-2
Component Tree . . . . .	1-2
Search Panel . . . . .	1-2
Unread Alerts Panel . . . . .	1-3
Work Area . . . . .	1-3
Using Oracle TSAM . . . . .	1-3
Monitoring Policy . . . . .	1-3
Tuxedo Metrics Monitoring . . . . .	1-16
Tuxedo Application Runtime Metrics Monitoring . . . . .	1-39
User/Data Management . . . . .	1-43
Alert Monitoring . . . . .	1-49



# Oracle TSAM Console Users Guide

This chapter contains the following topics:

- [Overview](#)
- [Using Oracle TSAM](#)

## Overview

The Oracle TSAM monitoring console allows you to specify the Oracle Tuxedo components you want to monitor, as well as track events and alerts. The console has five major areas:

- [User Accessibility](#)
- [Top Menu Bar](#)
- [Component Tree](#)
- [Search Panel](#)
- [Unread Alerts Panel](#)
- [Work Area](#)

## User Accessibility

User accessibility settings can be adjusted from the log-in screen and the console page.

- [Log-in Screen](#)

In the upper left-hand corner of the log-in screen, click the **Settings** drop-down menu. You can select the following three options; the settings take effect immediately:

- I use a screen reader

Accessibility-specific constructs are added to improve screen reader behavior.

- I use high contrast colors

Application display uses high-contrast instead of the default contrast.

- I use large fonts

Application display uses large fonts instead of the default size fonts.

- Console Page

In the upper right-hand corner of the Oracle TSAM Console page, click **Accessibility**; the **Accessibility Preferences** page appears. It has the same three user accessibility options as the log-in screen.

When you have selected your options, click **OK**; the settings take effect immediately.

## Top Menu Bar

The top menu bar contains the following Oracle TSAM monitoring console functionality:

**Policy:** Define and manage system policies.

**Tuxedo Metrics:** Query Oracle Tuxedo monitoring metrics.

**Tuxedo Application Runtime Metrics:** Query Oracle Tuxedo Application Runtime monitoring metrics.

**Management:** Define user management, data management and global parameter settings.

**Alert:** Define and query alerts.

**Help:** On-line help page.

## Component Tree

The component tree view displays Oracle Tuxedo and Oracle Tuxedo Application Runtime for CICS hierarchy information.

## Search Panel

Search component tree elements.

## Unread Alerts Panel

Displays severity-level unread alert count.

## Work Area

Enter detailed monitoring information. For example, policy definition, metrics view and management etc.

## Using Oracle TSAM

This section contains the following topics:

- [Monitoring Policy](#)
- [Tuxedo Metrics Monitoring](#)
- [Tuxedo Application Runtime Metrics Monitoring](#)
- [User/Data Management](#)
- [Alert Monitoring](#)

## Monitoring Policy

Oracle TSAM provides comprehensive monitoring control of Oracle Tuxedo infrastructure behavior. Policy Management allows you to do the following:

- Organize monitoring requirements into significant and useful monitoring policy solutions.
- Manage monitoring policy (including import, export and usage tracking).
- Define monitoring policy entries for Oracle Tuxedo components and dynamic conditions.
- Selectively enable and disable real-time communication with monitored Oracle Tuxedo back-end components.

This section contains the following topics:

- [Tuxedo Monitoring Policy](#)
- [Tuxedo Application Runtime Monitoring Policy](#)

## Tuxedo Monitoring Policy

On the menu bar, click **Policy** and select **Tuxedo Monitoring Policy** from the drop-down menu; the **Monitoring Policy List** page appears. It displays the existing defined policies and allows you to view, add, edit, or delete policies. This section contains the following topics:

- [Monitoring Policy List Page](#)
- [Create/Edit Policy Page](#)

### Monitoring Policy List Page

The Monitoring Policy List page allows you to create and manage the Oracle Tuxedo component monitoring policies.

#### Button Bar

[Table 1-8](#) lists the **Monitoring Policy List** button bar functions.

**Table 1-1 Monitoring Policy List Button Bar**

Button	Description
View	From the drop-down menu, select the following: <ul style="list-style-type: none"> <li>• Columns: Select the columns displayed in the table.</li> <li>• Detach: Displays the table in a separate window.</li> <li>• Reorder Columns: Change how the column order is displayed.</li> </ul>
Add	Creates a new monitor policy. The maximum policy name character length is 255.  <b>Note:</b> You can also add a new policy by right-clicking a Domain listed in the Oracle Tuxedo Components panel.
Delete	Deletes selected monitoring policies.
Enable	Enables selected monitoring policies.
Disable	Disables selected monitoring policies.
Edit	Edits selected monitoring policies.
Clone	Clones a new policy from a selected policy.
Import	Imports previously exported policies from a user-specified location.



**Table 1-1 Monitoring Policy List Button Bar**

Button	Description
Export	Exports selected policies in an .xml file to a user-specified location.
Refresh	Updates the policies displayed in the Policy List table.
Detach	Displays the table in a separate window.

## Policy List Table

[Table 1-8](#) describes the **Policy List** table columns.

The Policy List table displays the following columns:

- **Select:** Allows you to select all or individual policies.
- **Name:** Displays the current policy names.
- **Status:** Displays the policy status.
  - **enabled:** The corresponding request is sent to Oracle Tuxedo.
  - **disabled:** The corresponding request is not sent to Oracle Tuxedo.
- **Note:** Policy monitoring does not take effect until the impacted Oracle Tuxedo processes have started.
- **Domain ID:** Displays the domain identifier attached to the policy as follows:  
DOMAINID:Master:IPCKEY.
- **Tuxedo Components:** String that represents policy impact scope of Tuxedo resources in selected domain. It is FML32 boolean expression compliant. For example:  
(TA\_P MID%' . \*BOXBANK\* ') indicates using an FML32 boolean expression for machine selection.

## Create/Edit Policy Page

The Create/Edit Policy page contains the following sections:

- [Tuxedo Component Panel](#)
- [Monitoring Policy Panel](#)

## Tuxedo Component Panel

The Tuxedo Component panel contains the following selections:

- **Domain:** Required.
- **Machine:** Optional.
- **Group:** Optional.
- **Server:** Optional.

Machine, Group, and Server can also accept FML32 boolean expressions. Click the radio button to select an input method (from the drop-down list or manually enter an FML32 boolean expression). The value of each level is determined by its parent level (except for Domain). One monitoring policy must be specified for one domain.

## Monitoring Policy Panel

The Monitoring Panel contains the following tabs:

[Call Path Tab](#)

[Service Tab](#)

[XA Transaction Tab](#)

[Domain Gateway Tab](#)

[BRIDGE Tab](#)

[GWWS Tab](#)

To use the listed tab options, click the **Enable** check box. If enable is not selected, all tab options are disabled. One monitoring policy can contain multiple monitoring categories.

## Call Path Tab

[Table 1-2](#) lists the **Call Path** tab options.

**Table 1-2 Call Path Tab Options**

Options	Description
<b>Basic Policy Options</b>	
Enable	Enables/disables call path monitoring.

**Table 1-2 Call Path Tab Options**

Options	Description
Ratio/Interval	<p>Selects Ratio or Interval policy. If multiple policies cover one initiator process and the ratio or interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.</p> <ul style="list-style-type: none"><li>• Ratio: Accepts a value range of 1-65535. It indicates that monitoring starts for a certain number of requests. The default value is “1” (indicating each request is monitored).</li><li>• Interval: Accepts a value range of 1-65535. It indicates a period of time (in seconds) that monitoring can be started. It is exclusive of ratio settings. The default value is “1”. The ratio/interval control only applies to the call path initiator.</li></ul>
Alert Only	Specifies alert evaluation only. No metrics are sent to manager.
Bridge Decode	<p>Allows all BRIDGEs in the call path to decode messages. By default, BRIDGEs do not decode messages and the call path representation does not show BRIDGE points.</p> <p><b>Note:</b> You must be careful using this option; decode/encode impacts application performance.</p>
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .
Dynamic Filter Panel	<p>Dynamic filter conditions are independent of each other. If multiple conditions are configured, the evaluation is <code>true</code> for all conditions and the monitoring can be initiated.</p> <p>For single condition items by default, if one of the item evaluations is <code>true</code>, then the condition is true. This applies to other monitoring policy definitions unless there is a special comment.</p>

**Table 1-2 Call Path Tab Options**

Options	Description
Initiator Type List	<p>Allows you to choose the following Initiator types:</p> <ul style="list-style-type: none"> <li>• Native Client</li> <li>• Workstation Client</li> <li>• Jolt Client</li> <li>• Domain Gateway</li> <li>• Application Server</li> <li>• Web Service Client</li> </ul> <p><b>Note:</b> "Domain Gateway" acts as a call path initiator for local service requests. For imported services, the initiator type is set to the original caller process. The "Web Service Client" initiator point is established from the Web service gateway process (GWWS).</p> <p>The WTC module is not supported for call path monitoring.</p>
Service List	Specifies the initiator location monitored call path services. Select a service from the drop-down list. If Machine, Group, or Server is selected using an FML32 boolean expression, you must edit/input manually.
IP Address List	Applies to workstation client and Jolt client initiator types. Specifies the IP address that initiates call path monitoring. The value can be an IPV4 or IPV6 address, or an FML32 boolean expression.
Client Name List	Lists the native client, workstation client, and Jolt client initiator type client names.
User Name List	Lists the initiator type user names.

## Service Tab

[Table 1-3](#) lists the **Service** tab options.

**Table 1-3 Service Tab Options**

Options	Description
Basic Policy Options	
Enable	Enables/disables service monitoring.

**Table 1-3 Service Tab Options**

Options	Description
Ratio/Interval	<p>Selects Ratio or Interval policy. If multiple policies cover a single process and the ratio or interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.</p> <ul style="list-style-type: none"><li>• Ratio: Accepts a value range of 1–65535. It indicates that monitoring is started among how many requests. The default value is “1” (indicating each request is monitored).</li><li>• Interval: Accepts a value range of 1–65535. It indicates a period of time (in seconds) that monitoring can be started and is exclusive of ratio settings. The default value is “1”.</li></ul>
Alert Only	Specifies alert monitoring only. No metrics are sent to manager.
Enable Service Contract Discovery.	<p>Enables service contract discovery. Selecting this option indicates that monitored services contract information is collected.</p> <p>Service contract discovery is an Oracle SALT feature that collects runtime service contract information and stores it in the metadata repository.</p>
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .
<b>Dynamic Filter Options</b>	
Service List	<p>Specifies the monitored services. Select a service from the drop-down list. If Machine, Group, or Server is selected using an FML32 boolean expression, you must edit/input manually.</p> <p><b>Note:</b> Oracle TSAM can also monitor CORBA interfaces. For CORBA, the interface name is the same as Oracle Tuxedo ATMI services; however, "Enable Service Contract Discovery" does not apply the CORBA interface.</p>

## XA Transaction Tab

[Table 1-4](#) lists the **XA Transaction** tab options.

**Table 1-4 XA Transaction Tab Options**

Options	Description
<b>Basic Policy Options</b>	
Enable	Enables/disables XA Transaction monitoring.
Ratio	<p>Selects Ratio policy. If multiple policies cover a single initiator process and the ratio policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.</p> <p>It accepts a value range of 1-65535. It indicates that monitoring is started among how many requests. The default value is “1” (indicating each request is monitored).</p> <p>If transaction policy is applied to the transaction initiator process, then (similar to call path monitoring), the ratio is enforced during the initiator process. If it applies to a non-initiator transaction participator, the ratio impacts the monitored XA routines.</p> <p><b>Note:</b> Monitoring from the transaction initiator is recommended.</p>
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .
<b>Dynamic Filter Options</b>	
Initiator Type List	<p>Allows you to choose the following Initiator types:</p> <ul style="list-style-type: none"> <li>• Native Client</li> <li>• Workstation Client</li> <li>• Jolt Client</li> <li>• Domain Gateway</li> <li>• Application Server</li> </ul> <p>Transaction path monitoring from an initiator is currently supported. If monitoring is implemented during the initiator process, all XA Transaction points are monitored during the transaction propagation.</p>

## Domain Gateway Tab

[Table 1-5](#) lists the **Domain Gateway** tab options.

**Table 1-5 Domain Gateway Tab Options**

Options	Description
Enable	Enables/disables Domain Gateway (GWTDOMAIN) monitoring.
Interval	Selects Interval policy. If multiple policies cover a single GWTDOMAIN process and the interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.  It indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of 1-65535. The default value is 300.
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .

## BRIDGE Tab

[Table 1-6](#) lists the **Bridge** tab options.

**Table 1-6 Sub Controls of BRIDGE Panel**

Options	Description
Enable	Enables/disables Bridge monitoring.
Interval	Selects Interval policy. If multiple policies cover a single BRIDGE process and the interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.  It indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of 1-65535. The default value is “300”.
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .

## GWWS Tab

[Table 1-7](#) lists the **GWWS** tab options.

**Table 1-7 GWWS Panel Tab Options**

Options	Description
Enable	Enables/disables GWWS monitoring.
Interval	Selects Interval policy. If multiple policies cover a single GWWS process and the interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.  It indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of 1-65535. The default value is "300".
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .

**Notes:** A policy must belong to a single domain. Oracle TSAM does not support cross-domain policies. When an invalid Oracle Tuxedo domain is removed, the policies are also removed.

All policies are global configurations that are visible for all users and editable for all administrators.

It possible for a policy to be to modified *simultaneously* by multiple users. The *final changes* may not be seen by other users depending on the console refresh interval.

## Tuxedo Application Runtime Monitoring Policy

Oracle TSAM provides comprehensive monitoring control of Oracle Tuxedo Application Runtime infrastructure behavior.

This section contains the following topics:

- [Monitoring Policy List Page](#)
- [Create/Edit Policy Page](#)

### Monitoring Policy List Page

On the menu bar, click **Policy** and select **Tuxedo Application Runtime Monitoring Policy** from the drop-down menu. The **Monitoring Policy List** page appears. It displays existing defined Tuxedo Application Runtime monitoring policies and allows you to view, add, edit, or delete policies.



## Button Bar

Table 1-8 list the button bar functions.

**Table 1-8 Button Bar**

Button	Description
View	From the drop-down menu, you can select the following: <ul style="list-style-type: none"><li>• Columns: Select the columns to shown in the table.</li><li>• Detach: Displays the table in a separate window.</li><li>• Reorder Columns: Change how the column order is displayed.</li></ul>
Add	Create a new monitor policy. The maximum policy name character length is 255. You can also add a new policy by right-clicking a Domain listed in the Oracle Tuxedo Components panel.
Delete	Selected monitoring policies are deleted.
Enable	Selected monitoring policies are applied.
Disable	Selected monitoring policies are cancelled.
Edit	Edit selected monitoring policy.
Clone	Clone a new policy from a selected policy.
Import	Imports previously exported policies from a user-specified location.
Export	Exports selected policies in an <code>.xml</code> file to a user-specified location.
Refresh	Updates the policies shown in the Policy List Table.

## Policy List Table

The Policy List table displays the following columns:

- **Select:** Allows you to select all or individual policies.
- **Name:** Displays the current policy names.
- **Status:** Displays the policy status.
  - **enabled:** The corresponding request is sent to Oracle Tuxedo.

- **disabled:** The corresponding request is not sent to Oracle Tuxedo.

**Note:** Policy monitoring does not take effect until the impacted Oracle Tuxedo processes have started.

- **Region ID:** Displays the region identifier (region name) attached to the policy.

## Create/Edit Policy Page

The Create/Edit Policy page contains the following sections:

- [Policy Property Panel](#)
- [Tuxedo Application Runtime Monitoring Policy Panel](#)

### Policy Property Panel

The Tuxedo Application Runtime Policy panel contains the following:

- **Name:** Policy name input text box. Required.
- **Region:** Selection of region that the current policy attaches to. Required.

### Tuxedo Application Runtime Monitoring Policy Panel

The Tuxedo Application Runtime Monitoring Panel contains the following tabs:

[CICS Transaction Tab](#)

[CICS Terminals Tab](#)

To use the options listed in each tab, click the **Enable** check box. If enable is not selected, all options in the tab are disabled.

### CICS Transaction Tab

[Table 1-9](#) lists the **CICS Transaction** tab options.

**Table 1-9 CICS Transaction Tab Options**

Options	Description
Enable	Enables/disables CICS Transaction monitoring.
Ratio/Interval	<p>Selects Ratio or Interval policy. If multiple policies cover a single process and the ratio or interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well.</p> <ul style="list-style-type: none"> <li>• Ratio: Accepts a value range of 1–65535. It indicates that monitoring is started among how many requests. The default value is “1” (indicating each request is monitored).</li> <li>• It indicates a period of time (in seconds) that monitoring can be started and is exclusive of ratio settings. Interval: Accepts a value range of 1–65535. The default value is “1”.</li> </ul>
Alert Only	Specifies alert monitoring only. No metrics are sent to manager.
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Alert Definition</a> .
Transaction List	Select monitored CICS Transaction(s) from the drop-down list or input the FML boolean expression manually.

## CICS Terminals Tab

[Table 1-4](#) lists the CICS Terminal tab options.

**Table 1-10 CICS Terminals Tab Options**

Options	Description
Enable	Enables/disables CICS Terminal monitoring.
Interval	Indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of 1–65535. The default value is 300.
Define Alert	Displays the alert definition page. For more information, see <a href="#">Tuxedo Application Runtime Alert Definition</a> .

**Notes:** A policy must belong to a single region. Oracle TSAM does not support cross-region policies. When an invalid Region is removed, the policies are also removed.

All policies are global configurations that are visible for all users and editable for all administrators.

It possible for a policy to be modified *simultaneously* by multiple users. The *final changes* may not be seen by other users depending on the console refresh interval.

## Tuxedo Metrics Monitoring

Oracle Tuxedo Metrics collection is driven by policy monitoring. Once metrics are collected, you can view them on the related metric pages. Click **Tuxedo Metrics** on the menu bar; the **Tuxedo Metrics** page appears. From the drop-down menu you can select the following:

- [Call Path](#)
- [Call Pattern](#)
- [Service](#)
- [XA Transaction](#)
- [Domain Gateway](#)
- [BRIDGE](#)
- [GWWS](#)

### Call Path

Call Path metrics monitoring provides a quick way for you to view the latest call path information. For long-running call path situations, Oracle TSAM allows you to view runtime executions dynamically in real time.

The Call Path Metric window contains the following panels:

- [Call Path Query by Filter Panel](#)
- [Call Path Results Panel](#)

#### Call Path Query by Filter Panel

[Table 1-11](#) lists the **Call Path Query by Filter** panel options. Results are displayed in the **Call Path Results List** panel.



**Table 1-11 Call Path Query By Filter Options**

Options	Descriptions
Initiator	<p>Specifies the call path initiator type to limit the scope. You can select the following values:</p> <ul style="list-style-type: none"> <li>• Type:                             <ul style="list-style-type: none"> <li>– All</li> <li>– Workstation Client</li> <li>– Jolt Client</li> <li>– Native Client</li> <li>– Domain Gateway</li> <li>– Web Service Client</li> <li>– Application Server</li> </ul> </li> </ul> <p>The default value is "All".</p> <p><b>Note:</b> The "Initiator Type" supports multiple selections for specific initiator types.</p> <ul style="list-style-type: none"> <li>• Domain: Lists all Domains. The default value is "Any".</li> <li>• Machine: Lists all machines for the selected domain. The default value is "Any".</li> <li>• Server: Lists all servers for the selected machine. The default value is "Any".</li> <li>• Root Service: The first service of the call path.</li> <li>• Client: The initiator process name.</li> </ul>
Status	<p>Checks the call path status. You can select the following values:</p> <ul style="list-style-type: none"> <li>• Any</li> <li>• Success</li> <li>• Running</li> <li>• Application Failure</li> <li>• System Failure</li> <li>• Any Failure</li> </ul> <p>The default value is "Any".</p> <p><b>Note:</b> "Application Failure" indicates tperno is TPESVCFALL. Other errors situations belong to "System Failure"</p>

**Table 1-11 Call Path Query By Filter Options**

Options	Descriptions
Time	Specifies a specific time period. <ul style="list-style-type: none"><li>• Any.</li><li>• Recent: Specified in minutes.</li><li>• Time Period: Specifies a particular time span.</li></ul>
Min. Elapsed	Displays call paths with minimum seconds spent (0 means all).
Max Record	Specifies the call path max number. If the query results are larger than this number, the latest max records are retrieved.
Correlation ID (Optional)	<p>The call path Correlation ID. If input, Oracle TSAM uses it to filter. The default value is empty (which indicates a Correlation ID is not used in the query).</p> <p><b>Note:</b> "Correlation ID" query is exclusive with "Filtering Parameters".</p> <p>The Correlation ID consists of the following field values separated by a space:</p> <ul style="list-style-type: none"><li>• Tuxedo domain ID: &lt;DOMAINID&gt;:&lt;master machine name&gt;:&lt;IPCKEY&gt; in the UBBCONFIG *RESOURCE section.</li><li>• Logical Machine ID: LMID in the UBBCONFIG *MACHINES section.</li><li>• Process Name:<ul style="list-style-type: none"><li>– “client”: Used for native clients.</li><li>– “JSH”: Used for Jolt clients.</li><li>– “WSH”: Used for /WS clients.</li><li>– &lt;server name&gt;: Used for the server name.</li></ul></li><li>• Process ID (pid)</li><li>• Thread ID</li><li>• A counter in range of 1 . . 99999999 (starting from 1)</li><li>• Timestamp</li></ul> <p><b>Correlation ID Example:</b></p> <pre>TUXEDO:lcsol18:200401 SITE1 client 18505 1 1 1259031468</pre>

## Call Path Results Panel

This Call Path Results panel displays server-side call path queries.

There are two sub panels:

- [Call Path Results List Panel](#)
- [Call Path Details Panel](#)

## Call Path Results List Panel

[Table 1-12](#) lists the **Call Path Results List** panel options.

**Table 1-12 Call Path Results List Panel**

Results	Description
View	From the drop-down menu, you can select the following: <ul style="list-style-type: none"><li>• Columns: Select the columns displayed in the table.</li><li>• Detach: Displays the table in a separate window.</li><li>• Reorder Columns: Change how the column order is displayed.</li></ul>
Refresh	Updates the user information list.
Detach	Displays the table in a separate window.



**Table 1-12 Call Path Results List Panel**

<b>Results</b>	<b>Description</b>
Call Path Data Grid	<p>The data grid holds the entire call path information server-side query. One call path occupies one row. The columns are listed as follows:</p> <ul style="list-style-type: none"><li>• Correlation ID. Click to display single call path details.</li><li>• Root Service The first ATMI service made in the call path.</li><li>• Start Time The time stamp for the start of the call path query in the following format: <code>mmdd, yyyy, hh:mm:ss.ms GMT</code></li><li>• Status<ul style="list-style-type: none"><li>– Succeeded</li><li>– Failed</li></ul></li><li>• Return Code<ul style="list-style-type: none"><li>– TPOK/0</li><li>– TPEXXX/tperrno TPEXXX is the error code string format and tperrno is the corresponding numeric value, for example, TPESVCFAIL/11.</li></ul></li><li>• Elapsed Time The amount of time passed during the call path query. The unit is seconds with granularity to millisecond. If a call path is completed, the value is the total elapsed time used.</li><li>• CPU Time The total CPU time used on the call path. The CPU time is the service execution CPU time summary (CPU time for multi-threaded servers cannot be accurately calculated).</li><li>• server</li><li>• User return code</li><li>• GTRID The XA Transaction identifier if the call path is involved in an XA Transaction. It provides the XA Transaction query results if XA Transaction monitoring is enabled.</li><li>• Client Address Client IP Address (if available).</li></ul>

**Table 1-12 Call Path Results List Panel**

Results	Description
Status Bar Summary	The summary lists the following information: <ul style="list-style-type: none"><li data-bbox="413 430 1085 482">• Export to Excel button places the table contents into an MS Excel compatible file.</li><li data-bbox="413 496 763 522">• Total call path in this collection.</li><li data-bbox="413 536 796 562">• Running call path in this collection.</li><li data-bbox="413 576 801 602">• Successfully done call path number.</li><li data-bbox="413 616 801 642">• Application failed call path number.</li><li data-bbox="413 656 758 682">• System failed call path number.</li></ul>

### Call Path Details Panel

[Table 1-13](#) lists the **Call Path Details** panel options.



**Table 1-13 Call Path Details Panel Options**

Results	Description
Call Path Details Data Grid	<p>The data grid holds the entire call path server-side queries. One call path occupies one row. The columns are as follows:</p> <ul style="list-style-type: none"> <li>• Message Flow: Message Flow format: ICON Server (tpcall/tpacall/tpforward Root Service)</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>– ICON: <ul style="list-style-type: none"> <li>• Send request</li> <li>• Get request</li> <li>• Send reply</li> <li>• Get reply</li> </ul> </li> <li>– Server: Server name</li> </ul> <p><b>Note:</b> If an Oracle Tuxedo server has invoked tpcall/tpacall/tpforward, the content is displayed in parentheses. For example, BROKER (tpcall DEPOSIT).</p> <ul style="list-style-type: none"> <li>• Domain: Domain call path step located.</li> <li>• Machine: Machine call path step located.</li> <li>• Group: Group call path step located.</li> <li>• Server: Server call path step located.</li> <li>• Timestamp: The logging point timestamp.</li> <li>• Duration: Time span <math>T(n) - T(n-1)</math> (in seconds)</li> <li>• Elapsed time: The total service elapsed time (in seconds). The default value is “hidden”.</li> <li>• Execution time: The service execution time (in seconds).</li> </ul>

**Table 1-13 Call Path Details Panel Options**

Results	Description
	<ul style="list-style-type: none"><li>• Wait time: The IPC queue wait time (in seconds).</li><li>• Call Flag: The <code>tpcall/tpacall</code> call flags.</li><li>• Message Size: The buffer size in bytes. The default value is <code>hidden</code>.</li><li>• Message Queued: Number of messages in queue. The default value is <code>hidden</code>.</li><li>• IPC queue: Identifies the service request queue. The default value is <code>hidden</code>.</li><li>• Return Code</li><li>• User Return Code The default value is <code>hidden</code>.</li><li>• Others: LDOM, RDOM, Local GTRID and MSGCVTTIME. Where MSGCVTTIME is Message Web service conversion time.</li><li>• Web service conversion time)</li></ul>
Status Bar	Displays the current selected call path Correlation ID.  The <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.

**Notes:** If multiple async calls are made in one process (for example in a service, two `tpacalls` are made), the order is based on the service invocation sequence for the reply instead of the timestamp. This allows you to easily correlate requests and reply in an "ordered" manner.

For GWWTDOMAIN, both local domain and remote domain are displayed. LDOM/RDOM information is displayed in the domain gateway cell.

For BRIDGE, the message full stages are supported (same as GWWTDOMAIN).

## Call Pattern

Call Pattern monitoring provides a quick way for you to view the Call Pattern information. The Call Pattern Metric window contains the following panels:

- [Call Pattern Query by Filter](#)
- [Call Pattern Results Panel](#)

## Call Pattern Query by Filter

[Table 1-14](#) lists the **Call Pattern Query by Filter** panel options.

**Table 1-14 Call Pattern Filter Panel**

Options	Description
Initiator	<ul style="list-style-type: none"> <li>Domain: Lists all Domains. The default value is “Any”.</li> <li>Machine; Lists all machines for the selected domain. The default value is “Any”.</li> <li>Server: Lists all servers for the selected machine. The default value is “Any”.</li> <li>Root Service: The first service of the call path.</li> <li>Client: The initiator process name.</li> </ul>
From/To	Time Span
Minimum Request Number	The minimum number of requests that form a pattern. Usually a call pattern contains a large number of calls. This threshold prevents listing a pattern with a small number of calls.
Service Pattern	Checked: Displays only service call path pattern Unchecked: Displays service call path pattern including detailed location and GWTDOMAIN information

Click the **Query** button; the **Call Pattern Result List** panel appears.

## Call Pattern Results Panel

The Call Pattern Results panel displays server-side Call Pattern queries. There are two sub panels:

- [Call Pattern Results List Panel](#)
- [Call Pattern Details Panel](#)

## Call Pattern Results List Panel

[Table 1-15](#) lists the **Call Pattern Results List** panel options.

**Table 1-15 Call Pattern Results List Panel Options**

<b>Options</b>	<b>Description</b>
View	From the drop-down menu, you can select the following: <ul style="list-style-type: none"><li>• Columns: Select the columns displayed in the table.</li><li>• Detach: Displays the table in a separate window.</li><li>• Reorder Columns: Change how the column order is displayed.</li></ul>
Refresh	Updates the user information list.
Detach	Displays the table in a separate window.
Call Pattern Data Grid	The data grid holds the entire call path server-side queries. One call path occupies one row. The columns are as follows: <ul style="list-style-type: none"><li>• Description: Brief information for this call pattern. Clicking it displays call pattern details as follows.</li><li>• Total Number: Total number of call paths in a call pattern.</li><li>• Success Number: Successful number of call paths in a call pattern.</li><li>• Application Failure Number: Application failure number of call paths in a call pattern.</li><li>• System Failure Number: System failure number of call paths in a call pattern.</li><li>• Average Elapsed Time: Average call path elapsed time in a call pattern.</li></ul>
Status Bar Summary	<ul style="list-style-type: none"><li>• Total call pattern in this collection. The <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.</li></ul>

### **Call Pattern Details Panel**

Click any row in the **Call Pattern** list, the selected **Call Pattern** details are displayed. [Table 1-16](#) lists the **Call Pattern Details** panel options.

**Table 1-16 Call Pattern Details Panel**

Options	Description
Call Pattern Details Data Grid	<p>The tree table data grid holds the entire call path details queried from server side. The columns are as follows:</p> <ul style="list-style-type: none"> <li>• Message Flow: Message Flow format: <ul style="list-style-type: none"> <li>– ICON Service</li> </ul> </li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>– ICON: <ul style="list-style-type: none"> <li>• Send request  Root Service: Initial service at Call Pattern  For example, BR_ACNT_SUM</li> </ul> </li> </ul> <ul style="list-style-type: none"> <li>• Domain: Domain call pattern step located. Displayed when Service Pattern is unchecked.</li> <li>• Machine: Machine call pattern step located. Displayed when Service Pattern is unchecked.</li> <li>• Group: Group call pattern step located. Displayed when Service Pattern is unchecked.</li> <li>• Server: Server call pattern step located. Displayed when Service Pattern is unchecked.</li> </ul>
Status Bar	<p>Status Bar displays the current selected call pattern index in the Call Pattern List panel.</p> <p>The <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.</p>

## Service

Service Monitoring allows you to monitor Oracle Tuxedo services. Click **Tuxedo Metrics** and select **Service** from the drop-down menu; the **Service** page appears.

The filtering options panel allows you to specify supply information to the services you want monitored. On the left, there are drop-down lists of Domain, Machine, Group and Server. There are two modes for the service selection, select the most active services or particular services on the right. [Table 1-17](#) lists the **Service Selection** options.





**Table 1-17 Service Selection Options**

<b>Options</b>	<b>Description</b>
Services Selection	<ul style="list-style-type: none"><li data-bbox="413 388 989 418">• Domain: Lists all Domains. The default value is “Any”.</li><li data-bbox="413 427 1157 482">• Machine: Lists all machines for the selected domain. The default value is “Any”.</li><li data-bbox="413 491 1170 546">• Group: Lists all server groups for the selected machine. The default value is “Any”.</li><li data-bbox="413 555 1123 611">• Server: Lists all servers for the selected machine. The default value is “Any”.</li></ul>

**Table 1-17 Service Selection Options**

<b>Options</b>	<b>Description</b>
Monitoring Mode	<p>Four monitoring modes are supported:</p> <ul style="list-style-type: none"><li>• Most Active (Live): Allows you to query the most active services in the latest refresh-time window</li><li>• Most Active (Historical): Allows you to query the most active service over a long time interval and displays the service metrics distribution during that time span.</li><li>• Selected Services (Live): Allows you to monitor service dynamic execution status in the latest refresh-time window. When selected, the Available Services/Selected Services panel appears.<ul style="list-style-type: none"><li>– Available Services/Selected Services: Selects the services to be monitored.</li><li>– Show services with same name as one service: If checked, specifies the query only uses the service name as the query key. If unchecked, the services are queried using the service location for same name service.</li><li>– Aggregation Time: Applies to alive related queries. The algorithm is time span.</li><li>– Refresh Interval: Specifies the refresh aggregation interval for service metrics computing. It only applies to live monitoring related query.</li></ul></li><li>• Selected Services (Historical): Allows you to query services execution status during a long time span. A time window is needed for aggregation purpose. When selected, the Available Services/Selected Services panel appears.<ul style="list-style-type: none"><li>– Available Services/Selected Services: Selects the services to be monitored.</li><li>– Show services with same name as one service: If checked, specifies the query only uses the service name as the query key. If unchecked, the services are queried using the service location for same name service.</li><li>– From, To: Time period. For historical query.</li><li>– Time Window: Specifies the time increment (in seconds). The default value is 3600.</li></ul></li></ul>

Click **Query**; the query results are displayed in the **Service Monitoring Results** panel. [Table 1-18](#) lists the **Service Monitoring Results** panel options.

**Table 1-18 Service Monitoring Results Panel Options**

Options	Description
Metrics	<p>From the drop-down list you can select the following service monitoring metrics:</p> <ul style="list-style-type: none"> <li>• Execution time (in milliseconds)</li> <li>• Success Number</li> <li>• Failure Number</li> <li>• Max Message Size</li> <li>• Min message size</li> <li>• CPU time (in milliseconds)</li> </ul> <p>For "CPU time", only single threaded servers are calculated (CPU time for multi-threaded servers cannot be accurately calculated).</p> <p>The <b>Pause/Resume</b> button allows you to stop the data refresh temporarily. The default is <b>Pause</b> (which indicates that a current refresh is in progress). Clicking it will <b>Resume</b> and refresh stops. Clicking it again restores the status.</p>
Chart/Table	<p>Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics.</p> <p>In table view, the <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.</p>

## XA Transaction

There are two ways to initiate XA Transaction queries: you can specify an XA Transaction identifier, or you can query using filtering parameters. These two ways are exclusive. [Table 1-19](#) lists the **XA Transaction Query by Scope** filtering options.

**Table 1-19 “XA Transaction Query by Scope Panel Options**

<b>Options</b>	<b>Description</b>
Initiator Type	<p>There XA Transaction monitoring scenarios:</p> <ol style="list-style-type: none"><li>1. If the monitoring policy is applied to an XA Transaction initiator, monitoring initiated with the XA Transaction path propagation (similar to Call Path).</li><li>2. If monitoring is initiated for particular processes only (such as TMS without initiator involved), propagation does not take place and only the monitored XA Transaction calls are reported. The "Initiator Type" applies to the first situation, so that a specific XA Transaction can be retrieved. It has the following values:<ul style="list-style-type: none"><li>– All</li><li>– Native Client</li><li>– Workstation Client</li><li>– Jolt Client</li><li>– Domain Gateway</li><li>– Application Server</li></ul></li></ol> <p>The default value is "All" and the second monitoring scenario must use the default setting.</p>
Status	<p>Allows you to select the following values:</p> <ul style="list-style-type: none"><li>• Any</li><li>• Succeeded</li><li>• Failed</li></ul>
Query for latest	Query under latest time (in seconds).
Query during	Query XA transactions during a specific time period.
Query by GTRID	<p>Query an XA transaction by using an XA transaction identifier. For example <code>x0x46524a28 x1</code>. For more information, see <a href="#">How the System Tracks Distributed Transaction Processing</a> in the Oracle Tuxedo User Documentation.</p> <p>The <b>Exact Match</b> checkbox is under the text field. If checked, the whole identifier string must be matched, otherwise all the XA transaction IDs that contain the specified string are listed.</p>

Click **Submit**; the XA Transaction results appears in the **XA Transaction Result List** panel.

[Table 1-20](#) lists the **XA Transaction Results List** panel options.

**Table 1-20 XA Transaction Results List Panel Options**

Options	Description
GTRID	Global Transaction ID.
Initiator	The initiated process where the transaction starts.
Status	Successful transactions indicated by Failed transactions indicated by
Start Time	Time when the XA Transaction started.
Duration	Total transaction time span (in seconds).
Execution Time	Total transaction time per Oracle Tuxedo service (in seconds).
Parent GTRID	Displays the GTRID of the previous domain if the transaction was propagated from another Oracle Tuxedo domain.

When you click on a transaction item in the list, the transaction path, related call path ID and transaction details are displayed in the XA Transaction Path, Corresponding Call Path Correlation ID and XA Transaction Detail panels respectively.

The XA Transaction Path shows the XA Transaction network in a tree structure similar to the Component Tree. In the XA Transaction Path tree, each node represents one domain XA Transaction. If multiple /T domains are involved in the XA Transaction, the XA transaction spread path can be easily observed.

In the Corresponding Call Path Correlation ID panel, the call path(s) related to the XA transaction are listed. You can include multiple call path correlation IDs in an XA Transaction. To do so, you must define an XA Transaction policy element and a call boundary call path policy element. If the two elements are applied to one process, one XA Transaction monitoring process includes multiple call paths. Clicking on the call path ID displays the call path detail in the Call Path Metric.

[Table 1-21](#) lists the **XA Transaction Detail** panel options.

**Table 1-21 XA Transaction Detail Panel Options**

Options	Description
XA Routine	The transaction routine names are as follows: <ul style="list-style-type: none"><li>• tpbegin</li><li>• tpcommit</li><li>• tprollback</li><li>• tpabort</li><li>• xa_commit</li><li>• xa_start</li><li>• xa_prepare</li><li>• xa_rollback</li><li>• xa_end</li><li>• tms_msg_xxx (for GWTDOMAIN XA Transaction activities)</li><li>• xa_msg_xxxx (for GWTDOMAIN XA Transaction activities)</li></ul>
Return Code	The XA Routine return code.
Machine/Group/Process	The XA Routine process information. The process can be an Oracle Tuxedo server or a client.
Start Time	The time when the XA Routine started.
Execution Time	The elapse time used for the XA Routine (in seconds).

## Domain Gateway

A monitoring project may contain multiple domain gateways; however, one monitoring chart can only monitor one local domain gateway (due to data source consistency). Click **Tuxedo Metrics** and select **Domain Gateway** from the drop-down menu; the **Domain Gateway Metrics** page appears. The Domain Gateway page contains two panels:

- [Domain Gateway Selection](#)
- [Domain Gateway Monitoring](#)

### Domain Gateway Selection

[Table 1-22](#) lists the **Domain Gateway Selection** panel options.

**Note:** Domain Gateway only supports GWTDOMAIN.

**Table 1-22 Domain Gateway Selection Panel Options**

Options	Description
Domain	Lists all Domains. Required.
Local Access Point	This drop-down list contains the local domain gateway configured in "Gateway" monitoring. The format is as follows: <code>domain id/group/server id</code> .  <b>Note:</b> One group can only have one gateway instance.
Available Remote Access Point/Selected Remote Access Point	The remote domain gateway link connected with the selected local domain gateway. They are the RDOM in DMCONFIG. Multiple remote domains can be selected.
Monitoring Mode	<ul style="list-style-type: none"> <li>• Live                             <ul style="list-style-type: none"> <li>– Aggregation Time: Applies to alive related query. The algorithm is time span (in seconds).</li> <li>– Refresh Interval. Specifies the refresh interval for live monitoring (in seconds).</li> </ul> </li> <li>• Historical                             <ul style="list-style-type: none"> <li>– From/To: time period for historical query.</li> <li>– Time Window. Specifies the aggregation window for historical query (in seconds).</li> </ul> </li> </ul>

## Domain Gateway Monitoring

[Table 1-23](#) lists the **Domain Gateway Monitoring** panel options.



**Table 1-23 Domain Gateway Monitoring Panel Options**

<b>Options</b>	<b>Description</b>
Metrics	From the drop-down list you can select the following metrics: <ul style="list-style-type: none"><li>• Network Message Number</li><li>• Network Message Bytes</li><li>• Network Pending Number</li><li>• Network Pending Bytes</li><li>• Network Outstanding Requests</li></ul>
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics.  In table view, the <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.

## BRIDGE

Similar to [Domain Gateway](#).

**Note:** There is no "Network Outstanding Requests" metric.

## GWWS

Click **Tuxedo Metrics** and select **GWWS** from the drop-down menu; the **GWWS Metric** page appears. The GWWS Metric page contains two panels:

- [GWWS Query by Filter](#)
- [GWWS Live/History Monitoring](#)

### GWWS Query by Filter

[Table 1-23](#) lists the **GWWS Query by Filter** options.

**Table 1-24 GWWS Query by Filter Panel Options**

Options	Description
Domain	Lists all Domains. Required.
GWWS	GWWS server list. The default is “All”.
Monitoring Mode	<ul style="list-style-type: none"> <li>• Live                             <ul style="list-style-type: none"> <li>– Aggregation Time: Applies to alive related query. The algorithm is time span (in seconds).</li> <li>– Refresh Interval. Specifies the refresh interval for live monitoring (in seconds).</li> </ul> </li> <li>• Historical                             <ul style="list-style-type: none"> <li>– From/To: time period for historical query.</li> <li>– Time Window. Specifies the aggregation window for historical query (in seconds).</li> </ul> </li> </ul>

## GWWS Live/History Monitoring

[Table 1-25](#) lists the **GWWS Live/History Monitoring** options:

**Table 1-25 GWWS Live/History Monitoring Panel Options**

Options	Descriptions
Metrics	From the drop-down list you can select the following metrics: <ul style="list-style-type: none"><li data-bbox="615 465 884 489">• Active Thread Numbers</li><li data-bbox="615 499 1126 524">• Average Inbound Process Time (in milliseconds)</li><li data-bbox="615 534 1139 558">• Average Outbound Process Time (in milliseconds)</li><li data-bbox="615 569 991 593">• Inbound One-Way Failure Number</li><li data-bbox="615 604 998 628">• Inbound One-Way Success Number</li><li data-bbox="615 638 944 663">• Inbound RPC Failure Number</li><li data-bbox="615 673 951 697">• Inbound RPC Success Number</li><li data-bbox="615 708 1012 732">• Outbound One-Way Failure Number</li><li data-bbox="615 743 1018 767">• Outbound One-Way Success Number</li><li data-bbox="615 777 958 802">• Outbound RPC Failure Number</li><li data-bbox="615 812 964 836">• Outbound RPC Success Number</li><li data-bbox="615 847 904 871">• Inbound Pending Request</li><li data-bbox="615 881 917 906">• Outbound Pending Request</li></ul>

## Tuxedo Application Runtime Metrics Monitoring

Metrics collection is driven by policy monitoring. Once metrics are collected, you can view them on the related metric pages. The Tuxedo Application Runtime Metrics page includes two panels:

To access the Tuxedo Application Runtime Metrics page, click **Tuxedo Application Runtime Metrics** on the menu bar. From the drop-down menu you can select the following:

- [CICS Transaction](#)
- [CICS Terminals](#)

### CICS Transaction

CICS Transaction monitoring provides a quick way for viewing the latest CICS Transaction information.

The CICS Transaction page contains the following panels:

- [CICS Transaction Query by Filter Panel](#)

- [CICS Transaction Live/History Monitoring Panel](#)

## CICS Transaction Query by Filter Panel

[Table 1-26](#) lists the **CICS Transaction Query by Filter** options.

**Table 1-26 CICS Transaction Query By Filter Options**

Options	Description
Region	Lists all Regions. The default value is “All”.
Transaction	Lists all Transactions. The default value is “All”.
Monitoring Mode	<ul style="list-style-type: none"> <li>• Live                             <ul style="list-style-type: none"> <li>– Aggregation Time: Applies to alive related query. The algorithm is time span (in seconds).</li> <li>– Refresh Interval. Specifies the refresh interval for live monitoring (in seconds).</li> </ul> </li> <li>• Historical                             <ul style="list-style-type: none"> <li>– From/To: time period for historical query.</li> <li>– Time Window. Specifies the aggregation window for historical query (in seconds).</li> </ul> </li> </ul>

## CICS Transaction Live/History Monitoring Panel

[Table 1-27](#) lists the **CICS Transaction Live/History Monitoring Graph** tab metrics.

**Table 1-27 CICS Transaction Live/History Monitoring Options**

Options	Description
Chart Control	From the drop-down list you can select the following metrics: <ul style="list-style-type: none"><li>• Number of Transaction Calls</li><li>• Execution Time</li><li>• CPU Time</li></ul>
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics.  In table view, the <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.

## CICS Terminals

CICS Terminals metrics provides a quick way for you to view the latest CICS Terminals information.

The CICS Terminals window contains the following panels:

- [CICS Terminals Query by Filter Panel](#)
- [CICS Terminals Live/History Monitoring Panel](#)

### CICS Terminals Query by Filter Panel

[Table 1-28](#) lists the **CICS Terminals Query by Filter** options.

**Table 1-28 CICS Terminals Query By Filter Options**

Options	Description
Region	Lists all Regions. The default value is “All”.
Monitoring Mode	<ul style="list-style-type: none"> <li data-bbox="462 487 545 510">• Live               <ul style="list-style-type: none"> <li data-bbox="498 527 1099 644">– Minimum Policy Interval: Applies to alive related query. It is the minimum value among all Tuxedo Application Runtime monitoring policies defined (in seconds).</li> <li data-bbox="498 661 1067 718">– Refresh Interval. Specifies the refresh interval for live monitoring (in seconds).</li> </ul> </li> <li data-bbox="462 736 592 758">• Historical               <ul style="list-style-type: none"> <li data-bbox="498 775 982 798">– From/To: time period for historical query.</li> <li data-bbox="498 815 1067 873">– Time Window: Specifies the aggregation window for historical query (in seconds).</li> <li data-bbox="498 890 1085 947">– Since Region Start Checkbox: If checked, From/To is replaced by Start Time/Shutdown Time.</li> <li data-bbox="498 965 1072 1022">– Start Time/Shutdown Time: region start/shutdown time.</li> </ul> </li> </ul>

## CICS Terminals Live/History Monitoring Panel

[Table 1-29](#) lists the CICS Terminals Live/History Monitoring panel options.

**Table 1-29 CICS Terminals Live/History Monitoring Graph Options**

<b>Options</b>	<b>Description</b>
Chart Control	From the drop-down list you can select the following metrics: <ul style="list-style-type: none"><li>• Successful Transaction Number</li><li>• Failed Transaction Number</li><li>• Session Number</li></ul>
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics.  In table view, the <b>Export to Excel</b> button allows you to place the table contents into an MS Excel compatible file.

## User/Data Management

Click **Management** and select the following from the drop-down list:

- [User Management](#)
- [Data Management](#)
- [Global Parameters](#)

### User Management

The User List page allows you to add, edit and delete users. An Oracle TSAM user is either an administrator or a viewer. When Oracle TSAM is installed, the default user is “admin” (configured during installation) and cannot be deleted.

[Table 1-30](#) lists the **User List Menu Bar** options.

**Table 1-30 User List Menu Bar**

Elements	Description
View	<p>From the drop-down menu, you can select the following:</p> <ul style="list-style-type: none"> <li>• Columns: Select the columns displayed in the table.</li> <li>• Detach: Displays the table in a separate window.</li> <li>• Reorder Columns: Change how the column order is displayed.</li> </ul>
Change Properties	<p>Allows you to change user properties (if proper permission is set) after login to the system.</p> <p>The Administrator user can edit any user properties from the User Management window. Select the user you want to edit and click the <b>Change Properties</b> button.</p> <p>The current property settings are shown in the corresponding text fields of the window. Type new values for the following properties:</p> <ul style="list-style-type: none"> <li>• Full Name</li> <li>• Description</li> </ul>
Change Password	<p>Allows you to change user password (if proper permission is set) after login to the system. Enter your old password, and enter the your new password.</p> <p>The password should be limited to 6~16 characters, and can contain the following characters: alphanumeric characters, underscores.</p> <p>The Administrator user can change users passwords from the User Management window. Select the user whose password you want to change and click the <b>Change Password</b> button.</p> <p>Click <b>Change Password</b> to change the password. Click <b>Back</b> to cancel the operation and return to the User Management window.</p> <p><b>Note:</b> The TSAM user password is valid for 180 days. You need to change your user password before it is expired. If the password has expired, you can find related information recorded in the <code>tsam.log</code> file.</p>



**Table 1-30 User List Menu Bar**

Elements	Description
Create User	<p>Allows you to add a new user. You must enter the following:</p> <p><b>Note:</b> The <b>Create User</b> button is enabled only when the current login user is TSAM administrator.</p> <ul style="list-style-type: none"><li>• Name ( * ) The user login name. User name should be limited to 5~16 characters, and can contain the following characters: "[a-z], [A-Z], [0-9], _". The initial character must be [a-z] or [A-Z].</li><li>• Full Name The user full name. User full name should be limited to 128 characters, and can contain the following characters: alphanumeric characters, underscores, spaces, or period.</li><li>• Password(*) User password. You need to provide password and confirm password. The password should be limited to 6~16 characters, and can contain the following characters: alphanumeric characters, underscores.</li><li>• Description The users description. The description is limited to 255 characters, and can contain the following characters: alphanumeric characters, underscores, spaces, or period.</li><li>• Role(*) A radio button group selection. A created user can either be "Administrator" role or "Viewer" role.</li></ul>
Online User	The information of all online users is displayed in <b>Online Users</b> window. The available information of users includes Name, IP Address, Login Time and Session ID.
Refresh	Updates the user information list.
Detach	Displays the table in a separate window.

## Data Management

Data Management allows you to purge the Oracle TSAM database data (including the monitoring data in the database and the invalid Oracle Tuxedo components in the database).

## Purging Monitoring Metrics Data

Customers can purge all monitoring data including Server/Service data and Call Path/ XA Transaction data.

To purge Monitoring data, do the following:

1. Select Types to be purged.

"All", "Call Path", "Bridge", "GWTDOMAIN", "Service", "XA Transaction", "GWWS", "Alert" and "Tuxedo CICS Terminals" can be selected.

**Note:** If you want to purge data for type "Tuxedo CICS Transaction", "Service" type can be selected.

2. Select Time span.

You can select "Any", "Time Period", "Weeks" or "Months" to enter purge time period.

**Note:** The **Purge** button is enabled when the login user is an administrator user.

3. Click the **Purge** button to delete monitoring data from the database.

## Purging Invalid Tuxedo Components Nodes

Tuxedo components can be changed to "INValid" status due to management operations at Tuxedo application side. By default, the "INValid" Tuxedo components are not deleted from the database. Customers can purge all "INValid" Tuxedo components in the Data management window.

**Note:** Currently, only the purging all "INValid" Tuxedo components on the data management page is supported. Invalid components can be purged in the component tree.

## Global Parameters

The Global Parameters page contains four panels:

- TSAM Properties
- Database Storage Properties
- Tuxedo Application Server Properties
- Action

[Table 1-31](#) lists the **Global Parameter** properties for each panel.



**Table 1-31 Global Parameter Properties**

Properties	Description
TSAM Properties	<ul style="list-style-type: none"> <li data-bbox="478 392 776 418">• Default Top N of Services. The number of most active services on Service Monitoring page. The default value is 2.</li> <li data-bbox="478 508 1026 800">• Tuxedo Application Runtime Feature Enabled Check Box Indicates if Tuxedo Application Runtime related components/pages is displayed on TSAM console. <b>Note:</b> If you check or uncheck <b>Tuxedo Application Runtime Feature Enabled</b>, you must restart the Oracle TSAM application for the change to take effect.</li> </ul>
Database Storage Properties	<ul style="list-style-type: none"> <li data-bbox="478 829 1026 986">• Max Persistence Threads Denotes how Many persistence threads in a persistence thread pool. This number should not be bigger than the CPU number of the host running the Data server of TSAM manager. The default value is 1.</li> <li data-bbox="478 994 1026 1090">• Max Inqueue The maximum of the metric entity list in queue. The default value is 200.</li> <li data-bbox="478 1098 1026 1281">• Busy Threshold The threshold of number of metric entity list in queue which denotes whether the metric entity persistence thread is busy, if this threshold is not crossed, the persistence thread attempts to calculate the call pattern proactively. The default value is 10.</li> <li data-bbox="478 1289 1026 1411">• Queue Full Sleep Interval Denotes the sleep interval (in milliseconds) in case the <code>MAX_INQUEUE_RUNNER_NUM</code> value is crossed. The default value is 5000.</li> <li data-bbox="478 1420 1026 1576">• Timeout Shutdown Denotes the timeout (in seconds) to give metric entity persistence threads a chance to finish their job after you shutdown the Oracle TSAM manager. The default value is 30.</li> </ul>

**Table 1-31 Global Parameter Properties**

Properties	Description
Application Server Properties	<ul style="list-style-type: none"><li>Log Level</li></ul> Log level control. The default value is <code>Info</code> . (Trace, Debug, Info, Warn, Error). <b>Note:</b> Log level modifications take affect immediately; you do not need to reboot the application server.
Action	Submit global parameter modifications.

## Alert Monitoring

Click **Alert** and select one of the following:

- [Tuxedo Alert Definition](#)
- [Tuxedo Application Runtime Alert Definition](#)
- [Alert Query](#)

## Tuxedo Alert Definition

Click **Alert** and select **Tuxedo Alert Definition** from the drop-down list; the Tuxedo Alert Definition List Panel appears. This panel lists available alert definitions and allows you to create, edit, and manage alert definitions.

[Table 1-32](#) and [Table 1-33](#) list the **Tuxedo Alert Definition Menu Bar** and **Tuxedo Alert Column** options respectively.

**Table 1-32 Tuxedo Alert Definition Menu Bar Options**

<b>Options</b>	<b>Description</b>
View	From the drop-down menu, you can select the following: <ul style="list-style-type: none"> <li>• Columns: Select the columns displayed in the table.</li> <li>• Detach: Displays the table in a separate window.</li> <li>• Reorder Columns: Change how the column order is displayed.</li> </ul>
Add	Creates a new alert definition.
Delete	Deletes the alert definition.
Enable	Enables the alert definition.
Disable	Disables the alert definition.
Edit	Modifies the alert definition.
Clone	Creates a new alert with same definition as current alert but the name is left empty.
Alerts	See all alerts generated by this alert definition.
Refresh	Refresh the alert definition list.
Detach	Displays the table in a separate window.

**Table 1-33 Tuxedo Alert Columns**

<b>Column</b>	<b>Description</b>
Selection checkbox	Select a set of alert definitions in current page for processing.
Name	The alert name specified in the alert definition.
Status	Displays alert status. The status could be enabled or disabled. Enable: The alert definition enabling request has been sent to Oracle Tuxedo. Disable: The alert definition disabling request has been sent to Oracle Tuxedo.

**Table 1-33 Tuxedo Alert Columns**

Column	Description
Type	The monitoring category and system are consistent with policy definition. The category types are as follows: <ul style="list-style-type: none"><li>• Call Path</li><li>• Service</li><li>• XA Transaction</li><li>• BRIDGE</li><li>• GWTDOMAIN</li><li>• GWWS</li></ul>
Evaluation Condition	The FML Boolean expression of the alert triggering conditions
Tuxedo Components	The resource FML Boolean expression (similar to Policy definition).

## Define New Alert Page

Click the **Add**, **Edit** or **Clone** button on the **Alert Definition List** Menu bar; the **Define New Alert** page appears. It allows you to define a concrete Oracle Tuxedo alert definition.

The Define New Alert page is divided into four sections:

- [Alert Properties](#)
- [Tuxedo Components](#)
- [Metrics Evaluation Expression\(s\)](#)
- [FML Boolean Expression\(s\)](#)

### Alert Properties

[Table 1-34](#) lists the **Alert Properties** options.

**Table 1-34 Alert Properties Options**

Options	Descriptions
Name	<p>The name of the alert. It must be unique among the alerts globally. The name value is limited to 255 characters and must be unique within the project. The initial character must not be a " . " .</p>
Type	<p>The type of the alert; it is based on monitoring policy. The drop-down list includes the following items:</p> <ul style="list-style-type: none"> <li>• Call Path</li> <li>• Service</li> </ul> <p>When you select a service alert, the Metrics Independent Checking check box appears. It allows Oracle TSAM to check service timeouts independent of metrics collection. The alert can be generated while the service is running. If checked, "Drop Message" is removed from the "Action" option drop-down menu.</p> <ul style="list-style-type: none"> <li>• XA Transaction</li> <li>• GWTDOMAIN</li> <li>• BRIDGE</li> <li>• GWWS</li> </ul>
Severity	<p>The severity drop-down list contains the following severity levels:</p> <ul style="list-style-type: none"> <li>• Fatal</li> <li>• Critical</li> <li>• Warn</li> <li>• Information</li> </ul>



**Table 1-34 Alert Properties Options**

Options	Descriptions
Interval	Accepts an integer value in seconds. The current alert is evaluated only once during this interval. The purpose is to throttle alert volume in similar scenario.
Action	<p>Specifies what kind of action is executed when an alert definition is evaluated with "true" results. Following actions are supported:</p> <ul style="list-style-type: none"><li>• Publish to Tuxedo Event Broker An event is posted to the Oracle Tuxedo event broker. The event name is the alert name by default; you can also specify it manually. The buffer is an FML32 buffer containing the metric snapshot.</li><li>• Drop Message If this alert evaluation is true, the request message is dropped and the call fails (TPESYSTEM). This only applies to Call Path and Service type alerts. The evaluation points come before the request sent to the IPC queue (call path) and after it is retrieved from the IPC queue (call path, service). This alert can be used to avoid unneeded service processing for stagnant requests. For example, if the request message "Wait Time" in the IPC queue exceeds a particular threshold, the client may have already timed out. In this case, the action can drop the stagnant request and the application server will not process it.</li></ul>

## Tuxedo Components

The Component Scope panel contains the following selections:

- Domain: Optional
- Machine: Optional
- Group: Optional
- Server: Optional

**Note:** Machine, Group, and Server can also accept FML32 boolean expressions.

Click the radio button to select input method (use the drop-down list or manually enter an FML32 boolean expression). The values of each level is determined by its parent level, except for Domain.

## Metrics Evaluation Expression(s)

You can select the metric, operator and threshold to compose one expression. The logic for the expression can be "and" or "or".

## FML Boolean Expression(s)

You can also input FML Boolean expressions directly. For more information, see [Alert Metrics Tables](#). For call path alerts, if the elapsed time *only* is evaluated in the evaluation expression, the alert is triggered once along the entire call path. Other metrics combined with elapse time do not have this effect.

**Note:** The TSAM Console cannot guarantee FML Boolean expression syntax correctness.

## Tuxedo Application Runtime Alert Definition

Click **Alert** and select **Tuxedo Application Runtime Alert Definition** from the drop-down list; the **Tuxedo Application Runtime Alert Definition List** panel appears. This panel lists available Tuxedo Application Runtime alert definitions and allows you to create, edit, and manage alert definitions.

### Tuxedo Application Runtime Alert Definition List Panel

[Table 1-35](#) and [Table 1-36](#) list the **Tuxedo Application Runtime Alert Definition List** menu bar options and columns respectively.

**Table 1-35 Tuxedo Application Runtime Alert Definition List Menu Bar**

Elements	Description
View	From the drop-down menu, you can select the following: <ul style="list-style-type: none"> <li>• Columns: Select the columns to shown in the table</li> <li>• Detach: Displays the table in a separate window</li> <li>• Reorder Columns: Change the order how the columns are displayed</li> </ul>
Add	Creates a new alert definition.
Delete	Deletes the alert definition.
Enable	Enables the alert definition.
Disable	Disables the alert definition.

**Table 1-35 Tuxedo Application Runtime Alert Definition List Menu Bar**

Elements	Description
Edit	Modifies the alert definition.
Clone	Creates a new alert with same definition as current alert but the name is left empty.
Alerts	Identifies all alerts generated by this alert definition.
Refresh	Updates the alert definition list.
Detach	Displays the table in a separate window.

**Table 1-36 Alert Definition List Columns**

Column	Description
Selection checkbox	Select a set of alert definitions in current page for processing.
Name	The alert name which is specified in alert definition
Status	Displays alert status. The status could be enabled or disabled. Enable: The alert definition enabling request has been sent to Tuxedo. Disable: The alert definition disabling request has been sent to Tuxedo.
Type	The monitoring category and system, consistent with policy definition. The category types are as follows: <ul style="list-style-type: none"> <li>• CICS Transaction</li> <li>• CICS Terminal</li> </ul>
Evaluation Condition	The FML Boolean expression of the alert triggering conditions.

## Define New Alert Panel

Click **Add** or **Clone** on the menu bar; the **Define New Alert** panel appears. This panel allows you to define concrete Tuxedo Application Runtime alert definitions.

The Define New Alert panel is divided into three sections:

- [Alert Properties](#)

- [Metrics Evaluation Expression\(s\)](#)
- [FML Boolean Expression\(s\)](#)

## Alert Properties

[Table 1-37](#) lists the **Alert Properties** options.

**Table 1-37 Alert Properties Options**

Name	The name of the alert. It must be unique among the alerts globally. The name value shall be limited to 255 characters and must be unique within the project. The initial character must not be a " . " .
Region	Defines the function scope of the defined alert.
Type	The type of the alert; it is based on monitoring policy. The drop-down list includes the following items: <ul style="list-style-type: none"> <li>• CICS Transaction</li> <li>• CICS Terminals</li> </ul>
Severity	The severity drop-down list contains the following: <ul style="list-style-type: none"> <li>• Fatal</li> <li>• Critical</li> <li>• Warn</li> <li>• Information</li> </ul>
Interval	It accepts an integer value (in seconds). The current alert is evaluated only once during this interval. The purpose is to throttle alert volume in a similar scenario.
Action	Specifies what kind of action is executed when an alert definition is evaluated with "true" results. It supports the following action: <ul style="list-style-type: none"> <li>• Publish to Tuxedo Event Broker</li> </ul> <p>An event is posted to the Oracle Tuxedo event broker. The event name is the alert name by default; you can also specify it manually. The buffer is an FML32 buffer containing the metric snapshot.</p>

## Metrics Evaluation Expression(s)

You can select the metric, operator and threshold to compose one expression. The logic for the expression can be "and" or "or".

## FML Boolean Expression(s)

You can also input FML Boolean expressions directly. For more information, see [Alert Metrics Tables](#).

**Note:** The TSAM Console cannot guarantee FML Boolean expression syntax correctness.

## Alert Query

Alert Query view displays the alerts that have transpired. It includes metric alerts and system alerts. Metrics alert are the events generated against the defined metrics alert. System alerts represent system events.

Click **Alerts** and select **Alert Query** from the drop-down menu; the **Alert Query** page appears. The Alert Query page contains two tabs:

- [Unread Alerts Tab](#): Displays all unread alerts.
- [Historical Alerts Tab](#) Provides historical alert query information.

## Unread Alerts Tab

"Unread" alerts are most important for administrators because they represent events that they may not be aware of. The Unread Alerts tab contains two sections:

- Filtering Condition
- Unread Alert Columns

[Table 1-38](#) lists the **Alert Query** filtering condition options.

**Table 1-38 Alert Query Filtering Conditions**

Options	Description
Contains	Select a set of alerts in current page for processing.
Type	<p>The monitoring category and system are consistent with policy definition. The following category types are as follows:</p> <ul style="list-style-type: none"> <li>• Any</li> <li>• Call Path</li> <li>• Service</li> <li>• XA Transaction</li> <li>• BRIDGE</li> <li>• GWTDOMAIN</li> <li>• GWWS</li> <li>• CICS Transaction (Tuxedo Application Runtime only)</li> <li>• CICS Terminals (Tuxedo Application Runtime only)</li> <li>• System</li> </ul> <p><b>Note:</b> System represents this is a system level event generated by Oracle TSAM.</p>
Severity	<p>Four severity levels are supported:</p> <ul style="list-style-type: none"> <li>• Any</li> <li>• Fatal</li> <li>• Critical</li> <li>• Warn</li> <li>• Information</li> </ul>

[Table 1-39](#) lists the Alert Query columns.

**Table 1-39 Alert Query Columns**

Column	Description
Selection checkbox	Select a set of alerts in current page for processing.
Name	The alert name which is specified in alert definition.

**Table 1-39 Alert Query Columns**

<b>Column</b>	<b>Description</b>
Severity	Four severity levels are supported: <ul style="list-style-type: none"><li>• Fatal</li><li>• Critical</li><li>• Warn</li><li>• Information</li></ul>
Type	The monitoring category and system are consistent with the policy definition. The category types are as follows: <ul style="list-style-type: none"><li>• Call Path</li><li>• Service</li><li>• XA Transaction</li><li>• BRIDGE</li><li>• GWTDOMAIN</li><li>• GWWS</li><li>• System</li></ul> <p><b>Note:</b> System represents this is a system-level event generated by TSAM.</p>
Cleared	Indicates whether the alert has been marked as read.
Clear Time	Identifies the time an alert is “cleared.”
Log Time	The time an Alert occurs.
Description	The reason/cause for the alert. It uses the following format: "Process [%s:%d] evaluates alert [%s] with true, metrics[key=value,key=value...]"

Click **Clear** to clear all the selected alerts on current page.

Click **Delete** to delete all the selected events on current page.

Click **Detail**, a popup window with the following detailed Alert information appears:

- All information in the alerts summary data grid.
- The metrics detail and reason string for this alerts.

Once an alert is cleared as "Unread" status and not deleted, it still can be queried in the historical alert page, but not in the active alert page. The following filter conditions can be set:

- Alert Type
- Alert Severity
- A custom "search" text string

The search operation finds matched records from all current filtered "unread" alert results, no limited to the "unread" alerts shown on the current page. Matched record means any alert that is matching the specified alert category condition, alert severity condition and having the given "search" text string within any of the following value fields: "Alert Name", "Alert Reason String (Description)".

Click the **Reset** button to reset filter conditions and list all "unread" alerts.

## Historical Alerts Tab

The Historical Alerts Tab allows you to query historical alerts with supplied filtering conditions. It contains two panels:

- Historical Alert Query Conditions
- Alerts Query Results

[Table 1-40](#) lists the **Historical Alert Query Conditions** panel options.

**Table 1-40 Historical Alerts Query Conditions Options**

Options	Description
Alert Name	The Alerts names configured in this project. "Any" is a reserved key word meaning all alerts.
Type	"Any" and the supported monitoring categories. System is in same level with other monitoring categories.
Severity	"Any" and supported severity levels. If <b>Include Lower Level</b> is checked, all alerts at this level or below are queried. The sequence is Fatal, Critical, Warn and Info.
Query During	The exact time of the previous day to the exact <i>same</i> time of the current day. For example: 7:45 Wednesday-to-7:45 Thursday.



Click **Submit**; the results are displayed in the **Alert Query Result** panel.

## System Alerts Supported

Users cannot define System Alerts; they are generated automatically (for example, an invalid alert definition is encountered, or the database purging process is completed).

[Table 1-41](#) lists the supported system alerts.

**Table 1-41 System Alerts Supported**

Alert name	Alert Severity	Alert Reason String
.INVALIDEXP	warning	Alert definition [%ALERT_NAME] has invalid evaluation expression
DB.PURGE	information	Data purging (sequence:?) filed at [%DATE_TIME] by admin is done.

## Alert Metrics Tables

The Alert Metrics tables contain the alert metrics for all alert types. Each metric has the corresponding FML32 field name and applicable operators. Referencing these tables will help you write the alert metric FML boolean expression directly when defining a new alert.

- [Call Path Alert Metrics Table](#)
- [Service Alert Metrics Table](#)
- [GWTDOMAIN/BRIDGE Alert Metrics Table](#)
- [GWWS Alert Metrics Table](#)
- [XA Transaction Alert Metrics Table](#)
- [CICS Transaction Alert Metrics Table](#)
- [CICS Terminals Alert Metrics Table](#)

## Call Path Alert Metrics Table

**Table 1-42 Call Path Alert Metrics Table**

<b>Metric</b>	<b>FML32 Field</b>	<b>Operators</b>
Elapse Time	TA_MONELAPSETIME	>, >=
Execution Status	TA_MONERRNO	==, !=
URcode	TA_MONURCODE	==, !=
Depth	TA_MONDEPTH	>, ==, <
Message Number on Request Queue	TA_MONMSGQUEUED	>, >=

## Service Alert Metrics Table

**Table 1-43 Service Alert Metrics Table**

<b>Metric</b>	<b>FML32 Field</b>	<b>Operators</b>
Execution Time	TA_MONEXEETIME	>, >=
Execution Status	TA_MONERRNO	==, !=
Request Message Size	TA_MONMSGSIZE	>, >=
Message Number on Request Queue	TA_MONMSGQUEUED	>, >=
URcode	TA_MONURCODE	==, !=
Waiting Time	TA_MONMSGWAITTIME	>, >=
CPU Time	TA_MONCPUPTIME	>, >=

## GWTDOMAIN/BRIDGE Alert Metrics Table

**Table 1-44 GWTDOMAIN/BRIDGE Alert Metrics Table**

<b>Metric</b>	<b>FML32 Field</b>	<b>Operators</b>
Link Status (GWTDOMAIN/BRIDGE)	TA_MONLINKSTATUS	Lost, Reconnect
Outstanding Request (GWTDOMAIN)	TA_MONNUMWAITRPLY	>, >=

## GWWS Alert Metrics Table

**Table 1-45 GWWS Alert Metrics Table**

<b>Metric</b>	<b>FML32 Field</b>	<b>Operators</b>
Inbound one way failed number	TA_MONINOWFAIL	>, >=
Outbound one way failed number	TA_MONOUTOWFAIL	>, >=
Inbound RPC failed number	TA_MONINRPCFAIL	>, >=
Outbound RPC failed number	TA_MONOUTRPCFAIL	>, >=
Inbound average processing time	TA_MONINTIME	>, >=
Outbound average processing time	TA_MONOUTTIME	>, >=
Inbound Pending Request	TA_MONINBOUNDPEND	>=
Outbound Pending Request	TA_MONOUTBOUNDPEND	>=

## XA Transaction Alert Metrics Table

**Table 1-46 XA Transaction Alert Metrics Table**

Metric	FML32 Boolean Expression
Transaction Failed	TA_MONXANAME=='tpabort'    TA_MONXANAME=='xa_rollback'
Heuristically Completed	TA_MONXANAME=='xa_commit' && TA_MONXACODE==8
Heuristically Commit	TA_MONXANAME=='xa_commit' && TA_MONXACODE==7
Resource Manager Failure	TA_MONXANAME%%'xa_.*' && TA_MONXACODE==-3

## CICS Transaction Alert Metrics Table

**Table 1-47 CICS Transaction Alert Metrics Table**

Metric	FML32 Field	Operators
Execution Time	TA_MONEXEETIME	>, >=
Message Number on Request Queue	TA_MONMSGQUEUED	>, >=
Waiting Time	TA_MONMSGWAITTIME	>, >=
CPU Time	TA_MONCPUPTIME	>, >=

## CICS Terminals Alert Metrics Table

**Table 1-48 CICS Terminals Alert Metrics Table**

Metric	FML32 Field	Operators
Average Session Number	TA_MONSESSIONNUM	>, >=
Number of CICS Transactions Failed	TA_MONTRANFAIL	>, >=