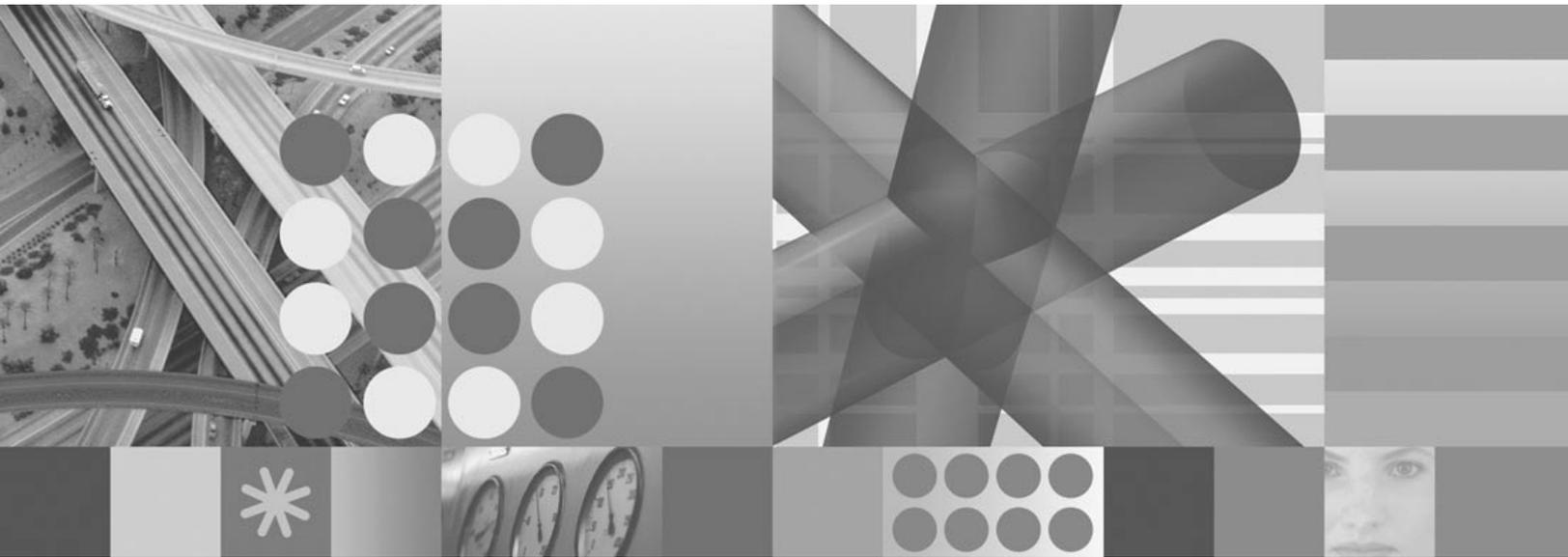




**Tivoli Business Systems Manager, Version 3.1, Guide for Warehouse Pack,
Version 3.2.0.0, using Tivoli Data Warehouse, Version 1.2**



**Tivoli Business Systems Manager, Version 3.1, Guide for Warehouse Pack,
Version 3.2.0.0, using Tivoli Data Warehouse, Version 1.2**

Note

Before using this information and the product it supports, read the information in "Notices" on page 99

January 2005

This edition applies to Version 3, Release 1 of IBM Tivoli Business Systems Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this guide

This document describes the Warehouse Pack, Version 3.2.0.0., for IBM® Tivoli® Business Systems Manager, Version 3.1. This warehouse pack is created for Tivoli Data Warehouse, Version 1.2.

Who should read this guide

This guide is for people who do any of the following activities:

- Plan for and install the warehouse pack
- Use and maintain the warehouse pack and its reports
- Create new reports
- Create additional warehouse packs that use data from this warehouse pack

Administrators and installers should have the following knowledge or experience:

- Basic system administration and file management of the operating systems on which the components of Tivoli Data Warehouse are installed
- An understanding of the basic concepts of relational database management
- Experience administering IBM DB2 Universal Database™ Enterprise Edition

Additionally, report designers and warehouse pack creators should have the following knowledge or experience:

- An understanding of the source data and application
- Data warehouse information and design, extract, transform, and load (ETL) processes, and online analytical processing (OLAP)

Publications

This section lists publications in the Tivoli Data Warehouse and the Tivoli Business Systems Manager product libraries and related documents. It also describes how to access Tivoli publications online and how to order Tivoli publications.

Tivoli Data Warehouse publications

The following documents are available in the Tivoli Data Warehouse library:

- *Tivoli Data Warehouse Release Notes, SC32-1399*, provides last-minute information about Tivoli Data Warehouse and lists hardware requirements and software prerequisites.
- *Installing and Configuring Tivoli Data Warehouse*
Describes how Tivoli Data Warehouse fits into your enterprise, explains how to plan for its deployment, and gives installation and configuration instructions. Additionally, this guide contains maintenance procedures and describes how to install warehouse packs and reports. This document also describes how to install DB2 Universal Database and Crystal Enterprise Professional v.9 for Tivoli for use with Tivoli Data Warehouse.
- *Tivoli Data Warehouse Troubleshooting and Messages Guide*
Lists the messages generated by Tivoli Data Warehouse and describes the actions you should take. It also contains troubleshooting information related to installing, configuring, and using Tivoli Data Warehouse.

- *Tivoli Data Warehouse Schema Reference Guide*

Describes the database schemas used in the Tivoli Data Warehouse central data warehouse and data mart. This includes the data model for the central data warehouse and data mart and the tables in the central data warehouse.

The Tivoli Data Warehouse information center contains the documents from the Tivoli Data Warehouse library in PDF and HTML formats. The information center is available from the Tivoli Software Information Center Web site.

The Tivoli Data Warehouse Documentation CD, LK3T-8111, provides all documents in the Tivoli Data Warehouse library, except for *Enabling an Application for Tivoli Data Warehouse*, GC32-0745. *Enabling an Application for Tivoli Data Warehouse* is available only on the Tivoli Data Warehouse Support Web site. All documents are available in English; selected documents are available in other languages.

IBM Tivoli Business Systems Manager publications

The following publications are in the IBM Tivoli Business Systems Manager library:

- *Planning Guide*, SC32-9088, provides an introduction to the Tivoli Business Systems Manager product. It also contains planning and design information to consider when implementing a Tivoli Business Systems Manager solution.

This document is written for network planners, system designers, systems administrators, and others who are responsible for planning and implementing the product.

- *Installation and Configuration Guide*, SC32-9089, provides the installation and configuration tasks necessary for the implementation of Tivoli Business Systems Manager.

This document is written for system administrators and others who are responsible for installing and configuring Tivoli Business Systems Manager.

- *Introducing the Consoles*, SC32-9086, provides an introduction to the Tivoli Business Systems Manager console, Web console, executive dashboard, and the reporting system.

This document is written for operators and administrators.

- *Administrator's Guide*, SC32-9085, describes administrative tasks for Tivoli Business Systems Manager.

This document is written for system administrators and others who perform administrative tasks for Tivoli Business Systems Manager.

- *Problem and Change Management Integration Guide*, SC32-9130, describes how to write request processors to enable the problem, change, and automatic ticket integration function provided with Tivoli Business Systems Manager to work with problem and change management applications.

This document is written for system programmers.

- *Command Reference*, SC32-1243, describes the commands available for use with Tivoli Business Systems Manager.

This document is written for system administrators and others who run commands and scripts for Tivoli Business Systems Manager.

- *Message Reference*, SC32-9087, describes the messages for Tivoli Business Systems Manager.

This document is written for system programmers, network planners, operations managers, system designers, system administrators, network operators, and others who need message information for Tivoli Business Systems Manager.

- *Troubleshooting Guide*, SC32-9084, describes troubleshooting tasks to diagnose problems with Tivoli Business Systems Manager.

This document is written for system administrators and others who perform diagnostic tasks for Tivoli Business Systems Manager.

- *Release Notes*, GI11-4029, describes what is new for this release of the Tivoli Business Systems Manager product.
- *Guide for Warehouse Pack, Version 3.2.0.0, using Tivoli Data Warehouse, Version 1.2*, GC32-9397-00, describes how to use the warehouse pack to extract data from the Tivoli Business Systems Manager database and load it into the Tivoli Data Warehouse database, where it can be accessed using reporting and data analysis tools. It also describes the Tivoli Business Systems Manager reports generated from the data mart.

This document is written for administrators and others who plan for and install the warehouse pack, use and maintain the warehouse pack and its reports, or create new reports.

An index is provided for searching the Tivoli Business Systems Manager library. If you have Adobe Acrobat on your system, you can use the Search command to locate specific text in the library. For more information about using the index to search the library, see the online help for Acrobat.

Related publications

The *Tivoli Software Glossary* includes definitions for many of the technical terms related to Tivoli software. The *Tivoli Software Glossary* is available at the following Tivoli software library Web site:

<http://www.ibm.com/software/tivoli/library/>

Access the glossary by clicking the **Glossary** link on the left pane of the Tivoli software library window.

Accessing publications online

The documentation CD contains the publications that are in the product library. The format of the publications is PDF and HTML.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli software information center Web site. Access the Tivoli software information center by first going to the Tivoli software library at the following Web address:

<http://www.ibm.com/software/tivoli/library/>

Scroll down and click the **Product manuals** link. In the Tivoli Technical Product Documents Alphabetical Listing window, click the **Tivoli Business Systems Manager** link to access the product library at the Tivoli software information center.

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File → Print** window that allows Adobe Reader to print letter-sized pages on your local paper.

Ordering publications

You can order many Tivoli publications online at the following Web site:

<http://www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi>

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:

<http://www.ibm.com/software/tivoli/order-lit/>

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

For information about installing the Tivoli Business Systems Manager product using the built-in screen reader, see the *IBM Tivoli Business Systems Manager: Installation and Configuration Guide*. For information about the shortcut keys that can be used with the Tivoli Business Systems Manager console, see the Accessibility appendix in *IBM Tivoli Business Systems Manager: Introducing the Consoles*.

Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site:

<http://www.ibm.com/software/tivoli/education>

Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

- Searching knowledge bases: You can search across a large collection of known problems and workarounds, Technotes, and other information.
- Obtaining fixes: You can locate the latest fixes that are already available for your product.
- Contacting IBM Software Support: If you still cannot solve your problem, and you need to work with someone from IBM, you can use a variety of ways to contact IBM Software Support.

For more information about these three ways of resolving problems, see “Support information” on page 95.

Participating in newsgroups

User groups provide software professionals with a forum for communicating ideas, technical expertise, and experiences related to the product. They are located on the Internet and are available using standard news reader programs. These groups are primarily intended for user-to-user communication and are not a replacement for formal support.

To access a newsgroup, use the instructions appropriate for your browser.

IBM Tivoli Business Systems Manager:

news://news.software.ibm.com/ibm.software.tivoli.business-systems-manager

IBM Tivoli Enterprise Console®:

news://news.software.ibm.com/ibm.software.tivoli.enterprise-console

IBM Tivoli Service Level Advisor:

news://news.software.ibm.com/ibm.software.tivoli.service-level-advisor

IBM Tivoli Switch Analyzer:

news://news.software.ibm.com/ibm.software.tivoli.switch-analyzer

IBM Tivoli NetView® for UNIX® and IBM Tivoli NetView for Windows®:

news://news.software.ibm.com/ibm.software.tivoli.netview-unix-windows

IBM Tivoli NetView for z/OS®:

news://news.software.ibm.com/ibm.software.netview

Conventions used in this guide

This guide uses several conventions for special terms and actions and for commands and paths that vary according to the operating system.

Typeface conventions

This guide uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:**, and **Operating system considerations**)
- Keywords and parameters in text

Italic

- Words defined in text
- Emphasis of words (words as words)
- New terms in text (except in a definition list)
- Variables and values you must provide

Monospace

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

Operating system-dependent variables and paths

This guide uses the UNIX convention for specifying environment variables and for directory notation.

When using the Windows command line, replace *\$variable* with *%variable%* for environment variables and replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in Windows and UNIX. For example, *%TEMP%* in Windows is equivalent to *\$TMPDIR* in UNIX.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

Terminology

For a list of terms and definitions for Tivoli and other IBM products, refer to the IBM terminology Web site:

<http://www.ibm.com/ibm/terminology/>

For brevity and readability, the term Tivoli NetView for z/OS refers to both the Tivoli NetView for z/OS product and the Tivoli NetView for OS/390® product.

Chapter 1. Overview

The following sections provide an overview of Tivoli Data Warehouse and the Tivoli Business Systems Manager warehouse pack.

Overview of Tivoli Data Warehouse

Tivoli Data Warehouse provides the infrastructure for the following processes:

- Extract, transform, and load (ETL) processes using the IBM DB2[®] Data Warehouse Center tool
- Generate schemas of the central data warehouse
- Run historical reports

As shown in Figure 1 on page 2, Tivoli Data Warehouse consists of a centralized data store where historical data from many management applications can be stored, aggregated, and correlated.

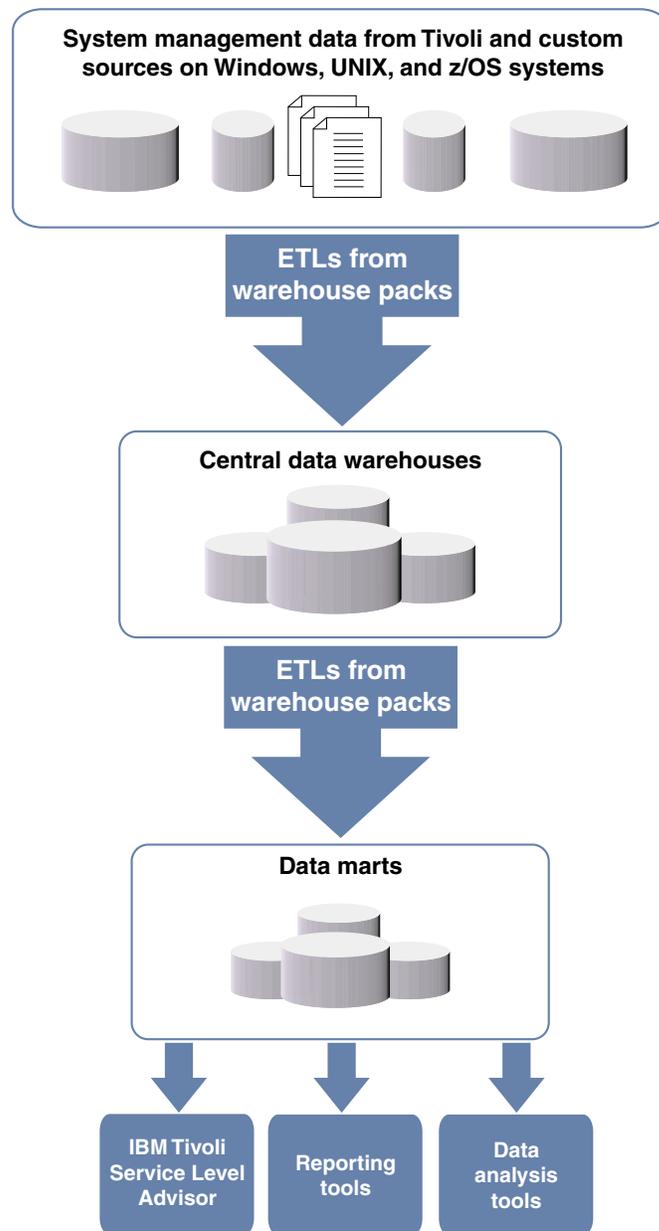


Figure 1. Tivoli Data Warehouse basic architecture

The *central data warehouse* uses a generic schema that is the same for all applications. As new components or new applications are added, more data is added to the database; however, no new tables or columns are added in the schema.

A *data mart* is a subset of a data warehouse that contains data that is tailored and optimized for the specific reporting needs of a department or team.

The *central data warehouse ETL* reads the data from the operational data stores of the application that collects it, verifies the data, makes the data conform to the schema, and places the data into the central data warehouse.

The *data mart ETL* extracts a subset of data from the central data warehouse, transforms it, and loads it into one or more star schemas, which can be included in data marts to answer specific business questions.

A program that provides these ETLs is called a *warehouse pack*.

The ETLs are typically scheduled to run periodically, usually during non-peak hours.

Overview of the Tivoli Business Systems Manager warehouse pack

Tivoli Business Systems Manager is an enterprise management product that captures resource states and the events for those resources.

The warehouse pack for Tivoli Business Systems Manager includes the following ETLs:

Central data warehouse ETL

Loads Tivoli Business Systems Manager data into the Tivoli Data Warehouse. This data includes information on managed resources, events, alert state changes, notes, and state transition measurement of business systems. See “Central data warehouse ETL” on page 5 for more information about the central data warehouse ETL.

Data mart ETL

Retrieves the Tivoli Business Systems Manager data that was loaded by the central data warehouse ETL from Tivoli Data Warehouse and loads it into the GTM schema in the Tivoli Data Warehouse data mart. See “Data mart ETL” on page 5 for more information about the data mart ETL.

There is a set of database triggers in the Tivoli Business Systems Manager database that track resource creation, deletion, and changes for use by the Tivoli Business Systems Manager ETLs. These triggers can be enabled or disabled by the ETL steps. By default, these triggers are disabled.

When these database triggers are enabled, resource creation, deletion, and change information is stored in the tracking tables as the changes occur in Tivoli Business Systems Manager. Using triggers may slow Tivoli Business Systems Manager performance if there are many resource changes. As an alternative, there is also a synchronize procedure that populates the resource change tracking tables based on the data in Tivoli Data Warehouse and Tivoli Business Systems Manager. This procedure is run during initialization. When the triggers are disabled, the procedure is used to accumulate the resource data at the ETL run time

After Tivoli Business Systems Manager sends resource data to Tivoli Data Warehouse using the ETLs, the information can be used with other applications, such as the IBM Tivoli Service Level Advisor product. For example, the Tivoli Service Level Advisor product can analyze the Tivoli Business Systems Manager data stored in the Tivoli Data Warehouse and generate Service Level Advisor reports.

Figure 2 on page 4 presents a high-level view of the Tivoli Business Systems Manager central data warehouse ETL and data mart ETL.

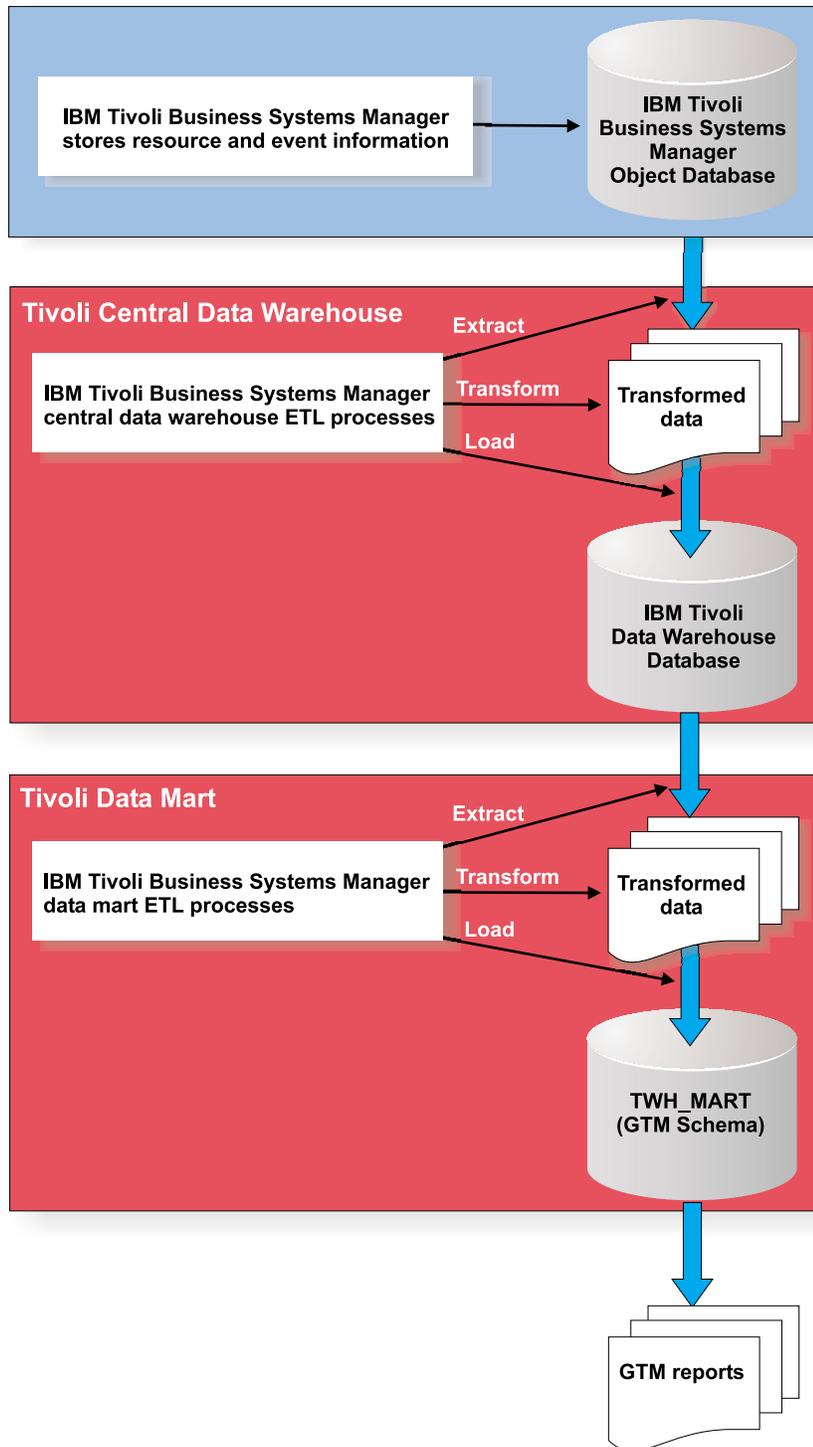


Figure 2. Tivoli Business Systems Manager ETL processes

Using the Tivoli Business Systems Manager warehouse pack, you can enable the following configurations:

- Tivoli Service Level Advisor integration only
- Historical reporting only
- Both Tivoli Service Level Advisor integration and historical reporting

See Chapter 3, “Installing and configuring the warehouse pack,” on page 31 for information on how to set up these configurations.

This warehouse pack also contains predefined reports. For more information about the predefined reports that are provided, see Chapter 2, “Reports,” on page 7.

See “Data modeling,” on page 87 for data modeling information.

Central data warehouse ETL

The Tivoli Business Systems Manager central data warehouse ETL extracts data from the Tivoli Business Systems Manager database, maps and transforms and loads this information to the Tivoli Data Warehouse. It loads only enough resource, event, and measurement data for Tivoli Business Systems Manager reporting and integration with the Tivoli Service Level Advisor.

Specifically, the central data warehouse ETL does the following tasks:

- Creates new components
- Updates attribute and description changes of the existing components
- Expires the components of the GTM_RESOURCE and GTM_HOST types if the resources are physically deleted in the Tivoli Business Systems Manager database
- Updates relationships in Tivoli Data Warehouse if relationships are changed in Tivoli Business Systems Manager
- Loads events.
- Loads Notes
- Loads Alert State History
- Calculates, extracts, and loads the measurement data of all the business system resources based on the state transition matrix for Tivoli Service Level Advisor

Tivoli Business Systems Manager central data warehouse ETL also does the following maintenance tasks:

- Updates the extraction control for the initialization process
- Balances the mapping tables in the Tivoli Business Systems Manager and the Tivoli Data Warehouse central databases
- Migrates the Tivoli Business Systems Manager data loaded with the warehouse pack in the Tivoli Data Warehouse
- Enables and disables Tivoli Business Systems Manager triggers to track resource changes

Data mart ETL

The Tivoli Business Systems Manager data mart ETL retrieves the Tivoli Business Systems Manager data that was loaded by the central data warehouse ETL from Tivoli Data Warehouse and loads it into the GTM star schema in the Tivoli Data Warehouse data mart. This data can be used for Tivoli Business Systems Manager reports.

The data mart ETL does the following tasks:

- Extracts, transforms, and loads components and their changes. This includes creating new components and updating component attributes, descriptions, and the relationships of the components.
- Builds and updates the component id path and name path.

- Extracts the MVS™ system name, machine name, and complex name for child components.
- Loads new events, messages, exceptions, and child events.
- Loads notes and the relationship of a note with messages, exceptions, or child events.
- Loads Alert State History and the relationship of Alert State changes with the event that caused the change.
- Calculates the duration of an Alert State after the state changes.
- Updates the GTM_DELETED value to 1 in the GTM.D_COMP table for both the physical and logical deleted resources in the Tivoli Business Systems Manager database

Data source and targets

A *source* database contains the information that an ETL uses and a *target* is the database in which the output data from the ETL is stored.

The warehouse pack uses the following data sources and targets:

Table 1. Data sources and targets

Name in DB2 Data Warehouse Center	Description
GTM_OBJECT_Source	The warehouse source for the central data warehouse ETL. It uses the twh_objs table in the Tivoli Business Systems Manager Object database as the connection table and OBJECT ODBC System Data Source defined with DataWHSE 3.60 32-bit SQL server driver.
GTM_TWH_CDW_Target	The warehouse target for the central data warehouse ETL. It uses the GTM.CUST_LOOKUP table in the Tivoli Data Warehouse database as the connection table and TWH_CDW ODBC System Data Source defined with IBM DB2 ODBC DRIVER.
GTM_TWH_CDW_Source	The warehouse source for the data mart ETL. It uses the GTM.CUST_LOOKUP table in the Tivoli Data Warehouse database as the connection table and TWH_CDW ODBC System Data Source defined with IBM DB2 ODBC DRIVER.
GTM_TWH_MART_Target	The warehouse target for the data mart ETL. It uses the GTM.D_AS_METRIC table in the Tivoli Data Warehouse data mart as the connection table and TWH_MART ODBC System Data Source defined with IBM DB2 ODBC DRIVER.

Chapter 2. Reports

This section provides information about the predefined reports provided by the warehouse pack.

The warehouse pack provides the following reports:

- Physical Resource Tree report
- Business System Resource Tree report
- New Resources report
- MVS Message/Exception report
- Business System Events report
- Business System Resource Summary report
- Physical Resource Events report
- Resource Business System Impact report
- Resource Class Events report
- Business System Open Event Ownership report
- Physical Resource Open Event Ownership report
- Business System Event Count report
- Physical Resource Event Count report
- CICS[®] Start/Stop Time Analysis by Business System report
- Business System Schedule Violation Exceptions report
- Business System Availability report

Many of these reports have a main report and a sub-report. The main report is used to select a starting resource that is then used as a resource filter in the sub-report. All reports are basic columnar reports. Some reports also have a predefined grouping which is noted in the individual report descriptions that follow.

Many reports use database views that are defined in the GTM schema of the TWH_MART database. These views use a combination of tables and other views to produce the set of columns they return. In the Table section of each report, (*view*) indicates that the item listed is a view and (*table*) indicates it is a table. An indented structure is used to show the collection of tables and views that are used to define other views. The following example shows that the GTM.REPORT_VIEW_1 uses the tables GTM.TABLE_1 and GTM.TABLE_2:

```
GTM.REPORT_VIEW_1(view)
  GTM.TABLE_1(table)
  GTM.TABLE_2(table)
```

The following example shows that the GTM.REPORT_VIEW_2 uses the GTM.REPORT_VIEW_1 and the tables GTM.TABLE_3 and GTM.TABLE_4:

```
GTM.REPORT_VIEW_2(view)
  GTM.REPORT_VIEW_1(view)
  GTM.TABLE_3(table)
  GTM.TABLE_4(table)
```

Physical Resource Tree report

Description of the report

This report shows the resources that make up the physical resource view hierarchy starting with a selected resource. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- View Tree

Sub report:

- Resource Name
- Resource Path
- Class ID
- Class Description
- Resource ID

Purpose of the report

This report can be used as a guide to determine the physical resources that make up your enterprise.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Resource Path ID (passed from the main report)

Tables for the report

Main report:

GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
GTM.D_COMP_PATH(table)

Sub report:

GTM.GTM_PHYTREE_V(view)
GTM.GTM_COMP_P(view)
GTM.D_OBJ_CLASS(table)

SQL for the report

Main report:

```
SELECT GTM_COMP_P.RESOURCE_PATH, GTM_COMP_P.IDPATH,  
GTM_COMP_P.NAME  
FROM GTM.GTM_COMP_P GTM_COMP_P  
WHERE GTM_COMP_P.NAME LIKE resource_name
```

Sub report:

```
SELECT GTM_PHYTREE_V.NAME, GTM_PHYTREE_V.RESOURCE_PATH,  
GTM_PHYTREE_V.SRC_CID, GTM_PHYTREE_V.LABEL,  
GTM_PHYTREE_V.ID, GTM_PHYTREE_V.IDPATH  
FROM GTM.GTM_PHYTREE_V GTM_PHYTREE_V  
WHERE GTM_PHYTREE_V.IDPATH LIKE  
GTM_COMP_P.ID_PATH passed from Main Report + '%'
```

Business System Resource Tree report

Description of the report

This report shows the resources that make up the business system resource hierarchy from a selected resource. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- View Tree

Sub report:

- Resource Name
- Resource Path
- Class ID
- Class Description
- Resource ID

Purpose of the report

This report can be used as a guide to determine the logical resources that are being monitored in your enterprise.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Resource Path ID (passed from the main report)

Tables for the report

Main report:

GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)

Sub report:

GTM.GTM_LOBTREE_V(view)
GTM.GTM_COMP_L(view)
GTM.D_OBJ_CLASS(table)

SQL for the report

Main report:

```
SELECT GTM_COMP_L.RESOURCE_PATH, GTM_COMP_L.IDPATH,  
GTM_COMP_L.NAME  
FROM GTM.GTM_COMP_L GTM_COMP_L  
WHERE GTM_COMP_L.NAME LIKE resource_name
```

Sub report:

```
SELECT GTM_LOBTREE_V.NAME, GTM_LOBTREE_V.RESOURCE_PATH,  
GTM_LOBTREE_V.SRC_CID, GTM_LOBTREE_V.LABEL,  
GTM_LOBTREE_V.ID, GTM_LOBTREE_V.IDPATH  
FROM GTM.GTM_LOBTREE_V GTM_LOBTREE_V  
WHERE GTM_LOBTREE_V.IDPATH LIKE  
GTM_COMP_P.ID_PATH passed from Main Report + '%'
```

New Resources report

Description of the report

This report shows all physical resources that have been discovered or added to Tivoli Business Systems Manager on or after a specified date or time. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- View Resources

Sub report:

- Resource Name
- Resource Path

- Class Description
- Date Created

Purpose of the report

This report can be used as a guide to determine the resources that have been recently added to your enterprise.

Parameters of the report

Main report:

- Resource Name

Sub report:

- On or After Date/Time Range
- Resource Path ID (passed from the main report)

Tables for the report

Main report:

```
GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
GTM.D_COMP_PATH(table)
```

Sub report:

```
GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
GTM.D_COMP_PATH(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_P.NAME, GTM_COMP_P.IDPATH,
GTM_COMP_P.RESOURCE_PATH
FROM GTM.GTM_COMP_P GTM_COMP_P
WHERE GTM_COMP_P.NAME LIKE resource_name
```

Sub report:

```
SELECT GTM_COMP_P.RESOURCE_PATH, GTM_COMP_P.C_DESC,
GTM_COMP_P.NAME, GTM_COMP_P.COMP_ST_DTTM,
GTM_COMP_P.IDPATH
FROM GTM.GTM_COMP_P GTM_COMP_P
WHERE GTM_COMP_P.IDPATH LIKE
{?GTM_COMP_P.ID_PATH passed from Main Report }
+ '%' AND GTM_COMP_P.COMP_ST_DTTM>={?date_range}
```

MVS Message/Exception report

Description of the report

This report displays a list of events for resources that are commonly found within an MVS operating system. This report contains the following columns:

Main report:

- Complex
- OS
- Resource Name
- Resource Path
- View Events

Sub report:

- Event Type Name
- Alert State

- Priority
- Event Name
- Event Detail
- Event Date/Time

Purpose of the report

This report can be used as a way to isolate MVS resources from other types of resources and manage their messages and exceptions.

Parameters of the report

Main report:

- Resource Name
- Complex
- OS Name
- Resource Type

Sub report:

- Event Detail
- Event Name
- Event Type
- Date/Time Range
- Alert State
- Priority
- Include Children

Tables for the report

Main report:

```
GTM.GTM_MVS_V(view)
GTM.D_COMP_PATH(table)
GTM.D_COMP(table)
```

Sub report:

```
GTM.PHYS_COMP_EVENTS(view)
GTM.F_EVENT(table)
GTM.GTM_COMP_P(view)
GTM.D_ETYP_METRIC(table)
GTM.D_AS_METRIC(table)
GTM.D_PRI_METRIC(table)
```

SQL for the report

Main report:

```
SELECT GTM_MVS_V.COMPLEX_NAME, GTM_MVS_V.OS_NAME,
GTM_MVS_V.NAME, GTM_MVS_V.RESOURCE_PATH,
GTM_MVS_V.CID, GTM_MVS_V.IDPATH
FROM GTM.GTM_MVS_V GTM_MVS_V
WHERE GTM_MVS_V.OS_NAME LIKE {?os_name} AND GTM_MVS_V.COMPLEX_NAME
LIKE {?complex_name} AND GTM_MVS_V.NAME LIKE {?resource_name}
AND GTM_MVS_V.CID={?resource_type}
```

Sub report:

```
SELECT PHYS_COMP_EVENTS.EVENTTYP_NM, PHYS_COMP_EVENTS.ALERTSTATE,
PHYS_COMP_EVENTS.PRIORITY, PHYS_COMP_EVENTS.EVENT_NAME,
PHYS_COMP_EVENTS.EVENT_DETAIL, PHYS_COMP_EVENTS.EVENT_DTTM,
PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
PHYS_COMP_EVENTS.NAME, PHYS_COMP_EVENTS.COMPLEX_NAME,
PHYS_COMP_EVENTS.OS_NAME, PHYS_COMP_EVENTS.IDPATH,
PHYS_COMP_EVENTS.EVENTTYP_ID
FROM GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND PHYS_COMP_EVENTS.IDPATH LIKE '% '
{?GTM_COMP_P.ID_PATH passed from Main Report? }
```

```

AND PHYS_COMP_EVENTS.EVENT_NAME LIKE '{?event_name}'
AND PHYS_COMP_EVENTS.EVENT_DETAIL LIKE '{?event_detail}'
ORDER BY PHYS_COMP_EVENTS.COMPLEX_NAME,
PHYS_COMP_EVENTS.OS_NAME, PHYS_COMP_EVENTS.NAME

```

Business System Events report

Description of the report

This report enables you to select any defined business system and create a report that contains events for all of the resources contained within that business system. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Event Type
- Alert State
- Priority
- Event Name
- Event Detail
- Event Date/Time

Purpose of the report

This report can be used as a way to view various event types for logical resources as a means to recognize a repeating problem.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Event Detail
- Event Name
- Event Type
- Date/Time Range
- Alert State
- Priority
- Include Children
- Order By

Tables for the report

Main report:

```

GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)

```

Sub report:

```

GTM.LOB_COMP_EVENTS(view)
GTM.GTM_COMP_L(view)
GTM.F_EVENT(table)
GTM.D_ETYP_METRIC(table)
GTM.D_AS_METRIC(table)
GTM.D_PRI_METRIC(table)

```

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.RESOURCE_PATH,  
GTM_COMP_L.OS_NAME, GTM_COMP_L.MACH_NAME,  
GTM_COMP_L.IDPATH  
FROM GTM.GTM_COMP_L GTM_COMP_L  
WHERE GTM_COMP_L.NAME LIKE {?resource_name}
```

Sub report:

```
SELECT LOB_COMP_EVENTS.EVENTTYP_NM, LOB_COMP_EVENTS.ALERTSTATE,  
LOB_COMP_EVENTS.PRIORITY, LOB_COMP_EVENTS.ALERTSTATE_ID,  
LOB_COMP_EVENTS.EVENT_DTTM, LOB_COMP_EVENTS.EVENT_NAME,  
LOB_COMP_EVENTS.EVENT_DETAIL, LOB_COMP_EVENTS.PRIORITY_ID,  
LOB_COMP_EVENTS.CID, LOB_COMP_EVENTS.NAME,  
LOB_COMP_EVENTS.IDPATH, LOB_COMP_EVENTS.EVENTTYP_ID  
FROM GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS  
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}  
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})  
AND LOB_COMP_EVENTS.EVENT_NAME LIKE '?event_name'  
AND LOB_COMP_EVENTS.EVENT_DETAIL LIKE '?event_detail'  
AND LOB_COMP_EVENTS.IDPATH LIKE  
{?GTM_COMP_L.ID_PATH passed from Main Report }  
+ '%' ORDER BY LOB_COMP_EVENTS.CID, LOB_COMP_EVENTS.NAME
```

Business System Resource Summary report

Description of the report

This report displays a summary of all business system resources contained within a selected business system. The sub-report is grouped by resource class name. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- View Summary

Sub report:

- Resource Name
- Class Description
- Resource ID

Purpose of the report

This report can be used as a way to view, at a high level, the various resource types within the business system view.

Parameters of the report

Main report:

- Resource Name

Sub report: *none*

Tables for the report

Main report:

```
GTM.GTM_COMP_L(view)  
GTM.D_COMP(table)  
GTM.D_LOB_LINK(table)  
GTM.D_OBJ_CLASS(table)  
GTM.D_COMP_PATH(table)
```

Sub report:

```
GTM.GTM_LOBTREE_V(view)
GTM.GTM_COMP_L(view)
GTM.D_COMP
GTM.D_OBJ_CLASS
```

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.RESOURCE_PATH,
GTM_COMP_L.OS_NAME, GTM_COMP_L.MACH_NAME, GTM_COMP_L.IDPATH
FROM GTM.GTM_COMP_L GTM_COMP_L
WHERE GTM_COMP_L.NAME LIKE {?resource_name}
```

Sub report:

```
SELECT GTM_LOBTREE_V.NAME, GTM_LOBTREE_V.LABEL,
GTM_LOBTREE_V.ID, GTM_LOBTREE_V.IDPATH
FROM GTM.GTM_LOBTREE_V GTM_LOBTREE_V
WHERE GTM_LOBTREE_V.IDPATH LIKE
{?GTM_COMP_L.ID_PATH passed from Main Report } + '%'
ORDER BY GTM_LOBTREE_V.LABEL
```

Physical Resource Events report

Description of the report

This report lets you select any physical resource from the physical resource hierarchy and create a report that contains events for all of the resources contained within that selected resource. This report is grouped by resource class cid and the resource name. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Event Type
- Alert State
- Priority
- Event Name
- Event Detail
- Event Date/Time

Purpose of the report

This report can be used as a way to view various event types for physical resources and recognize a repeating problem.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Event Detail
- Event Name
- Event Type
- Date/Time Range
- Alert State
- Priority
- Include Children

Tables for the report

Main report:

```
GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
GTM.D_COMP_PATH(table)
```

Sub report:

```
GTM.PHYS_COMP_EVENTS(view)
GTM.F_EVENT(table)
GTM.GTM_COMP_P(view)
GTM.D_ETYP_METRIC(table)
GTM.D_AS_METRIC(table)
GTM.D_PRI_METRIC(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_P.NAME, GTM_COMP_P.IDPATH,
GTM_COMP_P.RESOURCE_PATH
FROM GTM.GTM_COMP_P GTM_COMP_P
WHERE GTM_COMP_P.NAME LIKE LIKE {?resource_name}
```

Sub report:

```
SELECT PHYS_COMP_EVENTS.EVENTTYP_NM, PHYS_COMP_EVENTS.ALERTSTATE,
PHYS_COMP_EVENTS.PRIORITY, PHYS_COMP_EVENTS.EVENT_NAME,
PHYS_COMP_EVENTS.EVENT_DETAIL, PHYS_COMP_EVENTS.EVENT_DTTM,
PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
PHYS_COMP_EVENTS.NAME, PHYS_COMP_EVENTS.CID,
PHYS_COMP_EVENTS.IDPATH,
PHYS_COMP_EVENTS.MACH_NAME, PHYS_COMP_EVENTS.OS_NAME,
PHYS_COMP_EVENTS.LABEL, PHYS_COMP_EVENTS.EVENTTYP_ID
FROM GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND PHYS_COMP_EVENTS.IDPATH LIKE
{?GTM_COMP_L.ID_PATH passed from Main Report }
AND PHYS_COMP_EVENTS.EVENT_NAME LIKE {?event_name}
AND PHYS_COMP_EVENTS.EVENT_DETAIL LIKE {?event_detail}
ORDER BY PHYS_COMP_EVENTS.CID, PHYS_COMP_EVENTS.NAME
```

Resource Business System Impact report

Description of the report

This report displays all of the business systems that contain a selected physical resource. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- View Impact

Sub report:

- Resource Path

Purpose of the report

This report can be used as a way to determine how any resource in your enterprise can impact your business units.

Parameters of the report

Main report:

- Resource Name

Sub report: *none*

Tables for the report

Main report:

GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
GTM.D_COMP_PATH(table)

Sub report:

GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
GTM.D_COMP_PATH(table)

SQL for the report

Main report:

```
SELECT GTM_COMP_P.RESOURCE_PATH, GTM_COMP_P.IDPATH, GTM_COMP_P.NAME  
FROM GTM.GTM_COMP_P GTM_COMP_P  
WHERE GTM_COMP_P.NAME LIKE {?resource_name}
```

Sub report:

```
SELECT GTM_COMP_L.COMP_SOURCE_ID, GTM_COMP_L.RESOURCE_PATH  
FROM GTM.GTM_COMP_L GTM_COMP_L  
WHERE GTM_COMP_L.COMP_SOURCE_ID=  
{GTM_COMP_P.COMP_ID passed form main report}
```

Resource Class Events report

Description of the report

This report lists events based on the class a resource belong to. The sub-report is grouped by Resource Class Description and Event Name. This report contains the following columns:

Main report:

- Resource Class Name
- Resource Class Description
- View Events

Sub report:

- Event Type
- Alert State
- Priority
- Event Name
- Event Detail
- Event Date/Time

Purpose of the report

This report can be used as a way to view various resource event types and recognize a repeating problem with a given class of resources.

Parameters of the report

Main report:

- Resource Class

Sub report:

- Event Detail
- Event Type

- Date/Time Range
- Alert State
- Priority

Tables for the report

Main report:

GTM.D_OBJ_CLASS(table)

Sub report:

GTM.PHYS_COMP_EVENTS(view)

GTM.F_EVENT(table)

GTM.GTM_COMP_P(view)

GTM.D_ETYP_METRIC(table)

GTM.D_AS_METRIC(table)

GTM.D_PRI_METRIC(table)

SQL for the report

Main report:

```
SELECT D_OBJ_CLASS.LABEL, D_OBJ_CLASS.C_DESC, D_OBJ_CLASS.CID
FROM GTM.D_OBJ_CLASS D_OBJ_CLASS
WHERE D_OBJ_CLASS.LABEL LIKE {?resource_name} + '%'
```

Sub report:

```
SELECT PHYS_COMP_EVENTS.EVENTTYP_NM, PHYS_COMP_EVENTS.ALERTSTATE,
PHYS_COMP_EVENTS.PRIORITY, PHYS_COMP_EVENTS.EVENT_NAME,
PHYS_COMP_EVENTS.EVENT_DETAIL, PHYS_COMP_EVENTS.EVENT_DTTM,
PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
PHYS_COMP_EVENTS.CID, PHYS_COMP_EVENTS.NAME, PHYS_COMP_EVENTS.LABEL,
PHYS_COMP_EVENTS.EVENTTYP_ID
FROM GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE PHYS_COMP_EVENTS.EVENT_DETAIL LIKE {?event_detail}
AND PHYS_COMP_EVENTS.CID={ CID value passed from main report}
ORDER BY PHYS_COMP_EVENTS.LABEL, PHYS_COMP_EVENTS.NAME
```

Business System Open Event Ownership report

Description of the report

This report shows all open events against business systems on or below the starting business system, on which the ownership has been taken, but has not been closed. The report shows who took ownership, when ownership was taken, notes, when the event occurred, and the original text of the event. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Resource Name
- Event Type
- Event Name
- Alert State
- Priority
- Event Date/Time
- Event Detail
- Note Owner

- Note Subject
- Note Body
- Note Owned Date/Time

Purpose of the report

This report can provide a focus list of open issues on logical resources so the issues can be addressed in priority order.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Event Status
- Order By

Tables for the report

Main report:

```
GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)
```

Sub report:

```
LOB_NOTES(view)
GTM.LOB_COMP_EVENTS(view)
GTM.F_NOTE(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.RESOURCE_PATH,
GTM_COMP_L.OS_NAME, GTM_COMP_L.MACH_NAME, GTM_COMP_L.IDPATH
FROM GTM.GTM_COMP_L GTM_COMP_L
WHERE GTM_COMP_L.NAME LIKE {?resource_name}
```

Sub report:

```
SELECT LOB_NOTES.NAME, LOB_NOTES.EVENTTYP_DESC,
LOB_NOTES.EVENT_NAME,
LOB_NOTES.ALERTSTATE, LOB_NOTES.PRIORITY, LOB_NOTES.EVENT_DETAIL,
LOB_NOTES.NOTE_EXECUTER, LOB_NOTES.NOTE_SUBJECT,
LOB_NOTES.NOTE_BODY,
LOB_NOTES.OWNERSHIP_DTTM, LOB_NOTES.MACH_NAME, LOB_NOTES.OS_NAME,
LOB_NOTES.LABEL, LOB_NOTES.IDPATH, LOB_NOTES.EVENT_OWNED,
LOB_NOTES.EVENT_DTTM
FROM GTM.LOB_NOTES LOB_NOTES
WHERE LOB_NOTES.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report} + '%'
ORDER BY LOB_NOTES.MACH_NAME, LOB_NOTES.OS_NAME,
LOB_NOTES.LABEL
```

Physical Resource Open Event Ownership report

Description of the report

This report shows all open events against the physical resources on or below the starting resource on which the ownership has been taken, but has not been closed. The report shows who took ownership, when ownership was taken, notes, when the event occurred, and the original text of the event. This report contains the following columns:

Main report:

- Resource Name

- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Resource Name
- Event Type
- Event Name
- Alert State
- Priority
- Event Date/Time
- Event Detail
- Note Owner
- Note Subject
- Note Body
- Note Owned Date/Time

Purpose of the report

This report can provide a focus list of open issues on physical resources so the issues can be addressed in priority order.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Event Status
- Order By

Tables for the report

Main report:

```
GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)
```

Sub report:

```
PHYS_NOTES(view)
GTM.PHYS_COMP_EVENTS(view)
GTM.F_NOTE(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_P.NAME, GTM_COMP_P.RESOURCE_PATH,
GTM_COMP_P.OS_NAME, GTM_COMP_P.MACH_NAME, GTM_COMP_P.IDPATH
FROM GTM.GTM_COMP_P GTM_COMP_P
WHERE GTM_COMP_P.NAME LIKE {?resource_name}
```

Sub report:

```
SELECT PHYS_NOTES.NAME, PHYS_NOTES.EVENTTYP_DESC,
PHYS_NOTES.EVENT_NAME,
PHYS_NOTES.ALERTSTATE,
PHYS_NOTES.PRIORITY,
PHYS_NOTES.EVENT_DETAIL, PHYS_NOTES.NOTE_EXECUTER, PHYS_NOTES.NOTE_SUBJECT,
PHYS_NOTES.NOTE_BODY, PHYS_NOTES.OWNERSHIP_DTTM, PHYS_NOTES.MACH_NAME,
PHYS_NOTES.OS_NAME, PHYS_NOTES.LABEL, PHYS_NOTES.IDPATH,
PHYS_NOTES.EVENT_OWNED,
PHYS_NOTES.EVENT_DTTM
FROM GTM.PHYS_NOTES PHYS_NOTES
```

```
WHERE PHYS_NOTES.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report} + '%'
ORDER BY PHYS_NOTES.MACH_NAME, PHYS_NOTES.OS_NAME, PHYS_NOTES.LABEL
```

Business System Event Count report

Description of the report

This report contains event counts for a selected business system and its children, which can be sorted and grouped in different ways. Each individual main report is the same. The sub-report has different column content and/or grouping and sort order. The set of reports contain the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- By Alert State:
 - Alert State
 - Event Count
- By Alert State, Priority
 - Alert State
 - Priority
 - Event Count
- By Alert State, Hour of Day
 - Alert State
 - Hour of Day
 - Event Count
- By Hour of Day
 - Hour of Day
 - Event Count
- By Hour of Day, Alert State
 - Hour of Day
 - Alert State
 - Event Count
- By Resource Type
 - Resource Type
 - Event Count
- By Resource Type, Alert State
 - Resource Type
 - Alert State
 - Event Count
- By Resource Type, Alert State, Priority
 - Resource Type
 - Alert State
 - Priority
 - Event Count
- By Resource Type, Event Name
 - Resource Type
 - Event Name
 - Event Count

Purpose of the report

This report can be used as a way to view the number of events arriving for a logical resource and identify problematic logical resources.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Alert State
- Event Type
- Priority
- Date/Time Range

Tables for the report

Main report:

GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)

Sub report:

GTM.LOB_COMP_EVENTS (view)
GTM.GTM_COMP_L(view)
GTM.F_EVENT(table)
GTM.D_ETYP_METRIC(table)
GTM.D_AS_METRIC(table)
GTM.D_PRI_METRIC(table)

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.IDPATH, GTM_COMP_L.RESOURCE_PATH  
FROM GTM.GTM_COMP_L GTM_COMP_L  
WHERE GTM_COMP_L.NAME LIKE LIKE {?resource_name}
```

Sub report:

- By Alert State

```
SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,  
LOB_COMP_EVENTS.PRIORITY_ID, LOB_COMP_EVENTS.IDPATH,  
LOB_COMP_EVENTS.EVENTTYP_ID, LOB_COMP_EVENTS.EVENT_DTTM,  
LOB_COMP_EVENTS.EVENTTYP_NM  
FROM GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS  
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}  
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})  
AND LOB_COMP_EVENTS.IDPATH LIKE  
{GTM_COMP_L.COMP_ID passed from main report}  
+ '%'  
ORDER BY LOB_COMP_EVENTS.ALERTSTATE_ID DESC
```

- By Alert State, Priority

```
SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,  
LOB_COMP_EVENTS.PRIORITY_ID, LOB_COMP_EVENTS.PRIORITY,  
LOB_COMP_EVENTS.IDPATH, LOB_COMP_EVENTS.EVENTTYP_ID,  
LOB_COMP_EVENTS.EVENT_DTTM, LOB_COMP_EVENTS.EVENTTYP_NM  
FROM GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS  
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}  
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})  
AND LOB_COMP_EVENTS.IDPATH LIKE  
{GTM_COMP_L.COMP_ID passed from main report}  
+ '%'
```

- By Alert State, Hour of Day

```

SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, LOB_COMP_EVENTS.EVENT_DTTM,
LOB_COMP_EVENTS.EVENTTYP_ID, LOB_COMP_EVENTS.IDPATH,
LOB_COMP_EVENTS.EVENTTYP_NM
FROM GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'

```

- By Hour of Day

```

SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, LOB_COMP_EVENTS.EVENT_DTTM,
LOB_COMP_EVENTS.IDPATH, LOB_COMP_EVENTS.EVENTTYP_ID,
LOB_COMP_EVENTS.EVENTTYP_NM
FROM GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'

```

- By Hour of Day, Alert State

```

SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, LOB_COMP_EVENTS.EVENT_DTTM,
LOB_COMP_EVENTS.IDPATH, LOB_COMP_EVENTS.EVENTTYP_ID,
LOB_COMP_EVENTS.EVENTTYP_NM
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'

```

- By Resource Type

```

SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, GTM_COMP_P.LABEL, LOB_COMP_EVENTS.IDPATH,
LOB_COMP_EVENTS.EVENT_DTTM, LOB_COMP_EVENTS.EVENTTYP_ID,
LOB_COMP_EVENTS.EVENTTYP_NM
FROM GTM.GTM_COMP_P GTM_COMP_P INNER JOIN GTM.LOB_COMP_EVENTS
LOB_COMP_EVENTS ON GTM_COMP_P.COMP_ID=LOB_COMP_EVENTS.COMP_SOURCE_ID
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'

```

- By Resource Type, Alert State

```

SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, GTM_COMP_P.LABEL,
LOB_COMP_EVENTS.IDPATH, LOB_COMP_EVENTS.EVENTTYP_ID,
LOB_COMP_EVENTS.EVENT_DTTM, LOB_COMP_EVENTS.EVENTTYP_NM
FROM GTM.GTM_COMP_P GTM_COMP_P INNER JOIN
GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS ON
GTM_COMP_P.COMP_ID=LOB_COMP_EVENTS.COMP_SOURCE_ID
WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'

```

```

ORDER BY GTM_COMP_P.LABEL

```

- By Resource Type, Alert State, Priority

```

SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, GTM_COMP_P.LABEL,
LOB_COMP_EVENTS.PRIORITY, LOB_COMP_EVENTS.IDPATH,
LOB_COMP_EVENTS.EVENTTYP_ID, LOB_COMP_EVENTS.EVENT_DTTM,
LOB_COMP_EVENTS.EVENTTYP_NM
FROM GTM.GTM_COMP_P GTM_COMP_P INNER JOIN GTM.LOB_COMP_EVENTS
LOB_COMP_EVENTS ON GTM_COMP_P.COMP_ID=LOB_COMP_EVENTS.COMP_SOURCE_ID

```

```

WHERE (LOB_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'
ORDER BY GTM_COMP_P.LABEL, LOB_COMP_EVENTS.ALERTSTATE_ID DESC
• By Resource Type, Event Name
SELECT LOB_COMP_EVENTS.ALERTSTATE, LOB_COMP_EVENTS.ALERTSTATE_ID,
LOB_COMP_EVENTS.PRIORITY_ID, GTM_COMP_P.LABEL,
LOB_COMP_EVENTS.EVENT_NAME, LOB_COMP_EVENTS.IDPATH,
LOB_COMP_EVENTS.EVENT_DTTM, LOB_COMP_EVENTS.EVENTTYP_ID,
LOB_COMP_EVENTS.EVENTTYP_NM
FROM GTM.GTM_COMP_P GTM_COMP_P INNER JOIN
GTM.LOB_COMP_EVENTS LOB_COMP_EVENTS ON
GTM_COMP_P.COMP_ID=LOB_COMP_EVENTS.COMP_SOURCE_ID WHERE
?date_range} AND LOB_COMP_EVENTS.EVENT_DTTM<{ts ?date_range})
AND LOB_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_L.COMP_ID passed from main report}
+ '%'
ORDER BY GTM_COMP_P.LABEL

```

Physical Resource Event Count report

Description of the report

This report contains event counts for a selected physical resource and its children, sorted and grouped in different ways. Each individual main report is the same. The sub-report varies its column content, grouping and sort order. The set of reports contain the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- By Alert State:
 - Alert State
 - Event Count
- By Alert State, Priority
 - Alert State
 - Priority
 - Event Count
- By Alert State, Hour of Day
 - Alert State
 - Hour of Day
 - Event Count
- By Hour of Day
 - Hour of Day
 - Event Count
- By Hour of Day, Alert State
 - Hour of Day
 - Alert State
 - Event Count
- By Resource Type
 - Resource Type
 - Event Count
- By Resource Type, Alert State

- Resource Type
- Alert State
- Event Count
- By Resource Type, Alert State, Priority
 - Resource Type
 - Alert State
 - Priority
 - Event Count
- By Resource Type, Event Name
 - Resource Type
 - Event Name
 - Event Count

Purpose of the report

This report and its variations are used to view the count of events arriving for a physical resource and to assist in identifying a problematic resource.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Alert State
- Event Type
- Priority
- Date/Time Range

Tables for the report

Main report:

```
GTM.GTM_COMP_P(view)
GTM.D_COMP(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)
```

Sub report:

```
GTM.PHYS_COMP_EVENTS (view)
GTM.gtm_comp_p(view)
GTM.f_event E(table)
GTM.D_ETYP_METRIC(table)
GTM.D_AS_METRIC(table)
GTM.D_PRI_METRIC(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_P.NAME, GTM_COMP_P.IDPATH, GTM_COMP_P.RESOURCE_PATH
FROM GTM.GTM_COMP_P GTM_COMP_P
WHERE GTM_COMP_P.NAME LIKE LIKE {?resource_name}
```

Sub report:

```
• By Alert State
SELECT PHYS_COMP_EVENTS.ALERTSTATE, PHYS_COMP_EVENTS.ALERTSTATE_ID,
PHYS_COMP_EVENTS.PRIORITY_ID, PHYS_COMP_EVENTS.EVENTTYP_ID,
PHYS_COMP_EVENTS.IDPATH, PHYS_COMP_EVENTS.EVENT_DTTM,
PHYS_COMP_EVENTS.EVENTTYP_NM
FROM GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range} )
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
ORDER BY PHYS_COMP_EVENTS.ALERTSTATE_ID DESC
```

- By Alert State, Priority

```
SELECT PHYS_COMP_EVENTS.ALERTSTATE, PHYS_COMP_EVENTS.PRIORITY,
       PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
       PHYS_COMP_EVENTS.EVENTTYP_ID, PHYS_COMP_EVENTS.IDPATH,
       PHYS_COMP_EVENTS.EVENT_DTTM, PHYS_COMP_EVENTS.EVENTTYP_NM
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
```

- By Alert State, Hour of Day

```
SELECT PHYS_COMP_EVENTS.ALERTSTATE, PHYS_COMP_EVENTS.EVENT_DTTM,
       PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.EVENTTYP_ID,
       PHYS_COMP_EVENTS.PRIORITY_ID, PHYS_COMP_EVENTS.IDPATH,
       PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
```

- By Hour of Day

```
SELECT PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
       PHYS_COMP_EVENTS.EVENT_DTTM, PHYS_COMP_EVENTS.ALERTSTATE,
       PHYS_COMP_EVENTS.EVENTTYP_ID, PHYS_COMP_EVENTS.IDPATH,
       PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
```

- By Hour of Day, Alert State

```
SELECT PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
       PHYS_COMP_EVENTS.ALERTSTATE, PHYS_COMP_EVENTS.EVENT_DTTM,
       PHYS_COMP_EVENTS.EVENTTYP_ID, PHYS_COMP_EVENTS.IDPATH,
       PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
```

- By Resource Type

```
SELECT PHYS_COMP_EVENTS.PRIORITY_ID, PHYS_COMP_EVENTS.ALERTSTATE_ID,
       PHYS_COMP_EVENTS.ALERTSTATE, PHYS_COMP_EVENTS.LABEL,
       PHYS_COMP_EVENTS.EVENTTYP_ID, PHYS_COMP_EVENTS.IDPATH,
       PHYS_COMP_EVENTS.EVENT_DTTM, PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
```

- By Resource Type, Alert State

```
SELECT PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
       PHYS_COMP_EVENTS.LABEL, PHYS_COMP_EVENTS.ALERTSTATE,
       PHYS_COMP_EVENTS.EVENTTYP_ID, PHYS_COMP_EVENTS.IDPATH,
       PHYS_COMP_EVENTS.EVENT_DTTM, PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
```

```

AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
ORDER BY PHYS_COMP_EVENTS.LABEL

```

- By Resource Type, Alert State, Priority

```

SELECT PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.EVENTTYP_ID,
PHYS_COMP_EVENTS.PRIORITY_ID, PHYS_COMP_EVENTS.LABEL,
PHYS_COMP_EVENTS.ALERTSTATE, PHYS_COMP_EVENTS.PRIORITY,
PHYS_COMP_EVENTS.IDPATH, PHYS_COMP_EVENTS.EVENT_DTTM,
PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
PHYS_COMP_EVENTS.ALERTSTATE_ID DESC

```
- By Resource Type, Event Name

```

SELECT PHYS_COMP_EVENTS.ALERTSTATE_ID, PHYS_COMP_EVENTS.PRIORITY_ID,
PHYS_COMP_EVENTS.LABEL, PHYS_COMP_EVENTS.EVENT_NAME,
PHYS_COMP_EVENTS.EVENTTYP_ID, PHYS_COMP_EVENTS.ALERTSTATE,
PHYS_COMP_EVENTS.IDPATH, PHYS_COMP_EVENTS.EVENT_DTTM,
PHYS_COMP_EVENTS.EVENTTYP_NM
FROM   GTM.PHYS_COMP_EVENTS PHYS_COMP_EVENTS
WHERE  (PHYS_COMP_EVENTS.EVENT_DTTM>={ts ?date_range}
AND PHYS_COMP_EVENTS.EVENT_DTTM<{ts ?date_range })
AND PHYS_COMP_EVENTS.IDPATH LIKE
{GTM_COMP_P.COMP_ID passed from main report}
+ '%'
ORDER BY PHYS_COMP_EVENTS.LABEL

```

CICS Start/Stop Time Analysis by Business System report

Description of the report

This report displays the Start and Stop times for all CICS Regions within a selected business system. It provides the actual start and stop times of the regions which can assist in setting up schedule violation tolerances. The sub-report is grouped by Complex name, CICS Region name, event type (start or stop), and day of the week. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Resource Name
- CICS Message Type
- Day of the Week
- Event Date/Time

Purpose of the report

This report can provide an analysis of actual CICS region start and stop times, which can assist in setting up, and scheduling violation tolerances.

Parameters of the report

Main report:

- Resource Name

Sub report:
• Date/Time Range

Tables for the report

Main report:

GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)

Sub report:

GTM.CICS_STOP_START(view)
GTM.LOB_COMP_EVENTS(view)
GTM.D_COMP(table)

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.IDPATH, GTM_COMP_L.RESOURCE_PATH  
FROM GTM.GTM_COMP_L GTM_COMP_L  
WHERE GTM_COMP_L.NAME LIKE {?resource_name}
```

Sub report:

```
SELECT CICS_STOP_START.COMPLEX_NAME, CICS_STOP_START.NAME,  
CICS_STOP_START.EVENT_DTTM,  
CICS_STOP_START.EVENT_NAME, CICS_STOP_START.IDPATH  
FROM GTM.CICS_STOP_START CICS_STOP_START  
WHERE CICS_STOP_START.IDPATH LIKE  
{GTM_COMP_L.IDPATH passed from main report}  
+ '%''  
AND (CICS_STOP_START.EVENT_DTTM>={ts ?date_range}  
AND CICS_STOP_START.EVENT_DTTM<{ts ?date_range })  
ORDER BY CICS_STOP_START.COMPLEX_NAME, CICS_STOP_START.NAME
```

Business System Schedule Violation Exceptions report

Description of the report

This report displays all of the schedule violations for all resources within a selected business system. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Complex Name
- OS Name
- Alert State
- Priority
- Message
- Event Date/Time

Purpose of the report

This report can be used to identify logical resources that have violated their schedules.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Alert State
- Priority
- Date/Time Range

Tables for the report

Main report:

```
GTM.GTM_COMP_L(view)
  GTM.D_COMP(table)
  GTM.D_LOB_LINK(table)
  GTM.D_OBJ_CLASS(table)
  D_COMP_PATH(table)
```

Sub report:

```
GTM.LOB_NOTES(view)
  GTM.LOB_COMP_EVENTS(view)
  GTM.F_NOTE(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.IDPATH, GTM_COMP_L.RESOURCE_PATH
FROM   GTM.GTM_COMP_L GTM_COMP_L
WHERE  GTM_COMP_L.NAME LIKE LIKE {?resource_name}
```

Sub report:

```
SELECT LOB_NOTES.COMPLEX_NAME, LOB_NOTES.OS_NAME, LOB_NOTES.ALERTSTATE,
LOB_NOTES.PRIORITY, LOB_NOTES.EVENT_NAME, LOB_NOTES.EVENT_DTTM,
LOB_NOTES.NOTE_EXECUTER, LOB_NOTES.NOTE_SUBJECT, LOB_NOTES.NOTE_BODY,
LOB_NOTES.RESOURCE_PATH, LOB_NOTES.LABEL, LOB_NOTES.NAME,
LOB_NOTES.ALERTSTATE_ID, LOB_NOTES.PRIORITY_ID, LOB_NOTES.IDPATH,
LOB_NOTES.EVENTTYP_NM
FROM   GTM.LOB_NOTES LOB_NOTES
WHERE  (LOB_NOTES.EVENT_DTTM>={ts ?date_range}
AND LOB_NOTES.EVENT_DTTM<{ts ?date_range })
AND LOB_NOTES.EVENTTYP_NM='Exception'
AND LOB_NOTES.EVENT_NAME='SCHV'
AND LOB_NOTES.IDPATH LIKE
{GTM_COMP_L.IDPATH passed from main report} + '%'
ORDER BY LOB_NOTES.RESOURCE_PATH"
```

Business System Availability report

Description of the report

This report displays the availability of a business system over a period of time. Availability is based on alert state changes the business system experiences. This report contains the following columns:

Main report:

- Resource Name
- Resource Path
- OS Name
- Machine Name
- View Events

Sub report:

- Alert State
- Start Date
- End Date
- Duration

- Hours
- Minutes
- Seconds
- Event Type
- Resource ID

Purpose of the report

The report can be used to view when logical resources transition from one alert state to another and identify problematic resources.

Parameters of the report

Main report:

- Resource Name

Sub report:

- Date/Time Range
- Alert State
- Include Children
- Order By

Tables for the report

Main report:

```
GTM.GTM_COMP_L(view)
GTM.D_COMP(table)
GTM.D_LOB_LINK(table)
GTM.D_OBJ_CLASS(table)
D_COMP_PATH(table)
```

Sub report:

```
GTM.LOB_ALERT_STATE(view)
GTM.GTM_COMP_L(view)
GTM.F_ALERTSTATEHIS(table)
GTM.D_ETYP_METRIC (table)
GTM.D_AS_METRIC(table)
GTM.F_EVENT(table)
```

SQL for the report

Main report:

```
SELECT GTM_COMP_L.NAME, GTM_COMP_L.RESOURCE_PATH, GTM_COMP_L.OS_NAME,
GTM_COMP_L.MACH_NAME, GTM_COMP_L.IDPATH
FROM GTM.GTM_COMP_L GTM_COMP_L
WHERE GTM_COMP_L.NAME LIKE {?resource_name} + '%'
```

Sub report:

```
SELECT LOB_ALERT_STATE.NAME, LOB_ALERT_STATE.RESOURCE_PATH,
LOB_ALERT_STATE.ALERTSTATE_ID,
LOB_ALERT_STATE.IDPATH, LOB_ALERT_STATE.SRC_EVENT_DTTM,
LOB_ALERT_STATE.ALERTSTATE,
LOB_ALERT_STATE.DURATION, LOB_ALERT_STATE.EVENTTYP_DESC,
LOB_ALERT_STATE.GTM_ID
FROM GTM.LOB_ALERT_STATE LOB_ALERT_STATE
WHERE (LOB_ALERT_STATE.SRC_EVENT_DTTM>={ts ?date_range}
AND LOB_ALERT_STATE.SRC_EVENT_DTTM<{ts ?date_range})
AND LOB_ALERT_STATE.IDPATH LIKE {GTM_COMP_L.IDPATH passed from main report}
+ '%'
ORDER BY LOB_ALERT_STATE.NAME, LOB_ALERT_STATE.RESOURCE_PATH
```

Chapter 3. Installing and configuring the warehouse pack

This section describes the installation and configuration of the Tivoli Business Systems Manager warehouse pack.

Prerequisites

Before installing the warehouse pack, you must install the following software:

- Tivoli Business Systems Manager V3.1 with 3.1.0.0–TIV–BSM–IF0002 and 3.1.0.0–TIV–BSM–IF0004
- Tivoli Data Warehouse V1.2 with 1.2–TDW–FP02 and its prerequisites
- Crystal Enterprise and its prerequisites

For information about Tivoli Data Warehouse hardware and software requirements, refer to *Tivoli Data Warehouse Release Notes*.

This warehouse pack supports central data warehouses and data marts on the following environments:

- DB2 Universal Database for Windows and UNIX systems
- DB2 Universal Database for z/OS and OS/390

Product notes and limitations

- If you are using the Tivoli Business Systems Manager version 3.1 failover function, when the Tivoli Business Systems Manager database server is moved from one server to another, you must do the following steps in the Tivoli Data Warehouse control server:
 1. Create a new Microsoft® SQL Server alias for the database server on which the new Object database resides. Use the SQL Server Client Network Utility as described in “Pre-installation procedures” on page 35.
 2. Change the OBJECT ODBC data source to use this database server with the *ODBC Data Source Administrator* graphical user interface.
 3. Change the password for the GTM_OBJECT_SOURCE warehouse source used by the warehouse pack in the DB2 Data Warehouse Control Center.
- The warehouse pack does not support configuration using the remote warehouse agent on an AIX® server.
- Daylight Savings Time is not automatically corrected. For example, if the central data warehouse ETL runs at 10:00 p.m. April 10 and the time is moved forward one hour at 2:00 am April 11, when the central data warehouse ETL runs at 10:00 p.m. on April 11, the measurement data from 10:00 p.m. April 10 to 2:00 am April 11 is not accurate. This value must be set before the time change occurs by configuring the GTM_CHANGE_TIME system variable in the Tivoli Business Systems Manager Microsoft SQL Server Query Analyzer as shown in the following example:

```
_SetSystemConfiguration 'ROOT', 0, 'TWH', 'GMT_CHANGE_TIME',  
<date time>, DATETIME'
```

In this example, <date time> is the date and time that you need to change. The format is YYYY-MM-DD HH:MM:SS.xxx, where the xxx is fractions of seconds. For example: 2004-09-01 11:00:00.000 changes the date to September 1, 2004 and the time to 11:00 a.m. Set this value before the time change occurs.

Database sizing considerations

The warehouse pack loads component, measurement, and event data in Tivoli Data Warehouse. Ensure that you have sufficient space in the Tivoli Data Warehouse databases for the historical data collected by the warehouse pack. To estimate how much space is required for the warehouse pack, complete the worksheets in Table 2, Table 3 on page 34, and Table 4 on page 34. Refer to *Installing and Configuring Tivoli Data Warehouse* for more information about Tivoli Data Warehouse database structure.

Note: If you enable Tivoli Business Systems Manager historical reporting, the warehouse pack loads a larger amount of data for events and components. Make sure to increase the transaction log size or number, buffer pool size, and temporary table spaces. For information on how to do any of these tasks, refer to the *DB2 Universal Database Administration Guide for DB2 UDB and DB2 for OS/390*. If Windows Server is used for Tivoli Data Warehouse databases, it is recommended to add /3GB switch in the boot.ini file to increase the DB2 Universal Database performance.

For example, before adding /3GB switch boot.ini has:

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINNT
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Microsoft Windows
2000 Advanced Server" /PAE /fastdetect
```

after modifying it should be:

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINNT
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Microsoft Windows
2000 Advanced Server" /PAE /fastdetect /3GB
```

Central data warehouse sizing

To estimate sizing for the central data warehouse, complete Table 2. Get appropriate sizing information for columns by using the directions that follow.

Table 2. Space requirements for the central data warehouse

Data type	Number of components	Number of days to keep	Number of events per day	Disk space (MB)
Component		x	x	
Measurement	x		x	
Event	x			
Static data	x	x	x	100
Staging tables	x	x	x	500
Total	x	x	x	

Number of components column

Enter all the managed resources in the Tivoli Business Systems Manager database including logical and deleted resources. Run the following query in the Tivoli Business Systems Manager Object database to get the number of resources that are not deleted:

```
SELECT DISTINCT cid, id FROM ObjPathCache
```

The number of rows returned is the number of the non-deleted components in the Tivoli Business Systems Manager database.

Number of days to keep column – Measurement

Run the following query in Tivoli Data Warehouse:

```
SELECT PMSMTC_AGE_IN_DAYS FROM TWG.PRUNE_MSMT_CONTROL  
WHERE MSRC_CD= 'GTM'
```

Number of days to keep column – Event

Run the following query in Tivoli Data Warehouse:

```
SELECT event_age FROM TWG.PRUNE_EVENT_CTRL  
WHERE MSRC_CD = 'GTM'
```

Number of events per day

Run the following query in the Tivoli Business Systems Manager Object database and add the return values together:

```
select count(*) from event where ctime between DATEADD(dd, -7, getdate())  
and getdate() select count(*) from AlertStateHistory where cid = 'LOB'  
and ctime between DATEADD(dd, -7, getdate()) and getdate()  
select count(*) from NoteHistory where TimeExecuted between DATEADD  
(dd, -7, getdate()) and getdate()
```

Disk Space column – Component

To calculate disk space, use the following formula:

<Number of components>* 1.3(MB)

Disk Space column – Measurement

Find the number of business system components by running the following query in the Tivoli Business Systems Manager database:

```
SELECT COUNT(*) FROM LineOfBusiness_V WHERE deleted = 0
```

Calculate the disk space for the measurement using the following formula:

Number of Business System components>

*<Number of times ETL runs per day>

*<Number of days to keep from the measurement row in Table 2 on page 32>

Disk Space column – Event

To calculate the disk space for the events, figure out how many alert state history and note history records are created. These numbers vary in different environments. If 1% of the alert state change records are created and 0.1% note history records are created when the events are loaded into the Tivoli Business Systems Manager database, use the following formula to figure out the disk space for the events:

<Number of days to keep from the event row in Table 2 on page 32>

* <Number of events per day from Table 2 on page 32>

*12(KB)

+ <Number of events per day from Table 2 on page 32>

* 0.1% * 20(KB)

Total Add up the values in the Disk Space column and enter it in this field.

Enter this same value in Table 4 on page 34 in the central data warehouse row in the Variable storage requirement column.

Data mart sizing

To estimate sizing for the data mart, complete Table 3 on page 34. Get appropriate sizing information for columns by using the directions that follow.

Table 3. Disk space requirements for the data mart

Data type	Number of days to keep	Disk space (MB)
Component	x	
Event		
Static data	x	500
Staging tables	x	500
Total	x	

Number of days to keep column

Use the following query in the data mart to find the data to keep in days:

```
SELECT *FROM GTM.EVENT_PRUNE
```

Component disk space (MB)

To calculate the disk space for the components in the data mart, use the following formula:

<Number of components from Table 2 on page 32>*6.1(KB)

Event disk space (MB)

Figure out how many alert state history and note history records are created. These numbers vary in different environments. If 1% of the alert state change records are created and 0.1% note history records are created when the events are loaded into the Tivoli Business Systems Manager database, use the following formula to figure out the disk space for the events in the datamart:

<Number of days to keep from table 3 for event>
 * <Number of event per day from table 3>
 * 12(KB) + <Number of event per day from table 3>
 * 1%*12(KB)
 + <Number of events per day from table 3>
 * 0.1%*20(KB)

Total Add up the values in the Disk Space column and enter it in this field. Enter this same value in Table 4 in the data mart row in the Variable storage requirement column.

Total storage requirement

To estimate the total storage needed, complete Table 4. Get appropriate sizing information for columns by using the directions that follow.

Table 4. Total storage requirement working table

Database	Fixed storage requirement	Variable storage requirement	Estimated total storage (fixed + variable)
Central data warehouse	110 MB		
Control database	10 MB	0	10 MB
Data mart	10 MB		

The storage usage for the control database does not change very much across environments. The fixed values are shown in the Fixed storage requirement column.

Variable storage requirement – Central data warehouse

The variable storage requirement for the central data warehouse varies with your activities. Type the total disk space from Table 2 on page 32.

Variable storage requirement – data mart

Type the total disk space from Table 3 on page 34.

Estimated total storage – Central data warehouse

Add the Fixed storage requirement value to the Variable storage requirement value.

Estimated total storage – data mart

Add the Fixed storage requirement value to the Variable storage requirement value.

Pre-installation procedures

Review the tasks in this section before you begin to install the warehouse pack.

- Before running the warehouse pack installation program, make sure that the system has all prerequisite products installed correctly.
- If you installed Tivoli Business Systems Manager warehouse pack, version 2.1.1 or 3.1.0.0 and you ran the warehouse pack migration process to update your data, uninstall the Tivoli Business Systems Manager warehouse pack, version 2.1.1 or 3.1.0.0 before installing the warehouse pack, version 3.2.0.0.

If you have not installed Tivoli Business Systems Manager warehouse pack, version 3.1.0.0 and will be running the DB2 Universal Database data warehouse agent on the Windows platform for this warehouse pack, install the Microsoft SQL Server 2000 client on the server on which you run the DB2 Universal Database data warehouse agent.

Create an alias using the Microsoft SQL server client network utility tool with the parameters shown in Table 5.

Table 5. Parameters for creating an alias with the Microsoft SQL server client network utility tool

Parameter	Value
Server alias	Short computer name of the Tivoli Business Systems Manager database server
Network libraries	TCP/IP
Server name	Fully-qualified name of the Tivoli Business Systems Manager database server

Installing the warehouse pack

Install the warehouse pack as described in *Installing and Configuring Tivoli Data Warehouse*, using the `twh_install_props.cfg` installation properties file. The `twh_install_props.cfg` installation properties file, is located in Tivoli Business Systems Manager 3.1.0.0-TIV-BSM-IF004 in the `<tdw_apps/gtm>` directory.

Post-installation procedures

After you install the warehouse pack, you must do the following steps.

1. Determine how you want to schedule the ETLs. Refer to the information about installing warehouse packs in *Installing and Configuring Tivoli Data Warehouse* for how to schedule ETLs.

2. Choose what you want to enable from the following options:
 - Tivoli Service Level Advisor integration only – “Tivoli Service Level Advisor integration only”
 - Tivoli Data Warehouse reporting only – “Tivoli Data Warehouse reporting only” on page 37
 - Both Tivoli Service Level Advisor integration and Tivoli Data Warehouse reporting – “Tivoli Service Level Advisor integration and Tivoli Data Warehouse reporting” on page 38

Tivoli Service Level Advisor integration only

1. If Tivoli Business Systems Manager data was loaded into Tivoli Data Warehouse databases using the Tivoli Business Systems Manager warehouse pack, version 2.1.1, run the migration procedure, as described in “Migrating from a previous release of the warehouse pack” on page 39. If you are not sure if the data was loaded, use the following query to see if the Tivoli Business Systems Manager warehouse pack components are in the TWH_CDW database:


```
SELECT * FROM TWG.CUR_COMP WHERE COMPTYP_CD = 'TBSM_LOB'
```

2. Prepare the initialization.

The central data warehouse ETL uses the PMSmtC_Age_In_Days value of the TWG.Prune_Msmt_Control table to control how much of the measurement data should be loaded during the initialization process. The default value is 180. For larger databases, set the PMSmtC_Age_In_Days value to 90 using the following SQL command in a DB2 Universal Database command window on the DB2 Universal Database data warehouse control server:

```
DB2 connect to TWH_CDW user <username> using <password>
DB2 UPDATE TWG.Prune_Msmt_Control SET PMSmtC_Age_In_Days = 90
WHERE MSRC_CD = 'GTM'
```

3. Promote the GTM_c05_s010_Rebuild_ExtCTRL step in the GTM_c05_Maintenance_Process process to test mode and then run the test manually.
4. After the initialization process completes successfully, reset the PMSmtC_Age_In_Days value in the DB2 Universal Database command window on the DB2 Universal Database data warehouse control server using the following command:

```
DB2 connect to TWH_CDW user <username> using <password>
DB2 UPDATE TWG.Prune_Msmt_Control SET PMSmtC_Age_In_Days = 180
WHERE MSRC_CD = 'GTM'
```

5. See the information about installing warehouse packs in *Installing and Configuring Tivoli Data Warehouse* for the procedure to schedule ETLs for the GTM_c10_Load_Data_Process process and to run automatically. The process for this warehouse pack is located in the GTM_Tivoli_Business_Systems_Manager_v3.2_Subject subject area.

Run the steps of the process in the following order:

- GTM_c10_s010_Load_Resources_Staging
- GTM_c10_s020_Process_Resources_Staging
- GTM_c10_s030_Load_Avail_Staging
- GTM_c10_s040_Process_Avail_Staging

Be sure to promote the following steps to test mode to avoid loading Tivoli Data Warehouse reporting data:

- GTM_c10_s050_Load_report_Resources_Staging
- GTM_c10_s060_Process_Report_Resources_Staging
- GTM_c10_s070_Load_Event_Staging

- GTM_c10_s080_Process_Event_Staging
- GTM_m10_s010_Load_Resources_Staging
- GTM_m10_s020_Process_Resources_Staging
- GTM_m10_s030_Load_Event_Staging
- GTM_m10_s040_Process_Event_Staging
- GTM_m10_s050_Event_Prune

Tivoli Data Warehouse reporting only

1. The warehouse pack supports two configurations, using triggers and not using triggers, to capture Tivoli Business Systems Manager data for Tivoli Data Warehouse reporting. Make sure your configuration is correct by running the following command in the Microsoft SQL Query Analyzer on the Tivoli Business Systems Manager Object database:

```
EXEC _GetETLTriggerState
```

By default, the triggers are disabled.

To enable the triggers, from the DB2 Universal Database Data Warehouse Center, run the GTM_c05_s020_Enable_RPT_Trigger step in the process GTM_c05_Maintenance_Process.

To disable the triggers, from the DB2 Universal Database Data Warehouse Center, run the GTM_c05_s030_Disable_RPT_Trigger step in the process GTM_c05_Maintenance_Process.

Make sure there are no Tivoli Business Systems Manager ETL steps running when you enable or disable the triggers.

This warehouse pack only loads Messages, Exceptions, and Child Events from the operational database into the data warehouse during the initialization. Existing Alert State change and Note information in the operational database is not loaded into the central data warehouse the first time you install.

2. Promote the GTM_c05_s010_Rebuild_ExtCTRL step in the GTM_c05_Maintenance_Process process to test mode and then run the test manually.
3. Promote the GTM_c05_s040_RPT_Init step in the GTM_c05_Maintenance_Process process to test mode and then run the test manually. You should not create any new resources when the GTM_c05_s040_RPT_Init step is run.
4. Promote the GTM_m05_s010_Init.generic step in the GTM_m05_Maintenance_Process process to test mode and then run the test manually.
5. Refer to the information about installing warehouse packs in *Installing and Configuring Tivoli Data Warehouse* for the procedure to schedule ETLs for the GTM_c10_Load_Data_Process and GTM_m10_Load_Data_Process processes and to run automatically. The process for this warehouse pack is located in the GTM_Tivoli_Business_Systems_Manager_v3.1_Subject subject area.

Run the steps of the process in the following order:

- a. GTM_c10_s010_Load_Resources_Staging
- b. GTM_c10_s020_Process_Resources_Staging
- c. GTM_c10_s050_Load_Report_Resources_Staging
- d. GTM_c10_s060_Process_Report_Resources_Staging
- e. GTM_c10_s070_Load_Event_Staging
- f. GTM_c10_s080_Process_Event_Staging
- g. GTM_m10_s010_Load_Resources_Staging
- h. GTM_m10_s020_Process_Resources_Staging

- i. GTM_m10_s030_Load_Event_Staging
- j. GTM_m10_s040_Process_Event_Staging

Tivoli Service Level Advisor integration and Tivoli Data Warehouse reporting

1. If Tivoli Business Systems Manager data is loaded into Tivoli Data Warehouse databases using the Tivoli Business Systems Manager 2.1.1 warehouse pack, run the migration procedure, as described in “Migrating from a previous release of the warehouse pack” on page 39. If you are not sure if the data was loaded, use the following query to see if the warehouse pack components are in the TWH_CDW database:

```
SELECT * FROM TWG.CUR_COMP WHERE COMPTYP_CD = 'TBSM_LOB'
```

2. Prepare the initialization. The central data warehouse ETL uses the PMSmtC_Age_In_Days value in the TWG.Prune_Msmt_Control table to control how much measurement data should be loaded during the initialization process. The default value is 180. For larger databases, set the PMSmtC_Age_In_Days value to 90 using the following SQL command in a DB2 Universal Database command window on the DB2 Universal Database data warehouse control server:

```
DB2 connect to TWH_CDW user <user name> using <password>
DB2 UPDATE TWG.Prune_Msmt_Control SET PMSmtC_Age_In_Days = 90
WHERE MSRC_CD = 'GTM'
```

The warehouse pack supports two configurations, using Triggers and not using triggers, to capture Tivoli Business Systems Manager data for Tivoli Data Warehouse reporting. Make sure your configuration is correct by running the following command in the Microsoft SQL Query Analyzer on the Tivoli Business Systems Manager Object database:

```
EXEC _GetETLTriggerState
```

By default, the triggers are disabled.

To enable the triggers, from the DB2 Universal Database Data Warehouse Center, run the GTM_c05_s020_Enable_RPT_Trigger step in the process GTM_c05_Maintenance_Process.

To disable the triggers, from the DB2 Universal Database Data Warehouse Center, run the GTM_c05_s030_Disable_RPT_Trigger step in the process GTM_c05_Maintenance_Process.

Make sure there are no Tivoli Business Systems Manager ETL steps running when you enable or disable the triggers.

This warehouse pack loads only Messages, Exceptions, and ChildEvents from the operational database into the data warehouse during the initialization. Existing Alert State change and Note information in the operational database is not loaded into the central data warehouse during the initialization.

3. Promote the GTM_c05_s010_Rebuild_ExtCTRL step in the GTM_c05_Maintenance_Process process to test mode and then run the test manually.
4. After the initialization process completes successfully, reset the PMSmtC_Age_In_Days value in the DB2 Universal Database command window on the DB2 Universal Database data warehouse control server using the following command:

```
DB2 connect to TWH_CDW user <user name> using <password>
DB2 UPDATE TWG.Prune_Msmt_Control SET PMSmtC_Age_In_Days = 180
WHERE MSRC_CD = 'GTM'
```

5. Promote the GTM_c05_s040_RPT_Init step in the GTM_c05_Maintenance_Process process to test mode and then run the test manually. You should not create any new resources when the GTM_c05_s040_RPT_Init step is run.
6. Promote the GTM_m05_s010_Init.generic step in the GTM_m05_Maintenance_Process process to test mode and then run the test manually.
7. See the information about installing warehouse packs in *Installing and Configuring Tivoli Data Warehouse* for information on how to schedule ETLs for the GTM_c10_Load_Data_Process and GTM_m10_Load_Data_Process processes to run automatically. The process for this warehouse pack is located in the GTM_Tivoli_Business_Systems_Manager_v3.1_Subject subject area. Run the steps of the process in the following order:
 - a. GTM_c10_s010_Load_Resources_Staging
 - b. GTM_c10_s020_Process_Resources_Staging
 - c. GTM_c10_s030_Load_Avail_Staging
 - d. GTM_c10_s040_Process_Avail_Staging
 - e. GTM_c10_s050_Load_Report_Resources_Staging
 - f. GTM_c10_s060_Process_Report_Resources_Staging
 - g. GTM_c10_s070_Load_Event_Staging
 - h. GTM_c10_s080_Process_Event_Staging
 - i. GTM_m10_s010_Load_Resources_Staging
 - j. GTM_m10_s020_Process_Resources_Staging
 - k. GTM_m10_s030_Load_Event_Staging
 - l. GTM_m10_s040_Process_Event_Staging
 - m. GTM_m10_s050_Event_Prune

Migrating from a previous release of the warehouse pack

The migration process migrates all resources loaded with the Tivoli Business Systems Manager Warehouse Pack, version 2.1.1 to resources used in the Tivoli Business Systems Manager Warehouse Pack, version 3.2.0.0. The Tivoli Business Systems Manager Warehouse Pack, version 3.2.0.0 uses the BUSINESS_SYSTEM common component type for the Tivoli Business Systems Manager business system resource class (instead of the TBSM_LOB component type in the TWH_CDW database that was used in the previous release). The measurement matrix of the Tivoli Business Systems Manager business systems is changed from a percentage (in hours) to the state transition measurement matrix.

For the warehouse pack and Tivoli Service Level Advisor to function correctly, do the following steps:

1. Back up all Tivoli Business Systems Manager databases.
2. Back up the TWH_CDW and TWH_MD Tivoli Data Warehouse databases.
3. Back up all Tivoli Service Level Advisor databases.
4. Promote the following steps to test mode and run them manually in the following order:
 - a. GTM_c10_s010_Load_Resources_Staging
 - b. GTM_c10_s020_Process_Resources_Staging

These steps are found in the GTM_c10_LoadData process.

5. Promote the GTM_c_05_s_50_migration step to test mode and run it manually.
6. Promote the following steps to test mode and run them manually in the following order:
 - a. GTM_c10_s030_Load_Avail_Staging

- b. GTM_c10_s040_Process_Avail_Staging
- 7. Run the Tivoli Service Level Advisor migration as described in Tivoli Service Level Advisor APAR IY48333-13.

The data in the GTM.MIGR_COPM table is used to perform the migration in the Tivoli Service Level Advisor database for the resource changes. The branch value mapping rules are described in the APAR IY48333-13 document.

Uninstalling the warehouse pack

Uninstall the warehouse pack as described in *Installing and Configuring Tivoli Data Warehouse*. When the warehouse pack is uninstalled, all the staging and working tables in the GTM schema are removed, but the data in the central data warehouse remains and is still usable by other applications.

Chapter 4. Maintenance and problem determination

This section describes maintenance tasks for the warehouse pack.

The GTM_c10_Load_Process and GTM_m10_Load_process processes load data incrementally using the extraction control in the Tivoli Business Systems Manager database. Run the GTM_c05_Init_Process and GTM_c15_Migration_Process processes only as documented and do not run them regularly.

Backing up and restoring

The warehouse pack does not require any special procedure for backing up databases.

For common backup procedures, refer to the *Installing and Configuring Tivoli Data Warehouse* guide.

If you restore either the Tivoli Business Systems Manager Object database or the central data warehouse databases before you create new business systems and executive dashboard service resources, use the following procedure to synchronize the extraction control in Tivoli Business Systems Manager and Tivoli Data Warehouse before you schedule the ETL:

1. Promote the following steps in the GTM_c10_Load_Process process to test mode, if they are not in test mode, and then run them manually in the following order:
 - a. GTM_c10_s010_Load_Resources_Staging
 - b. GTM_c10_s020_Process_Resources_Staging
2. Run the GTM_c05_s010_Rebuild_ExtCTRL step in GTM_c05_Maintenance_Process.
3. Run the GTM_c05_s040_RPT_Init step in GTM_c05_Maintenance_Process.
4. Run the GTM_m05_s010_Init step in GTM_m05_Maintenance_Process.

Pruning data

To keep the size of the databases manageable, every once in a while you should delete, or *prune*, data.

Central data warehouse

The CDW_c05_Prune_and_Mark_Active process in the CDW_Tivoli_Data_Warehouse_v1.2.0_Subject_Area controls the deletion. By default, this process runs daily at 6:00 am.

Pruning measurement data (Prune_Msmt_Control) table

To manage the high volume of measurement data, use the TWG.Prune_Msmt_Control table to delete the data that is not needed. The TWG.Prune_Msmt_Log table keeps a history of data deletion. The Tivoli Business Systems Manager measurement data is retained in the Central Data Warehouse for 180 days by default. This default value is saved in the PMsmtC_Age_In_Days column of the TWG.Prune_Msmt_Control table. You can change the PMsmtC_Age_In_Days value using the following command from the DB2 Universal Database command window on the Tivoli data warehouse control server:

```
DB2 UPDATE TWG.Prune_Msmt_Control SET PMSMTC_AGE_IN_DAYS = 30
WHERE MSRC_CD = 'GTM' AND TMSUM_CD = 'P'
```

Measurement data is pruned from the TWG.MSMT table based on the age specified in the PMSmtC_Age_In_Days column.

The PMSmtC_Age_In_Days value should be set back to 180 days after completing the post initialization process described in “Post-installation procedures” on page 35.

Pruning event data (Prune_Event_Ctrl) table

Tivoli Data Warehouse uses the event age and the event date and time to find aged events. Aged events are events that are older than the value specified in the Event_Age column. The data is deleted in the following order:

1. The parent event that is an aged event (in the EventAttr table)
2. Either the source or target that is an aged event (in the EventReIn table)
3. The relationship that involves an aged event (in the CEReIn table)
4. The aged event is removed from the Event table

The value in the Event_Age column for MSRC_CD = 'GTM' is set to 90 during installation. You may change it using the following command in the central data warehouse:

```
Update TWG.PRUNE_EVENT_CTRL SET EVENT_AGE = <number of days to keep>
WHERE MSRC_CD = 'GTM'
```

Data mart

Data is pruned from the fact tables using the GTM_m10_s050_Event_Prune step. The GTM.Event_Prune table in the data mart governs which data is pruned. The event_age_in_days column contains the number of days of data for the GTM.F_EVENT, GTM.F_NOTE, and GTM.F_ASHISTORY fact tables. By default, all data in the fact tables older than 365 days is pruned when the step runs. The GTM.Event_Prune_Log table keeps a history of data pruning.

You may change the event_age_in_days value by using the following command in the data mart:

```
Update GTM.EVENT_PRUNE SET EVENT_AGE_IN_DAYS = <number of days to keep>
WHERE MSRC_CD = 'GTM'
```

Extraction control (Extract_Control) table

The extraction control table, as shown in Table 6, assists you in incrementally extracting data from a source database. For an example of incremental extraction, refer to the *Enabling an Application for Tivoli Data Warehouse* guide.

Table 6. Extraction control table

ExtCtl_ Source VARCHAR (120)	ExtCtl_ Target VAR CHAR (120)	ExtCtl_ From_ Raw Seq CHAR (10)	ExtCtl_ To_ Raw Seq CHAR (10)	ExtCtl_ From_ IntSeq BIG INT	ExtCtl_ To_ IntSeq BIG INT	ExtCtl_ From_ DtTm TIME STAMP	ExtCtl_ To_ DtTm TIME STAMP	MSrc_ Corr_ Cd CHAR (6)
ETL1	MSMT			-	-	9999-01-01- 00.00.00.000000	2004-10-26- 21.04.45.183000	GTM

Table 6. Extraction control table (continued)

ETL1_linkc	CDW	0	0	2004-10-07-15.17.38.030000	2004-10-07-15.17.38.030000	GTM
ETL1_linkp	CDW	0	0	2004-10-07-15.17.38.030000	2004-10-07-15.17.38.030000	GTM
ETL1_MESG	CDW	20	2692120	2004-10-29-09.48.54.287000	2004-10-29-09.48.54.287000	GTM
ETL1_events	CDW	0	0	2004-10-29-10.08.27.357000	2004-10-28-09.01.41.363000	GTM
ETL1_ash	CDW	6	1352660	2004-10-28-13.54.23.107000	2004-10-28-09.01.41.347000	GTM
ETL1_note history	CDW	0	0	2004-10-28-13.54.23.373000	2004-10-28-09.01.41.363000	GTM
EVENT_ID	MART	0	10101	2004-10-26-20.40.52.312004	2004-10-26-21.04.45.183000	GTM
ETL1_EXCP	CDW	20	269147	2004-10-28-13.54.23.373000	2004-10-28-09.01.41.363000	GTM
ETL1_CHEV	CDW	19	145692	2004-10-26-20.40.52.312004	2004-10-26-21.04.45.183000	GTM

Problem determination

For common problems and solutions, refer to the *Installing and Configuring Tivoli Data Warehouse* guide. This section only documents the guidelines and problem determination strategies specific to the warehouse pack. If any of the central data warehouse ETL steps fail, there are three places to get the error messages:

- DB2 Universal Database Data Warehouse Center log. It can be viewed by clicking **DB2 Data Warehouse Center** → **Work in Progress** → **Show Log**.
- Tivoli Data Warehouse log located in the `IBM\Tivoli\common\cdw\` directory.
- DB2 Universal Database logs located in the `SQLLIB\logs` directory.

For the further problem determination, use the following utilities:

- ODBC trace
- DB2 Universal Database data warehouse agent trace
- DB2 Universal Database trace

Database Connection

The warehouse pack requires the Microsoft SQL Server network client to be installed on the server where the DB2 Universal Database warehouse agent is used. You can install either the Microsoft SQL client or the Microsoft SQL network client, though you can use the Microsoft SQL client for debugging. After the Tivoli Business Systems Manager Warehouse Pack, version 3.2.0.0 is installed, the connection should be tested during the installation procedure. If anything changes for the network connectivity after the installation, the following methods can be used to verify the connection:

- Test it using the ODBC data source administrator interface. Locating the system data source on a Windows operating system is documented in the *Installing and Configuring Tivoli Data Warehouse* guide.
- Test it using the DB2 Universal Database Data Warehouse Center by using the following steps:

1. Find the data warehouse source or target in the Warehouse Source or Warehouse Target folders.
2. Open the property page.
3. Go to the **Tables and Views** tab to get the list of database tables.

This should be used after the ODBC data source tests successfully.

Data Validation

The following extraction control tables are used in the Tivoli Business Systems Manager Object database:

twh_objs

Provides business systems and executive dashboard service resources

twh_date

Provides the state changes of business systems

twh_Inventory

Contains a list of Tivoli Business Systems Manager resources made known to Tivoli Data Warehouse

twh_ExtractCtrl

Maintains information about sets of data (new resources, changes to resources, events, alert state changes, etc.) prepared for Tivoli Data Warehouse during an extraction period

To view the data in Microsoft SQL query analyzer, use the following code:

```
SELECT * FROM table_name
```

For example,

```
SELECT * FROM twh_objs
```

The following extraction controls are provided in the Tivoli Data Warehouse database:

GTM.Resource

For business systems and executive dashboard service resources

TWG.EXTRACT_CONTROL

For the state changes of business systems

Use the following DB2 Universal Database command to view the data in the Tivoli Data Warehouse database:

```
SELECT * FROM TWG.EXTRACT_CONTROL WHERE ExtCtl_MSrc_Corr_Cd = 'GTM'  
SELECT * FROM GTM.Resource
```

The following stored procedures in the Tivoli Business Systems Manager Object database can be run as diagnostic tools:

etl_getnewobjs

Retrieves new business systems and executive dashboard services from the last ETL run

etl_getdeleteobjs

Retrieves deleted business systems and executive dashboard services from the last ETL run

etl_updateattrs

Retrieves updated attributes of business systems and executive dashboard services from the last ETL run

twl_getlobstates

Retrieves Tivoli Service Level Advisor measurement data from the last ETL run

These can be run multiple times without affecting the ETL processes.

Chapter 5. ETL processes

The subject area `GTM_Tivoli_Business_Systems_Manager_v3.1_Subject_Area` contains the following processes:

- “GTM_c05_Maintenance_Process”
- “GTM_c10_Load_Data_Process” on page 48
- “GTM_m05_Maintenance_Process” on page 50
- “GTM_m10_Load_Data_Process” on page 50

GTM_c05_Maintenance_Process

This process is used for the central data warehouse ETL.

The `GTM_c05_Maintenance_Process` process is designed for the initialization and migration of the Tivoli Data Warehouse central data warehouse ETL. For performance reasons, the Tivoli Business Systems Manager central data warehouse ETL saves the extraction control and mapping tables in both the Tivoli Business Systems Manager database (source database) and the Tivoli Data Warehouse central database (target database). You must synchronize the extraction controls and the mapping tables in these databases before the normal process, which is performed by the initialization steps in `GTM_c05_Maintenance_Process`.

This process does the following tasks:

- Builds or rebuilds the extraction control and mapping table entries in the Tivoli Business Systems Manager database based on the data in the Tivoli Data Warehouse.
- Enables and disables Tivoli Business Systems Manager database triggers to track resource changes. By default, the database triggers in the Tivoli Business Systems Manager database are disabled. Use the `GTM_c05_s020_Enable_RPT_Trigger` step to enable triggers and the `GTM_c05_s030_Disable_RPT_Trigger` step to disable triggers. If the `GTM_c05_s020_Enable_RPT_Trigger` step is run after the initialization, run the `GTM_c05_s040_RPT_Init` step before the other ETL steps run.
- Migrates the data in the Tivoli Data Warehouse central database loaded with Tivoli Business Systems Manager warehouse pack, version 2.1.1. The Tivoli Service Level Advisor migration procedure provides the migration for the Tivoli Service Level Advisor definitions

See the following sections for instructions on how to use this process:

- “Installing the warehouse pack” on page 35
- “Migrating from a previous release of the warehouse pack” on page 39
- “Backing up and restoring” on page 41

Run this process after installing the warehouse pack, applying fixes, or restoring databases. It is defined to run on-demand.

This process has the following steps:

- `GTM_c05_s010_Rebuild_ExtCTRL` - This step reloads the extraction controls for business systems, executive dashboard service resources, and measurement from the Tivoli Data Warehouse into the Tivoli Business Systems Manager application database. It is used for the new installation of the warehouse pack and

restoration of the databases after the warehouse pack is enabled. The detailed instruction for the installation is documented in “Installing the warehouse pack” on page 35.

- GTM_c05_s020_Enable_RPT_Trigger - This step enables the database triggers to log resource changes in the Tivoli Business Systems Manager database.
- GTM_c05_s030_Disable_RPT_Trigger - This step disables the database triggers to log resource changes in the Tivoli Business Systems Manager database. This step is only used when customer decided not using the database triggers to attract the resource changes in the Tivoli Business Systems Manager database for the performance reason
- GTM_c05_s040_RPT_Init - This step does the following tasks:
 - Rebuilds the logging tables for the managed resource creation, deletion, and updating based on the data in the Tivoli Data Warehouse database
 - Resets the extraction control in the Tivoli Business Systems Manager database based on the data in the Tivoli Data Warehouse database for the resources and events
 - Reloads the private Meta data, such as Alert State, Priority, and CompTyp_EXT
- GTM_c05_s050_Migration - This step does the following tasks:
 - Creates the new components for the Tivoli Business Systems Manager business systems with the BUSINESS_SYSTEM component type.
 - Sets the expiration date for all the components and attributes of the TBSM_LOB component type, their relationships, and the measurement matrix defined for the TBSM_LOB component type.
 - Provides the mapping of the old components to the new components for Tivoli Service Level Advisor migration.
 - Loads one month of measurement data, based on the state transition matrix for all of the business systems.

The MIGR_CTRL control table is located in the Tivoli Business Systems Manager application database. When the steps are run for the first time, an indicator for the actions is recorded. After the first run, this step will do nothing unless new code with a different indicator is appended in the scripts.

See “Migrating from a previous release of the warehouse pack” on page 39 for more information about the migration process.

GTM_c10_Load_Data_Process

This process is used for the central data warehouse ETL.

This process extracts, transforms, and loads the business systems and executive dashboard services information, the measurement data of the BUSINESS_SYSTEM components, all the managed resource information, and events from the Tivoli Business Systems Manager database to the TWH_CDW database. The data is saved in the staging tables in the GTM schema of the TWH_CDW database, and then the transformed data is loaded from the staging tables into the permanent tables in the TWH_CDW database based on the mapping of the Tivoli Business Systems Manager resources to the Tivoli Data Warehouse components. This process is designed to run incrementally after initialization using the extraction control in Tivoli Business Systems Manager application database.

There are two groups of steps in the GTM_c10_Load_Data_Process process. The following steps integrate Tivoli Business Systems Manager with Tivoli Service Level Advisor:

- GTM_c10_s010_Load_Resources_Staging
- GTM_c10_s020_Process_Resources_Staging
- GTM_c10_s030_Load_Avail_Staging
- GTM_c10_s040_Process_Avail_Staging

You need the following additional steps for Tivoli Business Systems Manager reports:

- GTM_c10_s050_Load_Report_Resources_Staging
- GTM_c10_s060_Process_Report_Resources_Staging
- GTM_c10_s070_Load_Event_Staging
- GTM_c10_s080_Process_Event_Staging

Run this process after installing the warehouse pack and the initialization process. It is scheduled to run once a day before the Tivoli Service Level Advisor ETL runs, if applicable. You can schedule these two groups together or separately. Refer to the information about installing warehouse packs in *Installing and Configuring Tivoli Data Warehouse* for the procedure to schedule ETLs.

The GTM_c10_Load_Data_Process process consists of the following steps:

- GTM_c10_s010_Load_Resources_Staging - This step extracts, transforms, and loads the business systems and Services and their changes from the Tivoli Business Systems Manager database into the staged tables in the GTM schema of the TWH_CDW database. It includes the business systems and services component creation, renaming, enabling, and deletion information.
- GTM_c10_s020_Process_Resources_Staging - This step transforms and loads the business systems and service resource data from the staged tables into permanent tables in the TWG schema of the TWH_CDW database.
- GTM_c10_s030_Load_Avail_Staging - This step extracts, transforms, and loads the state changes for all business systems to the staging tables in the GTM schema of the TWH_CDW database.
- GTM_c10_s040_Process_Avail_Staging - This step transforms and loads the state changes from the staging tables into the permanent tables in the TWG schema of the TWH_CDW database.
- GTM_c10_s050_Load_Report_Resources_Staging - This step extracts, transforms, and loads all the managed resource information except business systems and services from the Tivoli Business Systems Manager database into the staged tables in the GTM schema of the TWH_CDW database. It does the following tasks:
 - Updates resource class labels and descriptions
 - Loads new resources
 - Updates the existing resources (name, deleted, description, and relationship changes)
 - Expires existing components
 - Sets the maximum level for the resource path
- GTM_c10_s060_Process_Report_Resources_Staging - This step transforms and loads the managed resource information loaded with the GTM_c10_s050_Load_Report_Resources_Staging step from the staged tables into permanent tables in the TWH_CDW database.
- GTM_c10_s070_Load_Event_Staging - This step extracts, transforms, and loads the Note, Alert State History, events, and relationships from the Tivoli Business Systems Manager database to the staging tables in the GTM schema of the TWH_CDW database.

- GTM_c10_s080_Process_Event_Staging - This step transforms and loads the Note, Alert State History, events, and the relationships of them from the staging tables into the permanent tables in the TWG schema of the TWH_CDW database.

GTM_m05_Maintenance_Process

The GTM_m05_Maintenance_Process process is used for the data mart ETL initialization and maintenance.

This process has one step. The GTM_m05_s010_Init step rebuilds the extraction controls in the Tivoli Data Warehouse central database and data mart based on the data in the Tivoli Data Warehouse data mart. It also reloads the meta data, such as Alert State, Priority, and OBJ_CLASS.

This process should run on-demand.

GTM_m10_Load_Data_Process

The GTM_m10_Load_Data_Process process is used for the data mart ETL.

This process extracts, transforms, and loads the components and their changes, events, the relationships of events, and the relationship of components with events loaded from the Tivoli Business Systems Manager database from the Tivoli Data Warehouse central databases into the GTM star schemas defined in the Tivoli Data Warehouse data mart. The data is saved in the staging tables in the GTM schema, and then the transformed data is loaded from the staging tables into the permanent tables.

The resource path and id path for the new components are constructed using the component relationships. The paths or id paths for the existing components are reconstructed for the name or relationship changes. This process is designed to run incrementally using the extraction control in the Tivoli Data Warehouse data mart. Run this process after installing the warehouse pack and the initialization process. It is scheduled to run once a day after the GTM_c10_Load_Data_Process process.

This process has the following steps:

- GTM_m10_s010_Load_Resources_Staging - This step extracts, transforms, and loads the components and their changes of the Tivoli Business Systems Manager managed resources from the Tivoli Data Warehouse central database into the staging tables in the Tivoli Data Warehouse data mart database. It does the following tasks:
 - Creates, updates, and deletes component information
 - Updates the metric dimension tables based on the data in Tivoli Data Warehouse
 - Builds and updates the component name path and id path
- GTM_m10_s020_Process_Resources_Staging - This step transforms and loads the component data from the staged tables into the star schemas in the Tivoli Data Warehouse data mart database.
- GTM_m10_s030_Load_Event_Staging - This step extracts, transforms, and loads the Tivoli Business Systems Manager database events from the Tivoli Data Warehouse central database into the staging tables in the Tivoli Data Warehouse data mart.

- GTM_m10_s040_Process_Event_Staging - This step transforms and loads the Tivoli Business Systems Manager events from the staging tables into the star schema tables in Tivoli Data Warehouse data mart.
- GTM_m10_s050_Event_Prune - This step prunes the event data in the data mart based on the prune value defined in GTM.EVENT_PRUNE of the Tivoli Data Warehouse data mart.

Chapter 6. Central data warehouse information

Before reading this section, read about the generic schema for the central data warehouse, which is described in *Tivoli Data Warehouse Schema Reference*. That document defines the content of each table and explains the relationships between the tables in this document.

Shaded columns in the following tables are translated. These columns are also marked with an asterisk (*) after the column name.

Component configuration

The following sections describe the component configuration.

Component Type

Table 7 shows the fields of the TWG.CompTyp table.

Table 7. Component Type (TWG.CompTyp Table)

CompTyp_Cd CHAR(17)	CompTyp_Parent_Cd CHAR(17)	CompTyp_Nm* CHAR(120)	CompTyp_Strt_DtTm TIMESTAMP	CompTyp_End_DtTm TIMESTAMP	Msrc_Corr_Cd CHAR(6)
MVS_SYSTEM	NULL	MVS System	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
LOGICAL_PARTITION	NULL	Logical Partition	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
GTM_RESOURCE	NULL	Tivoli Business Systems Manager Generic Type	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	GTM
IP_HOST	NULL	IP Host	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
GTM_HOST	NULL	Short Named IP Host	2002-07-13-00.00.00..000000	9999-01-01-00.00.00.000000	GTM
IP_NODE	NULL	IP Node	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
IP_INTERFACE	NULL	IP Interface	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
MQ_QUEUE_MANAGER	NULL	MQ Queue Manager	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
MQ_QUEUE	NULL	MQ Queue	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
MQ_CHANNEL	NULL	MQ Channel	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
SNA_NETWORK	NULL	SNA Network	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
SNA_CCU	NULL	SNA Communication Control Unit	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1

Table 7. Component Type (TWG.CompTyp Table) (continued)

CompTyp_Cd CHAR(17)	CompTyp_Parent_Cd CHAR(17)	CompTyp_Nm* CHAR(120)	CompTyp_Strt_DtTm TIMESTAMP	CompTyp_End_DtTm TIMESTAMP	MSrc_Corr_Cd CHAR(6)
BUSINESS_SYSTEM	NULL	Business System	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1
SERVICE	NULL	Service	2002-07-13-00.00.00..000000	9999-01-01-12.00.00.000000	MODEL1

Component Extension

This warehouse pack does not use the TWG.Comp_Ext table.

Component

Table 8 on page 55 shows the fields of the Comp table.

Table 8. Component (TWG.Comp Table)

Comp_ID BIG INT	CompTyp_Cd CHAR (17)	Centr_Cd CHAR (6)	Cust_ID INT	Comp_Corr_ID INT	Comp_Nm CHAR (254)	Comp_Corr_Val CHAR (254)	Comp_Strt_DfTm TIMESTAMP	Comp_End_DfTm TIMESTAMP	Comp_Ds CHAR (254)	Msrc_Corr_Cd CHAR (6)
1	BUSINESS_SYSTEM	CDW	1	NULL	Data Centers	LOB1	2002-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
2	BUSINESS_SYSTEM	CDW	1	NULL	Eastern Complex	LOB2	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
3	BUSINESS_SYSTEM	CDW	1	NULL	Bank1	LOB3	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
4	BUSINESS_SYSTEM	CDW	1	NULL	CICS A	LOB4	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
5	BUSINESS_SYSTEM	CDW	1	NULL	Western Complex	LOB5	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
6	BUSINESS_SYSTEM	CDW	1	NULL	Bank1	LOB6	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
7	BUSINESS_SYSTEM	CDW	1	NULL	CICS B	LOB7	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
8	SERVICE	CDW	1	NULL	Eastern Saving	7614a3bb-13cf-3841-91cd-5e845c831ada	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
9	SERVICE	CDW	1	NULL	Data Centers	64b73f0a-839d-3cd2-999f-6dd4cc76dfed	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
10	GTM_RESOURCE	CDW	1	NULL	Eastern Bank	ENT11	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	GTM
9	GTM_RESOURCE	CDW	1	NULL	DD01	MACH11	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	GTM
12	LOGICAL_PARTITION	CDW	1	NULL	P001	LPAR11	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
13	MVS_SYSTEM	CDW	1	NULL	YSYS	OS11	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED

Table 8. Component (TWG.Comp Table) (continued)

Comp_ID BIG INT	CompTyp_Cd CHAR (17)	Centr_Cd CHAR (6)	Cust_ID INT	Comp_Corr_ID INT	Comp_Nm CHAR (254)	Comp_Corr_Val CHAR (254)	Comp_Strt_DfTm TIMESTAMP	Comp_End_DfTm TIMESTAMP	Comp_Ds CHAR (254)	Msrc_Corr_Cd CHAR (6)
14	BUSINESS_SYSTEM	CDW	1	NULL	Machine 2	LOB 8	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	GTM
15	BUSINESS_SYSTEM	CDW	1	NULL	YSYS	LOB9	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
16	GTM_RESOURCE	CDW	1	NULL	MQ Series A	MSER 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	GTM
17	MQ_QUEUE_MANAGER	CDW	1	NULL	MQ Manager A	MMGR 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
18	MQ_QUEUE	CDW	1	NULL	Local Queue1A	MQLC 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
19	MQ_QUEUE	CDW	1	NULL	Remote Queue1A	MQRT 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
20	MQ_CHANNEL	CDW	1	NULL	Sender Channel A	MQSD 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
21	SNA_NETWORK	CDW	1	NULL	USIBMNT	SNNT 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
22	SNA_CCU	CDW	1	NULL	t4 Node Gateway	T4NG 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
21	GTM_RESOURCE	CDW	1	NULL	Network Location A	NLOC 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	GTM
24	IP_HOST	CDW	1	NULL	fsmachine.raleigh.ibm.com	fsmachine.raleigh.ibm.com	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
25	IP_NODE	CDW	1	NULL	tsqtermb.tiflab.raleigh.ibm.com	tsqtermb.tiflab.raleigh.ibm.com	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
26	IP_INTERFACE	CDW	1	NULL	9.42.16.172	INTR 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	SHARED
27	GTM_HOST	CDW	1	NULL	NLGS000034	NODE 1	2001-11-28-11.36.54.000000	9999-01-01-00.00.00.00	NULL	GTM

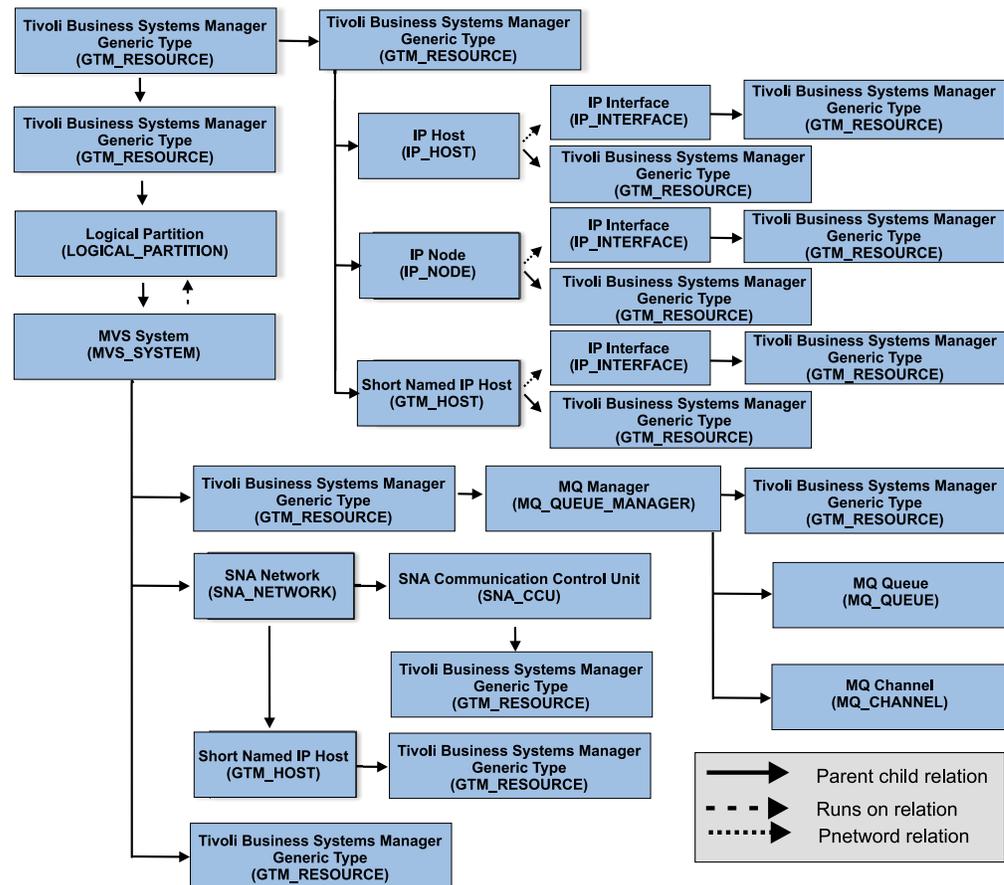
Relationship Type

Table 9 shows the fields of the TWG.ReInTyp table.

Table 9. Relationship Type (TWG.ReInTyp Table)

ReInTyp_Cd CHAR(6)	ReInTyp_Nm* VARCHAR(120)	Msrc_Corr_Cd CHAR(6)
PCHILD	Parent Child Relation	MODEL1
RUNSON	Runs on Relation	MODEL1
NETWRK	Network Relation	MODEL1
SUPPRT	Support Relation	MODEL1
GTM_LB	Tivoli Business System Physical to Logical Relation	GTM
CAUSES	Causes Relation	MODEL1
SOURCE	Event and Resource Relation	MODEL1

Component Type Relationship Diagram



Any component type from the resource diagram can be linked to the business system with the GTM_LB relation type.

Relationship Rule

Table 10 on page 58 shows the fields of the TWG.ReInRul table.

Table 10. Relationship Rule (TWG.RelnRul Table)

CompTyp_Source_Cd CHAR(17)	CompTyp_Target_Cd CHAR(17)	RelnTyp_Cd CHAR(6)	RelnRul_Strt_ DtTm TIMESTAMP	RelnRul_End_ DtTm TIMESTAMP
GTM_RESOURCE	GTM_RESOURCE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
GTM_RESOURCE	LOGICAL_PARTITION	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
MVS_SYSTEM	LOGICAL_PARTITION	RUNSON	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
LOGICAL_PARTITION	MVS_SYSTEM	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
MVS_SYSTEM ¹	GTM_RESOURCE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
MVS_SYSTEM	SNA_NETWORK	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
SNA_NETWORK	SNA_CCU	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
SNA_NETWORK ¹	GTM_RESOURCE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
SNA_CCU ¹	GTM_RESOURCE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
GTM_RESOURCE	MQ_QUEUE_MANAGER	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
MQ_QUEUE_MANAGER	MQ_QUEUE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
MQ_QUEUE_MANAGER	MQ_CHANNEL	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
MQ_QUEUE_MANAGER ¹	GTM_RESOURCE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
GTM_RESOURCE	IP_HOST	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
GTM_RESOURCE	IP_NODE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
GTM_RESOURCE	GTM_HOST	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
IP_HOST	IP_INTERFACE	NETWRK	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
IP_NODE	IP_INTERFACE	NETWRK	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
GTM_HOST	IP_INTERFACE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
IP_INTERFACE ¹	GTM_RESOURCE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	MQ_QUEUE_MANAGER	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	MQ_QUEUE	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	MQ_CHANNEL	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00

Table 10. Relationship Rule (TWG.RelnRul Table) (continued)

CompTyp_Source_Cd CHAR(17)	CompTyp_Target_Cd CHAR(17)	RelnTyp_Cd CHAR(6)	RelnRul_Strt_ DtTm TIMESTAMP	RelnRul_End_ DtTm TIMESTAMP
BUSINESS_SYSTEM	IP_HOST	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	IP_NODE	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	IP_INTERFACE	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	GTM_HOST	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	SNA_NETWORK	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	SNA_CCU	GTM_LB	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	BUSINESS_SYSTEM	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
BUSINESS_SYSTEM	SERVICE	SUPPRT	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00
SERVICE	SERVICE	PCHILD	2002-07-13- 00.00.00..000000	9999-01- 01-00.00.00.00

Component Relationship

Table 11 shows the fields of the TWG.CompReln table.

Table 11. Component Relationship (TWG.CompReln Table)

Comp_Source_ ID INTEGER	Comp_Target_ ID INTEGER	RelnTyp_Cd CHAR(6)	CompReln_Strt_ DtTm TIMESTAMP	CompReln_End_ DtTm TIMESTAMP	Msrc_Corr_Cd CHAR(6)
1	2	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
2	3	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
3	4	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
1	5	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
5	6	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
6	4	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
6	7	PCHILD	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED
8	3	SUPPRT	2003-1-28- 11.36.54.000000	9999-01-01-00.00.00.00	SHARED

1. Records are not inserted during the warehouse pack installation because Tivoli Service Level Advisor cannot read the circular relationships of the component types.

Table 11. Component Relationship (TWG.CompReln Table) (continued)

Comp_Source_ID INTEGER	Comp_Target_ID INTEGER	RelnTyp_Cd CHAR(6)	CompReln_Strt_DtTm TIMESTAMP	CompReln_End_DtTm TIMESTAMP	Msrc_Corr_Cd CHAR(6)
9	1	SUPPRT	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
10	11	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
13	12	RUNSON	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
11	12	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
13	16	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
16	17	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
17	18	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
17	19	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
17	20	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
13	21	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
21	22	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
10	23	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
23	25	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
23	24	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
23	27	PCHILD	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM
24	26	NETWRK	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	SHARED
1	13	GTM_LB	2003-1-28-11.36.54.000000	9999-01-01-00.00.00.00	GTM

Component Type Keyword

This warehouse pack does not use the TWG.CompTyp_Keyword table.

Attribute Type

Table 12 on page 61 shows the fields of the TWG.AttrTyp table.

Table 12. Attribute Type (TWG.AttrTyp Table)

AttrTyp_Cd CHAR(17)	AttrTyp_Nm* CHAR(120)	Msrc_ Corr_Cd CHAR(6)
GTM_CID	Tivoli Business Systems Manager Class Identification	GTM
GTM_DELETE	Tivoli Business Systems Manager Logical Delete Attribute	GTM
GTM_ENABLE	Service Component Status	GTM
GTM_ID	Tivoli Business Systems Manager Object Identification	GTM
GTM_RTYPE	Physical Resource Type	GTM
NAME	Name	MODEL1
NAME_GUID	Name Global Unique Identifier	MODEL1
USER_LABEL	User Label	MODEL1

* This column is translated.

Attribute Rule

Table 13 shows the fields of the TWG.AttrRul table.

Table 13. Attribute Rule (TWG.AttrRul Table)

CompTyp_Cd CHAR(17)	AttrTyp_Cd CHAR(17)	AttrRul_Strt_ DtTm TIMESTAMP	AttrRul_End_DtTm TIMESTAMP	AttrRul_ Dom_Ind CHAR(1)	AttrTyp_ Multi_ Val CHAR(1)
BUSINESS_ SYSTEM	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
BUSINESS_ SYSTEM	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
BUSINESS_ SYSTEM	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
BUSINESS_ SYSTEM	GTM_RTYPE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
BUSINESS_ SYSTEM	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_HOST	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_HOST	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_HOST	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_HOST	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_ RESOURCE	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_ RESOURCE	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_ RESOURCE	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
GTM_ RESOURCE	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N

Table 13. Attribute Rule (TWG.AttrRul Table) (continued)

CompTyp_Cd CHAR(17)	AttrTyp_Cd CHAR(17)	AttrRul_Strt_ DtTm TIMESTAMP	AttrRul_End_DtTm TIMESTAMP	AttrRul_ Dom_Ind CHAR(1)	AttrTyp_ Multi_ Val CHAR(1)
IP_HOST	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_HOST	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_HOST	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_HOST	IP_SHORT_HOSTNAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_ INTERFACE	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_ INTERFACE	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_ INTERFACE	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_NODE	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_NODE	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_NODE	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_NODE	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
IP_NODE	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
LOGICAL_ PARTITION	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
LOGICAL_ PARTITION	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
LOGICAL_ PARTITION	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
LOGICAL_ PARTITION	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
LOGICAL_ PARTITION	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_CHANNEL	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_CHANNEL	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_CHANNEL	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_CHANNEL	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_CHANNEL	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N

Table 13. Attribute Rule (TWG.AttrRul Table) (continued)

CompTyp_Cd CHAR(17)	AttrTyp_Cd CHAR(17)	AttrRul_Strt_ DtTm TIMESTAMP	AttrRul_End_DtTm TIMESTAMP	AttrRul_ Dom_Ind CHAR(1)	AttrTyp_ Multi_ Val CHAR(1)
MQ_QUEUE	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE_ MANAGER	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE_ MANAGER	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE_ MANAGER	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE_ MANAGER	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MQ_QUEUE_ MANAGER	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MVS_SYSTEM	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MVS_SYSTEM	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MVS_SYSTEM	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MVS_SYSTEM	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
MVS_SYSTEM	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	GTM_ENABLE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	NAME_GUID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SERVICE	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N

Table 13. Attribute Rule (TWG.AttrRul Table) (continued)

CompTyp_Cd CHAR(17)	AttrTyp_Cd CHAR(17)	AttrRul_Strt_ DtTm TIMESTAMP	AttrRul_End_DtTm TIMESTAMP	AttrRul_ Dom_Ind CHAR(1)	AttrTyp_ Multi_ Val CHAR(1)
SNA_CCU	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_CCU	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_CCU	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_CCU	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_CCU	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_ NETWORK	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_ NETWORK	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_ NETWORK	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_ NETWORK	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N
SNA_ NETWORK	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	N	N

Attribute Domain

This warehouse pack does not use the TWG.AttrDom table.

Component Attribute

Table 14 shows the fields of the TWG.CompAttr table.

Table 14. Component Attribute (TWG.CompAttr) table

Comp_ID BIGINT	AttrTyp_Cd CHAR(17)	CompAttr_ Strt_DtTm TIMESTAMP	CompAttr_End_ DtTm TIMESTAMP	CompAttr_Val VARCHAR(254)	Msrc_Corr_Cd CHAR(6)
1	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Data Centers	GTM
1	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
1	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
2	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	2	GTM
2	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
3	NAME	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Bank1 Enterprise	GTM
3	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	3	GTM

Table 14. Component Attribute (TWG.CompAttr) table (continued)

Comp_ID BIGINT	AttrTyp_Cd CHAR(17)	CompAttr_ Strt_DtTm TIMESTAMP	CompAttr_End_ DtTm TIMESTAMP	CompAttr_Val VARCHAR(254)	Msrc_Corr_Cd CHAR(6)
3	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
4	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	4	GTM
4	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
4	GTM_RTYPE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	CICS	GTM
5	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	5	GTM
5	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
6	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	6	GTM
6	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
7	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	7	GTM
7	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
7	GTM_RTYPE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	CICS	GTM
8	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
8	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	EXES	GTM
8	NAME_GUID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	7614a3bb-13cf-3841- 91cd-5e845c831ada	GTM
8	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Mortgage	GTM
9	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	9	GTM
9	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	EXES	GTM
9	NAME_GUID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	64b73f0a-839d-3cd2- 999f-6dd4cc76dfed	GTM
8	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Data Centers	GTM
9	GTM_ENABLE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	0	GTM
10	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	ENT	GTM
10	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
11	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MACH	GTM

Table 14. Component Attribute (TWG.CompAttr) table (continued)

Comp_ID BIGINT	AttrTyp_Cd CHAR(17)	CompAttr_ Strt_DtTm TIMESTAMP	CompAttr_End_ DtTm TIMESTAMP	CompAttr_Val VARCHAR(254)	Msrc_Corr_Cd CHAR(6)
11	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
12	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MACH	MODEL1
12	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
12	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	EA01	MODEL1
13	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LPAR	MODEL1
13	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
13	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	OS 1	MODEL1
16	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MSER	GTM
16	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
17	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MMGR	MODEL1
17	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
17	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MQ Manager 1	MODEL1
18	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MQLA	MODEL1
18	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
18	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Local Queue	MODEL1
19	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MQRT	MODEL1
19	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
19	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Remote Queue	MODEL1
20	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MQRV	MODEL1
20	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
20	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	MQ Channel	MODEL1
21	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	SNNT	MODEL1
21	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1

Table 14. Component Attribute (TWG.CompAttr) table (continued)

Comp_ID BIGINT	AttrTyp_Cd CHAR(17)	CompAttr_ Strt_DtTm TIMESTAMP	CompAttr_End_ DtTm TIMESTAMP	CompAttr_Val VARCHAR(254)	Msrc_Corr_Cd CHAR(6)
21	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	SNA Network1	MODEL1
22	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	T4NG	MODEL1
22	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
22	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	SNA Gateway	MODEL1
23	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	NLOC	GTM
23	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
25	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	ROUT	MODEL1
25	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
25	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Router 1	MODEL1
24	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	UNIX	MODEL1
24	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
24	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	UNIX 1	MODEL1
26	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	INTR	MODEL1
26	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	MODEL1
26	USER_LABEL	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	9.9.24.12	MODEL1
27	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Ornage12	GTM
27	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
14	GTM_DELETE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	1	GTM
14	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
14	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	8	GTM
15	GTM_CID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	LOB	GTM
15	GTM_ID	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	9	GTM
15	GTM_RTYPE	2003-1-28- 11.36.54.000000	9999-01- 01-00.00.00.00	Operating System	GTM

Component Type Relationship

This warehouse pack does not use the TWG.CTypReln table.

Attribute Type Relationship

This warehouse pack does not use the TWG.ATypReln table.

Component measurement

The following sections describe the component measurement tables.

Measurement Group Type

Table 15 shows the fields of the TWG.MGrpTyp table.

Table 15. Measurement Group Type (TWG.MGrpTyp) table

MGrpTyp_Cd CHAR(6)	MGrpTyp_Nm* CHAR(120)
GROUP	Aggregate Types or Group Functions
TRANS	State Transition Groups

* This column is translated.

Measurement Group

Table 16 shows the fields of the TWG.MGrp table.

Table 16. Measurement Group (TWG.MGrp Table)

MGrp_Cd CHAR(6)	MGrpTyp_Cd CHAR(6)	MGrp_Parent_Cd CHAR(6)	MGrp_Nm* CHAR(120)
GTMOBJ	TRANS	NULL	Tivoli Business Systems Manager Management State Transition Measurement
TOT_E	GROUP	NULL	Total Value Exists

* This column is translated.

Measurement Group Member

Table 17 shows the fields of the TWG.MGrpMbr table.

Table 17. Measurement Group Member (TWG.MGrpMbr Table)

MGrp_Cd CHAR(6)	MGrpTyp_Cd CHAR(6)	MsmtTyp_ID INT
GTMOBJ	TRANS	1
GTMOBJ	TRANS	2
GTMOBJ	TRANS	3
GTMOBJ	TRANS	4
GTMOBJ	TRANS	5
GTMOBJ	TRANS	6
TOT_E	GROUP	1

Table 17. Measurement Group Member (TWG.MGrpMbr Table) (continued)

MGrp_Cd CHAR(6)	MGrpTyp_Cd CHAR(6)	MsmtTyp_ID INT
TOT_E	GROUP	2
TOT_E	GROUP	3
TOT_E	GROUP	4
TOT_E	GROUP	5
TOT_E	GROUP	6

Measurement Unit Category

Table 18 shows the fields of the TWG.MUnitCat table.

Table 18. Measurement Unit Category (TWG.MUnitCat Table)

MUnitCat_Cd CHAR(6)	MUnitCat_Nm* CHAR(120)
TM	Time Duration

* This column is translated.

Measurement Unit

Table 19 shows the fields of the TWG.MUnit table.

Table 19. Measurement Unit (TWG.MUnit Table)

MUnit_Cd CHAR(6)	MUnitCat_Cd CHAR(6)	MUnit_Nm* CHAR(120)
Min	TM	Minutes

* This column is translated.

Measurement Type Relationship

This warehouse pack does not use the TWG.MTypReln table.

Time Summary

This warehouse pack does not use the TWG.TmSum table.

Measurement Source

Table 20 shows the fields of the TWG.MSrc table.

Table 20. Measurement Source (TWG.MSrc Table)

MSrc_Cd CHAR(6)	MSrc_Parent_Cd CHAR(6)	MSrc_Nm* CHAR(120)
GTM	NULL	Tivoli Business Systems Manager

* This column is translated.

Measurement Source History

This warehouse pack does not use the TWG.MSrc_History table.

Measurement Type

Table 21 shows the fields of the TWG.MsmtTyp table.

Table 21. Measurement Type (TWG.MsmtTyp Table)

MsmtTyp_ID INT	MUnit_Cd CHAR(6)	MSrc_Cd CHAR(6)	MsmtTyp_Nm CHAR(120)	MsmtTyp_Ds* CHAR(254)
1	Min	MODEL1	Available	The amount of time that the resource is available
2	Min	MODEL1	Degrading	The amount of time that the resource is degrading
3	Min	MODEL1	Unavailable	The amount of time that the resource is unavailable
4	Min	MODEL1	Repairing	The amount of time that it took to fix the problem associated with the resource
5	Min	MODEL1	Unmanaged	The amount of time that the resource is unmanaged
6	Min	MODEL1	Unknown	The amount of time that the state of the resource is unknown

* This column is translated.

Measurement Rule

Table 22 shows the fields of the TWG.MsmtRul table.

Table 22. Measurement Rule (TWG.MsmtRul Table)

CompTyp_Cd CHAR(17)	MsmtTyp_ID INT
BUSINESS_SYSTEM	1
BUSINESS_SYSTEM	2
BUSINESS_SYSTEM	3
BUSINESS_SYSTEM	4
BUSINESS_SYSTEM	5
BUSINESS_SYSTEM	6

Measurement

Table 23 on page 71 shows the fields of the TWG.Msmt table.

Table 23. Measurement (TWG.Msmt Table)

Comp_ID	Msmt_ID	MsmtTyp	TmSum_Cd	Msmt_Strt_DT	Msmt_Strt_TM	Msmt_Min_Val	Msmt_Max_Val	Msmt_Avg_Val	Msmt_Tot_Val	Msmt_Smpl_Cnt	Msmt_Err_Cnt	MSrc_Corr_Cd	Msmt_StdDev_Val
3	2	P	CHAR(1)	_DATE (_NOW _TIME STAMP _GMT)	11:00:00 AM	NULL	NULL	NULL	10	0	0	GTM	DOUBLE
3	3	P		_DATE (_NOW _TIME STAMP _GMT)	16:00:00	NULL	NULL	NULL	70	0	0	GTM	DOUBLE
3	4	P		_DATE (_NOW _TIME STAMP _GMT)	15:00:00	NULL	NULL	NULL	3530	0	0	GTM	DOUBLE
3	2	P		_DATE (_NOW _TIME STAMP _GMT)	17:00:00	NULL	NULL	NULL	130	0	0	GTM	DOUBLE

Threshold Measurement Objective

This warehouse pack does not use the TWG.MObj table.

Threshold Measurement Objective Range

This warehouse pack does not use the TWG.MObjRng table.

Threshold Severity Level

This warehouse pack does not use the TWG.SevLvl table.

Component events

The following section describes the component events.

Event Type

Table 24 shows the fields of the TWG.EventTyp table.

Table 24. Event Type (TWG.EventTyp Table)

EventTyp_ID INT	EventTyp_Nm CHAR(254)	Msrc_Cd CHAR(6)	EventTyp_Ds* CHAR(254)
1	Alert State Change	GTM	Tivoli Business Systems Manager alert state change event
2	Child Event	GTM	Tivoli Business Systems Manager child event
3	Exception	GTM	Tivoli Business Systems Managerexception
4	Message	GTM	Tivoli Business Systems Manager message
5	Note	GTM	Tivoli Business Systems Manager note

* This column is translated.

Event

Table 25 shows the fields of the TWG.Event table.

Table 25. Event (TWG.Event Table)

Event_ID BIGINT	EventTyp_Event_ID INT	TmSum_ DtTm TIMESTAMP	Msrc_Cd CHAR (1)	Msrc_Cd CHAR (6)	Repeat_ Cnt INT	Centr_Cd CHAR (6)	Cust_ID INT	Event_ Corr_ID INT	Event_ Corr_ Val CHAR (254)
1	1	2003-1-28-11.36.54.000000	P	GTM	0	CDW	1	NULL	GTM 1
2	2	2003-1-28-11.36.54.000000	P	GTM	0	CDW	1	NULL	GTM 2
3	3	2003-1-28-11.36.54.000000	P	GTM	0	CDW	1	NULL	GTM 3
4	4	2003-1-28-11.36.54.000000	P	GTM	0	CDW	1	NULL	GTM 4
5	5	2003-1-28-11.36.54.000000	P	GTM	0	CDW	1	NULL	GTM 5

Event Attribute

Table 26 shows the fields of the TWG.EventAttr table.

Table 26. Event Attribute (TWG.EventAttr Table)

Event_ID BIGINT	EAttrTyp_Cd CHAR(254)	MSrc_Cd CHAR(6)	EventAttr_Val CHAR(3500)
1	GTM_NAME	GTM	EA1043
1	GTM_DETAIL	GTM	CICSTA0A ERROR:AFS LEVEL 4 EVENT ENGINE HALTED! CANNOT OBTAIN MASTER BANK, SQLSTATE = 51002L056. NOTIFY AFS® XPRESS SUPPORT ASAP.
1	GTM_EVENT_CID_ID	GTM	MESG: 1
1	GTM_EVENT_ID	GTM	1
1	GTM_PRIORITY_ID	GTM	2
1	GTM_AS_ID	GTM	3
2	GTM_NAME	GTM	#TOTUTIL
2	GTM_DETAIL	GTM	PROCESSOR % total utilization = 23.000000
2	GTM_EVENT_CID_ID	GTM	EXCP: 1
2	GTM_EVENT_ID	GTM	50
2	GTM_EXCP_ID	GTM	30
2	GTM_PRIORITY_ID	GTM	5
2	GTM_ALERTSTATE	GTM	2
3	GTM_NAME	GTM	NLOC-179
3	GTM_DETAIL	GTM	NS_Node_Down_TEC 10485292691
3	GTM_EVENT_CID_ID	GTM	CHEV: 1
3	GTM_EVENT_ID	GTM	101
3	GTM_PRIORITY_ID	GTM	1
3	GTM_AS_ID	GTM	3
4	GTM_NAME	GTM	Bank_Topologi
4	GTM_DETAIL	GTM	Problem Note created by Problem Ticket Create GUI with problem id of 00023662
4	GTM_NOTEID	GTM	1
4	GTM_NOTE_ EXECUTER	GTM	tbsmoper1
4	GTM_NOTE_ACTION	GTM	Opened
4	GTM_NOTE_TYPE	GTM	Ownership

Table 26. Event Attribute (TWG.EventAttr Table) (continued)

Event_ID BIGINT	EAttrTyp_Cd CHAR(254)	Msrc_Cd CHAR(6)	EventAttr_Val CHAR(3500)
4	GTM_NOTE_SUBJECT	GTM	Problem Note created by Problem Ticket Create GUI
5	GTM_OLD_AS_ID	GTM	2
5	GTM_AS_ID	GTM	3
5	GTM_DETAIL	GTM	CICSTA0A ERROR:AFS LEVEL 4 EVENT ENGINE HALTED! CANNOT OBTAIN MASTER BANK, SQLSTATE = 51002L056. NOTIFY AFS XPRESS SUPPORT ASAP.

Event Attribute Type

Table 27 shows the fields of the TWG.EAttrTyp table.

Table 27. Event Attribute Type (TWG.EAttrTyp Table)

EAttrTyp_Cd CHAR(254)	EAttrTyp_Nm* CHAR(254)	Msrc_Cd CHAR(6)
EVENTTYP_ID	Tivoli Business Systems Manager Source Event Type Identifier	GTM
GTM_AS_ID	Tivoli Business Systems Manager Alert State Identifier	GTM
GTM_DETAIL	Tivoli Business Systems Manager Event Detail	GTM
GTM_EVENT_ID	Tivoli Business Systems Manager Event identifier	GTM
GTM_EVENT_CID_ID	Tivoli Business Systems Manager Event Unique Identifier	GTM
GTM_NAME	Tivoli Business Systems Manager Event Name	GTM
GTM_NOTE_ACTION	Tivoli Business Systems Manager Note Action	GTM
GTM_NOTE_EXECUTER	Tivoli Business Systems Manager Note Executer	GTM
GTM_NOTE_ID	Tivoli Business Systems Manager Note Identifier	GTM
GTM_NOTE_SUBJECT	Tivoli Business Systems Manager Note Subject	GTM
GTM_NOTE_TYPE	Tivoli Business Systems Manager Note Type	GTM
GTM_OLD_AS_ID	Tivoli Business Systems Manager Exception Identifier	GTM
GTM_PRIORITY_ID	Tivoli Business Systems Manager Priority Identifier	GTM

* This column is translated.

Event Group

Table 28 on page 75 shows the fields of the TWG.EGrp table.

Table 28. Event Group (TWG.EGrp Table)

EGrp_Cd CHAR(6)	EGrpTyp_Cd CHAR(6)	EGrp_Parent_Cd CHAR(6)	EGrp_Nm* CHAR(254)
GTM	TIVOLI	NULL	Tivoli Business Systems Manager Event Group

* This column is translated.

Event Group Member

Table 29 shows the fields of the TWG.EGrpMbr table.

Table 29. Event Group Member (TWG.EGrpMbr Table)

EGrp_Cd CHAR(6)	EGrpTyp_Cd CHAR(6)	EventTyp_ID INT
GTM	TIVOLI	1
GTM	TIVOLI	2
GTM	TIVOLI	3
GTM	TIVOLI	4
GTM	TIVOLI	5

Event Group Type

Table 30 shows the fields of the TWG.EGrpTyp table.

Table 30. Event Group Type (TWG.EGrpTyp Table)

EGrpTyp_Cd CHAR(6)	EGrpTyp_Nm* CHAR(254)
TIVOLI	Event Group for Tivoli Products

* This column is translated.

Event Type Relationship

This warehouse pack does not use the TWG.ETypReln table.

Event Relationship

Table 31 shows the fields of the TWG.EventReln table.

Table 31. Event Relationship (TWG.EventReln) table

Event_Rel_n_ ID INT	Event_Source_ID INT	Event_Target_ID INT	RelnTyp_Cd CHAR(6)	MSrc_Cd CHAR(6)
1	1	4	CAUSES	GTM
2	1	5	CAUSES	GTM

Component-Event Relationship

Table 32 on page 76 shows the fields of the TWG.CEReln table.

Table 32. Component-Event Relationship (TWG.CEReln Table)

Cereln_ID BIGINT	Event_ID BIGINT	Comp_ID BIGINT	RelnTyp_Cd CHAR(6)	MSrc_Cd CHAR(6)
1	1	10	SOURCE	GTM
2	2	11	SOURCE	GTM
3	3	12	SOURCE	GTM

Event Rule Relationship

Table 33 shows the fields of the TWG.ERelnRul table.

Table 33. Event Rule Relationship (TWG.ERelnRul Table)

ETyp_Source_ID INT	ETyp_Target_ID INT	RelnTyp_Cd CHAR(6)	ERul_Strt_DtTm TIMESTAMP	ERul_End_DtTm TIMESTAMP
1	4	CAUSES	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	4	CAUSES	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	4	CAUSES	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	5	CAUSES	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	5	CAUSES	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	5	CAUSES	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00

Component-Event Rule Relationship

Table 34 shows the fields of the TWG.CERelnRul table.

Table 34. Component-Event Rule Relationship (TWG.CERelnRul Table)

EventTyp_ID INT	CompTyp_Cd CHAR(17)	RelnTyp_Cd CHAR(6)	CERul_Strt_DtTm TIMESTAMP	CERul_End_DtTm TIMESTAMP
1	GTM_RESOURCE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	GTM_RESOURCE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	GTM_RESOURCE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	MVS_SYSTEM	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	MVS_SYSTEM	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	MVS_SYSTEM	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	LOGICAL_ PARTITION	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	LOGICAL_ PARTITION	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	LOGICAL_ PARTITION	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	GTM_HOST	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	GTM_HOST	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	GTM_HOST	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	BUSINESS_SYSTEM	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	BUSINESS_SYSTEM	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	BUSINESS_SYSTEM	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	MQ_QUEUE_MANAGER	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00

Table 34. Component-Event Rule Relationship (TWG.CERelnRul Table) (continued)

EventTyp_ID INT	CompTyp_Cd CHAR(17)	RelnTyp_Cd CHAR(6)	CERul_Strt_DtTm TIMESTAMP	CERul_End_DtTm TIMESTAMP
2	MQ_QUEUE_MANAGER	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	MQ_QUEUE_MANAGER	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	MQ_QUEUE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	MQ_QUEUE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	MQ_QUEUE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	MQ_CHANNEL	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	MQ_CHANNEL	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	MQ_CHANNEL	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	SNA_NETWORK	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	SNA_NETWORK	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	SNA_NETWORK	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	SNA_CCU	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	SNA_CCU	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	SNA_CCU	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	IP_HOST	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	IP_HOST	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	IP_HOST	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	IP_NODE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	IP_NODE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	IP_NODE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
1	IP_INTERFACE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
2	IP_INTERFACE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00
3	IP_INTERFACE	SOURCE	2003-01-01-00.00.00.00	9999-01-01-00.00.00.00

Helper tables

Component type extension (GTM.CompTyp_EXT)

Table 35. Component type extension table (GTM.CompTyp_EXT)

Level INTEGER	CompTyp_Cd CHAR(17)	cid VARCHAR(4)	Label * VARCHAR (254)	Description * VARCHAR (1024)
1	MVS_SYSTEM	OS	Operating System	Operating System
2	LOGICAL_PARTITION	LPAR	Logical Partition	Logical Partition
3	GTM_RESOURCE	ENT	Enterprise	Enterprise

Alert State (GTM.AlertState)

Table 36. Alert State table (GTM.AlertState)

Id	Name *	START_DTTM
INTEGER	VARCHAR (254)	TIMESTAMP
0	Unknown	2003-1-28-11.00.00.00000
1	Green	2003-1-28-11.00.00.00000
2	Yellow	2003-1-28-11.00.00.00000
3	Red	2003-1-28-11.00.00.00000

Priority (GTM.Priority)

Table 37. Priority table (GTM.Priority)

Id	Name	START_DTTM
INTEGER	VARCHAR (254)	TIMESTAMP
0	Unknown	2003-1-28-11.00.00.00000
1	Critical	2003-1-28-11.00.00.00000
2	High	2003-1-28-11.00.00.00000
3	Medium	2003-1-28-11.00.00.00000
4	Low	2003-1-28-11.00.00.00000
5	Ignore	2003-1-28-11.00.00.00000
6	Eliminate	2003-1-28-11.00.00.00000

Reserved value (GTM.ReservedVal)

Table 38. Reserved value table (GTM.ReservedVal)

NAME	TYPE	Val	START_DTTM	CHANGED_DTTM
VARCHAR (40)	VARCHAR (40)	VARCHAR (254)	TIMESTAMP	TIMESTAMP
max_resource_depth	INTEGER	8	2003-1-28-11.00.00.00000	2003-1-28-11.00.00.00000

Exception tables

This warehouse pack does not use the exception tables.

Incremental extraction

Both ETLs use incremental extraction after initialization.

Central data warehouse

The extraction control for the central data warehouse ETL is stored in both Tivoli Data Warehouse and Tivoli Business Systems Manager databases for better performance. The following extraction controls are stored in the TWG.EXTRACT_CONTROL table in the Tivoli Data Warehouse:

Table 39. Central data warehouse extraction control description table

Ctrl_Source	Ctrl_target	Ctrl_description
ETL1	MSMT	Date and time of the measurement data that is loaded from the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database on the last source ETL run
ETL1_linkc	CDW	Date and time of the link information loaded for the common components from the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database on the last central data warehouse ETL run
ETL1_linkp	CDW	Date and time of the link information loaded for the private components from the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database on the last central data warehouse ETL run
ETL1_MESG	CDW	The last ID for the messages that are successfully loaded from the Message_V view in the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database during the last initialization
ETL1_EXCP	CDW	The last ID for the exceptions that are successfully loaded from the Exception_V view in the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database during the last initialization
ETL1_CHEV	CDW	The last ID for the child events that are successfully loaded from the ChildEvent_V view in the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database during the last initialization
ETL1_events	CDW	The last timestamp for the events that are successfully loaded from the event table in the Tivoli Business Systems Manager object database into the Tivoli Data Warehouse central database on the last central data warehouse ETL run
ETL1_ash	CDW	The last ash_id for the events that are successfully loaded from the AlertStateHistory table in the Tivoli Business Systems Manager object database into the Tivoli Data Warehouse central database on the last central data warehouse ETL run
ETL1_note	CDW	The last ident for the notes that are successfully loaded from the NoteHistory table in the Tivoli Business Systems Manager database into the Tivoli Data Warehouse central database on the last central data warehouse ETL run
EVENT_ID	MART	The last event_id that is successfully loaded from the Tivoli Data Warehouse central database into the data mart on the last data mart ETL run

Data mart

The extraction controls for the data mart ETL is stored in both Tivoli Data Warehouse and the data mart for better performance. The following extraction controls are stored in the GTM.MEXTRACT_CTRL table in the data mart:

Table 40. Data mart extraction control description table

Ctrl_Source	Ctrl_target	Ctrl_description
COMP_ID	MART	The last COMP_ID for components that are successfully loaded from Tivoli Data Warehouse into the data mart when the last data mart ETL runs
COMPATTR_ID	CDW	The last COMPATTR_ID for the component attributes that are successfully loaded from the Tivoli Data Warehouse into the data mart when the last data mart ETL runs
COMPRELN_ID	CDW	The last COMPRELN_ID for component relationships that are successfully loaded from the Tivoli Data Warehouse into the data mart when the last data mart ETL runs
EVENT_ID	CDW	The last EVENT_ID for the events that are successfully loaded from the Tivoli Data Warehouse into the data mart when the last data mart ETL runs

Chapter 7. Data mart schema information

The following sections contain the definition of star schemas, metric dimension tables and dimension tables provided with the warehouse pack. This section is intended primarily for report designers and warehouse pack creators. For information about reports, see Chapter 2, "Reports," on page 7.

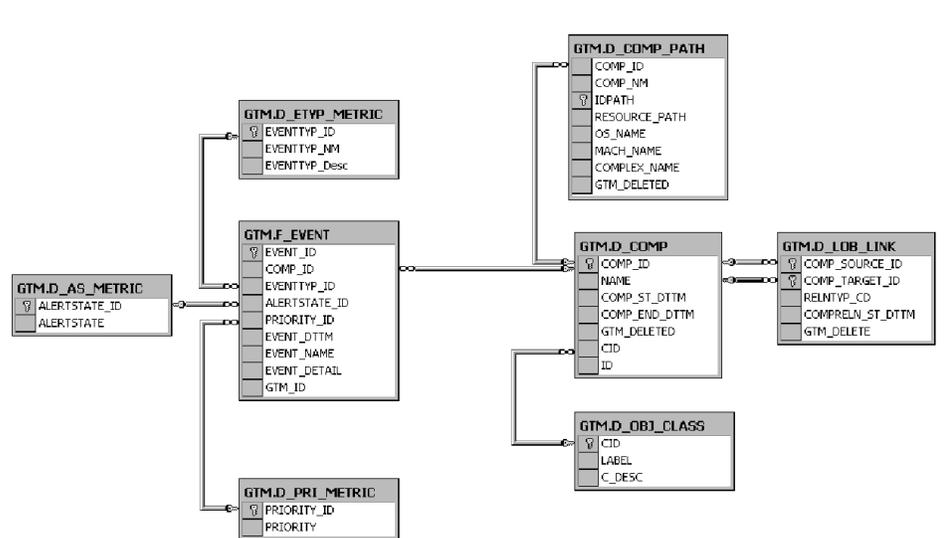
Shaded columns in the following tables are translated. These columns are also marked with an asterisk (*) after the column name.

Before using this section, read about the star schemas in *Enabling an Application for Tivoli Data Warehouse*. That document defines the content of each table and explains the relationships between the tables in this document.

This data mart uses the following star schemas:

- Event star schema
- Note star schema
- Alert State History star schema

Event star schema



The following table defines the Event star schema. The description of the star schema is translated.

Description of star schema (in IWH_STARSHEMA)	
Name of fact table	GTM.F_Event
Name of metric dimension table	GTM.D_AS_METRIC
	GTM.D_ETYP_METRIC
	GTM.D_PRI_METRIC
Names of other dimension tables	GTM.D_COMP
	GTM.D_COMP_PATH

Description of star schema (in IWH_STARSHEMA)

GTM.D_OBJ_CLASS
GTM.D_LOB_LINK

GTM.F_Event fact table

The following columns are used in the GTM.F_Event fact table:

- EVENT_ID __BIGINT
- COMP_ID __BIGINT
- EVENTTYP_ID __INTEGER
- ALERTSTATE_ID __INTEGER
- PRIORITY_ID __INTEGER
- EVENT_DTTM __TIMESTAMP
- EVENT_NAME __VARCHAR (1024)
- EVENT_DETAIL __VARCHAR (4000)
- GTM_ID __INTEGER

Note star schema

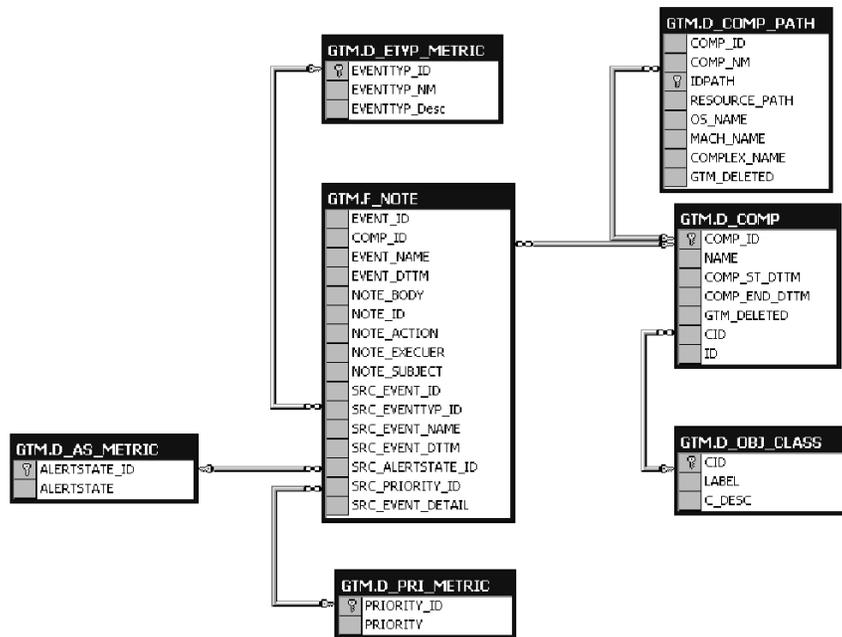


Table 41 defines the Note star schema. The description of the star schema is translated.

Table 41. Note star schema

Description of star schema (in IWH_STARSHEMA)

Name of fact table	GTM.F_Note
Name of metric dimension table	GTM.D_AS_METRIC
	GTM.D_ETYP_METRIC
	GTM.D_PRI_METRIC
Names of other dimension tables	GTM.D_COMP

Table 41. Note star schema (continued)

Description of star schema (in IWH_STARSHEMA)
GTM.D_COMP_PATH
GTM.D_OBJ_CLASS

GTM.F_Note fact table

The following columns are used in the GTM.F_Note fact table:

- EVENT_ID __BIGINT
- COMP_ID __BIGINT
- EVENT_NAME __VARCHAR (1024)
- EVENT_DTTM __TIMESTAMP
- NOTE_BODY __VARCHAR (4000)
- NOTE_ID __INTEGER
- NOTE_ACTION __VARCHAR (254)
- NOTE_EXECUTER __VARCHAR (254)
- NOTE_SUBJECT __VARCHAR (4000)
- SRC_EVENT_ID __BIGINT
- SRC_EVENTTYP_ID __INTEGER
- SRC_EVENT_NAME __VARCHAR (104)
- SRC_EVENT_DTTM __TIMESTAMP
- SRC_ALERTSTATE_ID __INTEGER
- SRC_PRIORITY_ID __INTEGER
- SRC_EVENT_DETAIL __VARCHAR (4000)

Alert State History star schema

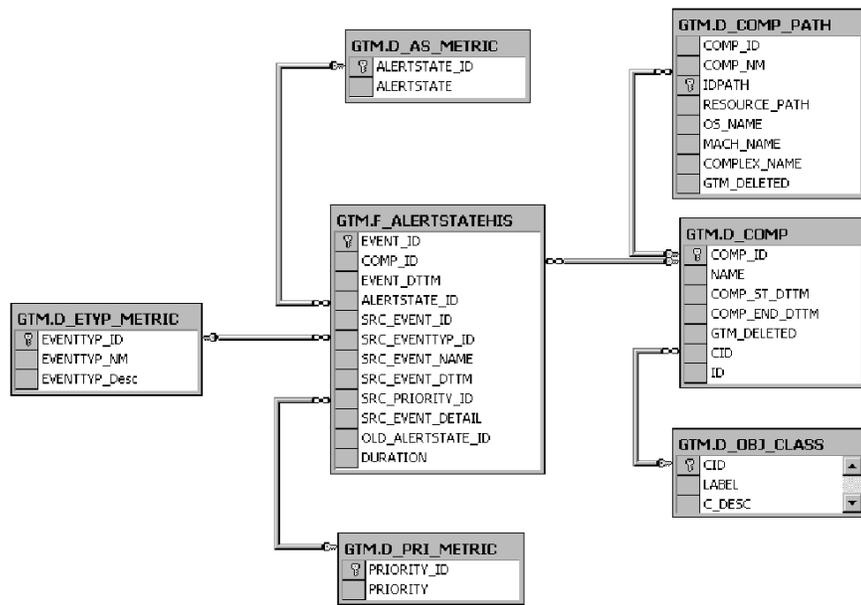


Table 42 on page 84 defines the Alert State History star schema. The description of the star schema is translated.

Table 42. Alert State History star schema

Description of star schema (in IWH_STARSHEMA)	
Name of fact table	GTM.F_ALERTSTATEHIS
Name of metric dimension table	GTM.D_AS_METRIC
	GTM.D_ETYP_METRIC
	GTM.D_PRI_METRIC
Names of other dimension tables	GTM.D_COMP
	GTM.D_COMP_PATH
	GTM.D_OBJ_CLASS

GTM.F_ALERTSTATEHIS fact table

The following columns are used in the GTM.F_ALERTSTATEHIS fact table:

- EVENT_ID __BIGINT
- COMP_ID __BIGINT
- EVENT_DTTM __TIMESTAMP
- ALERTSTATE_ID __INTEGER
- SRC_EVENT_ID __BIGINT
- SRC_EVENTTYP_ID __INTEGER
- SRC_EVENT_NAME __VARCHAR (254)
- SRC_EVENT_DTTM __TIMESTAMP
- SRC_PRIORITY_ID __INTEGER
- SRC_EVENT_DETAIL __VARCHAR (4000)
- OLD_ALERTSTATE_ID __INTEGER
- DURATION __INTEGER

Metric dimension tables

This section describes the metric dimension tables used by the star schemas in the warehouse pack. Shaded columns in the following tables are translated. These columns are also marked with an asterisk (*) after the column name.

GTM.D_PRI_METRIC table

Table 43 defines the GTM.D_PRI_METRIC table.

Table 43. GTM.D_PRI_METRIC table

Priority_ID INTEGER	Priority * VARCHAR (254)
0	Unknown
1	Critical
2	High
3	Medium
4	Low
5	Ignore
6	Eliminate

GTM.D_AS_METRIC

Table 44 defines the GTM.D_AS_METRIC table.

Table 44. GTM.D_AS_METRIC table

ALERTSTATE_ID INTEGER	AlertState * VARCHAR (254)
0	Unknown
1	Green
2	Yellow
3	Red

GTM.D_ETYP_METRIC

Table 45 defines the GTM.D_ETYP_METRIC table.

Table 45. GTM.D_ETYP_METRIC table

EVENTTYP_ID INTEGER	EVENTTYP_NM * VARCHAR (254)	EVENTTYP_Desc * VARCHAR(254)
1	Message	Tivoli Business Systems Manager Messages
2	Exception	Tivoli Business Systems Manager Exceptions
3	Child Event	Tivoli Business Systems Manager Child Events
4	Note	Tivoli Business Systems Manager Notes
5	Alert State Change	Alert states changed in Tivoli Business Systems Manager

Dimension tables

GTM.D_COMP

The following columns are used in the GTM.D_COMP dimension table:

- COMP_ID __BIGINT
- NAME __VARCHAR (254)
- COMP_ST_DTTM __TIMESTAMP
- COMP_END_DTTM __TIMESTAMP
- GTM_DELETED __INTEGER
- CID __VARCHAR (40)
- ID __INTEGER

GTM.D_COMP_PATH

The following columns are used in the GTM.D_COMP_PATH dimension table:

- IDPATH __VARCHAR (254)
- COMP_ID __BIGINT
- RESOURCE_PATH __VARCHAR (4000)
- COMPLEX_NAME __VARCHAR (254)
- OS_NAME __VARCHAR (254)
- MACH_NAME __VARCHAR (254)
- COMP_NM __VARCHAR (254)
- GTM_DELETED __INTEGER

GTM.D_OBJ_CLASS

The following columns are used in the GTM.D_OBJ_CLASS dimension table:

- CID __VARCHAR (40)
- LABEL __VARCHAR (254)
- C_DESC __VARCHAR (1024)

GTM.D_LOB_LINK

The following columns are used in the GTM.D_LOB_LINK dimension table:

- COMP_SOURCE_ID __BIGINT
- COMP_TARGET_ID __BIGINT
- RELNTYP_CD __VARCHAR (40)
- COMPRELN_ST_DTTM __TIMESTAMP
- GTM_DELETED __INTEGER

Appendix. Data modeling

The warehouse pack loads resource, event, and measurement data for business systems into the Tivoli Data Warehouse. This chapter describes how this Tivoli Business Systems Manager data is modeled in the central data warehouse.

Refer to *Getting Started* from the Tivoli Business Systems Manager document library for information on how Tivoli Business Systems Manager stores data. Refer to *Enabling an Application for Tivoli Data Warehouse* for information on Tivoli Data Warehouse schemas.

Resource data modeling

The managed resource classes in the Tivoli Business Systems Manager database are referred to as component types in the Tivoli Data Warehouse database. Only the managed classes in the Tivoli Business Systems Manager database are defined in the Tivoli Data Warehouse database. Some of the managed resource classes are defined using the Common Data Model (CDM) in the Tivoli Data Warehouse database. For information about the mapping of the common component types used for the Tivoli Business Systems Manager managed resource classes, see Table 46. The Tivoli Business Systems Manager link types for the common component types are mapped in Table 47 on page 89.

The rest of the managed resource classes, including the classes created dynamically, are modeled with the GTM_RESOURCE Tivoli Business Systems Manager private component type.

Table 46 lists the mapping of the common component types used for the Tivoli Business Systems Manager managed resource classes. Following is a description of the table headers:

cid Class id defined in the Tivoli Business Systems Manager database

Label Class label defined in the Tivoli Business Systems Manager database

Description

Class description defined in the Tivoli Business Systems Manager database

CompTyp_CD

Component type code defined in the Tivoli Data Warehouse database

CompTyp_NM

Component type name defined in the Tivoli Data Warehouse database

Label, Description, and cid are loaded in the GTM.CompTyp_EXT private table of the Tivoli Data Warehouse database. If Tivoli Business Systems Manager does not have the fully-qualified host name for the instances of IP Host component type. The instances are defined with GTM_HOST private component type.

Table 46. Common component types for the Tivoli Business Systems Manager managed resource class

cid	Label	Description	CompTyp_CD	CompTyp_NM
LPAR	Logical Partition	Logical Partition	LOGICAL_PARTITION	Logical Partition
OS	Operating System	Operating System	MVS_SYSTEM	MVS System
ROUT	Router	Network Router	IP_NODE	IP Node

Table 46. Common component types for the Tivoli Business Systems Manager managed resource class (continued)

cid	Label	Description	CompTyp_CD	CompTyp_NM
UNIX ²	OS type		IP_HOST	IP Host
NODE ²	Network Node	Network Node	IP_HOST	IP Host
PCXX ²	Network PC	Network PC	IP_HOST	IP Host
CPTR ²	Computer	Computer	IP_HOST	IP Host
SRVR ²	Server Host	Server Host	IP_HOST	IP Host
G02K ²	Server	Server	IP_HOST	IP Host
NTSV ²	Windows NT [®] Server	Windows NT Server	IP_HOST	IP Host
RASS ²	Network RAS Server	Network RAS Server	IP_HOST	IP Host
INTR	Network Interface	The physical connection between a node and the network	IP_INTERFACE	IP Interface
MMGR	MQ Manager	MQ Manager	MQ_QUEUE_MANAGER	MQ Queue Manager
MQLC	MQ Local Queue	MQ Local Queue	MQ_QUEUE	MQ Queue
MQMD	MQ Model Queue	MQ Model Queue	MQ_QUEUE	MQ Queue
MQRT	MQ Remote Queue	MQ Remote Queue	MQ_QUEUE	MQ Queue
MQXT	MQ Xmit Queue	MQ Xmit Queue	MQ_QUEUE	MQ Queue
MQRV	MQ Receiver Channel	MQ Receiver Channel	MQ_CHANNEL	MQ Channel
MQSD	MQ Sender Channel	MQ Sender Channel	MQ_CHANNEL	MQ Channel
SNNT	SNA/APPN Network	Uniquely named network with SNA AND APPN resources	SNA_NETWORK	SNA Network
T4NG	t4NodeGateway	SNA type-4 node that provides communication controller support FOR single-domain, multiple-domain, AND interconnected network capability. It can also provide gateway function, intermediate routing function, AND boundary function	SNA_CCU	SNA Communication Control Unit
LOB	Business System	Business System	BUSINESS_SYSTEM	Business System
EXES	Executive View Service	Represents an Executive View Service. Always associated to a single LOB object	SERVICE	Service

The Tivoli Business Systems Manager link types for the common component types are mapped in Table 47 on page 89. Following is a description of the table headers:

Src_cid

src_cid defined in Tivoli Business Systems Manager

2. Use the **GTM_CID** attribute for the different Tivoli Business Systems Manager class label.

Dst_cid

Dst_cid defined in Tivoli Business Systems Manager

Link_type

Link_type defined in Tivoli Business Systems Manager

Source_COMP_CD

Source component code defined in the Tivoli Data Warehouse database

Target_COMP_CD

Target component code defined in the Tivoli Data Warehouse database

ReInTyp

Component relationship type defined in the Tivoli Data Warehouse database

Reverse_Mapped

Flag that indicates the difference of the data modeling on the relationship types in the Tivoli Business Systems Manager database with in the Tivoli Data Warehouse database.

If Reversed_Mapped = 0, Source_Comp_CD is mapped to src_cid and Target_Comp_CD to dst_cid.

If Reversed_Mapped = 1, Source_Comp_CD is mapped to dst_cid and Target_Comp_CD to src_cid.

Table 47. Tivoli Business Systems Manager link types for the common component types

Src_cid	Dst_cid	Link_type	Source_COMP_CD	Target_COMP_CD	ReInTyp	Reverse_Mapped
LPAR	OS	PHYC	MVS_SYSTEM	LOGICAL_PARTITION	RUNSON	1
LOB	LOB	LOBC	BUSINESS_SYSTEM	BUSINESS_SYSTEM	PCHILD	0
EXES	LOB	EVSL	BUSINESS_SYSTEM	SERVICE	SUPPRT	1
MMGR	MQLC	PHYC	MQ_QUEUE_MANAGER	MQ_QUEUE	PCHILD	0
MMGR	MQMD	PHYC	MQ_QUEUE_MANAGER	MQ_QUEUE	PCHILD	0
MMGR	MQRT	PHYC	MQ_QUEUE_MANAGER	MQ_QUEUE	PCHILD	0
MMGR	MQRV	PHYC	MQ_QUEUE_MANAGER	MQ_CHANNEL	PCHILD	0
MMGR	MQSD	PHYC	MQ_QUEUE_MANAGER	MQ_CHANNEL	PCHILD	0
MMGR	MQXT	PHYC	MQ_QUEUE_MANAGER	MQ_QUEUE	PCHILD	0
SNNT	T4NG	PHYC	SNA_NETWORK	SNA_CCU	PCHILD	0

The parent and child relationship is used for the following component types:

- GTM_RESOURCE with GTM_RESOURCE
- GTM_RESOURCE with common component types
- GTM_RESOURCE with GTM_HOST
- Common component types with GTM_RESOURCE

The Business System Containment Link of a Business System with the resource is modeled with Business System and resource link, GTM_LB.

The instance names of the common component types in the Tivoli Data Warehouse are based on the Common Data Model naming rules. The User Label attribute is used for the resource name in the Tivoli Business Systems Manager database for all common components except business systems. When a business system is renamed, the Name attribute is updated. When the GTM_RESOURCE and GTM_HOST private components are renamed, the Name attribute is updated.

GTM_CID, GTM_ID, and GTM_DELETE attributes are defined for all Tivoli Business Systems Manager components except business systems and executive dashboard services in Tivoli Data Warehouse. Because Business System and Service resources are used for both Tivoli Business Systems Manager reporting and Tivoli Service Level Advisor integration, extra attributes are defined and described in Table 48 and Table 49.

When the business systems from the Tivoli Business Systems Manager program are loaded into the Tivoli Data Warehouse program, the business system information is saved in the Tivoli Data Warehouse database, as described in Table 48.

Table 48. Business system resource mapping

Tivoli Business Systems Manager	Tivoli Data Warehouse
Object name	Component name
Class ID	GTM_CID attribute
Ctime	Component start date
Ctime	Component start time
Object ID	GTM_ID attribute
Resource type	GTM_RTYPE attribute

The service components are modeled differently from the business systems in the Tivoli Data Warehouse database. The executive dashboard service resource information is saved in the Tivoli Data Warehouse database, as described in Table 49.

Table 49. Executive dashboard service resource mapping

Tivoli Business Systems Manager	Tivoli Data Warehouse
Object name	User label attribute
_ServiceID	Component name
Name_GUID	NAME_GUID attribute
Ctime	Component start date
Ctime	Component start time
Class ID	GTM_CID attribute
Object ID	GTM_ID attribute
*_Flag of linked business system	GTM_Enable

* When an executive dashboard service is created, it is enabled in Tivoli Data Warehouse and there is no record for the GTM_Enable attribute. Clearing the Service check box in the Tivoli Business Systems Manager executive dashboard property page changes the value for the GTM_Enable attribute of the Service component in the Tivoli Data Warehouse to 0. When the Service is marked as a service again (by selecting the Service check box in the Tivoli Business Systems Manager executive dashboard property page), then the GTM_Enable attribute value of the Service component in the Tivoli Data Warehouse database is set to 1.

Deleting and renaming component types

Table 50 on page 91 describes what happens when you delete or rename component types in Tivoli Business Systems Manager.

Table 50. Deleting and renaming component types

Component Type	Action	Result
Executive view service	Logically (deleted =1) or physically (entries are removed from the tables) deleted in Tivoli Business Systems Manager	The component, attributes, and its relationships in the central data warehouse are expired during the next run of the central database warehouse ETL.
Business system	Logically or physically deleted from Tivoli Business Systems Manager	The component, attributes, and its relationships in the central data warehouse are expired during the next run of the central database warehouse ETL.
GTM_RESOURCE GTM_HOST	Logically deleted	The GTM_DELETED attribute is updated to 1.
	Physically deleted	The component is expired in the central data warehouse.
BUSINESS_SYSTEM, GTM_RESOURCE, and GTM_HOST	Renamed in Tivoli Business Systems Manager	A new Name attribute of the business system component is inserted with the new Name as the CompAttr_Val in TWG.CompAttr table of the central data warehouse.
Other public component type	Logically or physically deleted from Tivoli Business Systems Manager	The GTM_DELETED attribute is updated to 1.
	Renamed in Tivoli Business Systems Manager	A new USER_LABEL attribute of the Service component is inserted with the new display name as the CompAttr_Val in TWG.CompAttr table of the central data warehouse. The original attribute is expired by the Tivoli Data Warehouse trigger or Tivoli Business Systems Manager central data warehouse ETL.

All the managed resources in the Tivoli Business Systems Manager database are created in the Tivoli Data Warehouse database as components in TWG.COMP table. The relationships of the resources are loaded in TWG.COMPRELN table.

Tivoli Business Systems Manager business system shortcuts

Dragging and dropping a business system in Tivoli Business Systems Manager creates a business system shortcut. In the Tivoli Business Systems Manager database, the business system shortcut has the same children as the source resource from which it was copied. The specified link type (a business system logical link) enables this function. In Tivoli Data Warehouse, there is no distinction for the source resource with the business system shortcuts. They are all modeled as components of the BUSINESS_SYSTEM component type. Using the LOBL link type, the `_get_dependent` stored procedure can get the children of the business system shortcut from the source business system.

The relationship of business systems is modeled differently in Tivoli Data Warehouse than in Tivoli Business Systems Manager for business systems shortcuts. The following example shows the children of the Bank 1 business system shortcut being resolved by an LOBL link type in Tivoli Business Systems Manager. In Tivoli Data Warehouse, the central data warehouse ETL creates a direct link.

```
Data Centers (business system)
  Eastern Complex (business system)      ---Original---
  Bank 1 (business system)
    CICS A (business system resource)

Western Complex (business system)
  Bank 1 (business system shortcut)      ---Dragging and Dropping---
    CICS A (business system resource)
    CICS B (business system resource)
```

Measurement data modeling

The state changes of all business systems are provided for the Tivoli Service Level Advisor measurements using the state transition matrix. The alert states or resource states in the Tivoli Business Systems Manager are mapped into the Tivoli Service Level Advisor availability measurement types, as shown in Table 51.

Table 51. Mapping measurements in Tivoli Business Systems Manager to Tivoli Service Level Advisor

Object state in Tivoli Business Systems Manager	Measurement type in IBM Tivoli Service Level Advisor
Green	Available
Yellow	Degrading
Red	Unavailable
In maintenance	Unmanaged
Owned (Red)*	Repairing
Unknown	Unknown

* The Owned (Red) state is only recorded for the time period when the resource has an ownership note due to a Red event. When the resource has an ownership note because of a Yellow event, the ETL transfers it as either Degrading or Available, based on the alert state of the resource.

Event data modeling

Tivoli Business Systems Manager event, note, and alert state history information is loaded as events in Tivoli Data Warehouse with the following event types:

- Message
- Exception
- Child event
- Note
- Alert State Change

The events are loaded in the twg.event table. The relationship of an event with a component is stored in the twg.cereIn table. Messages, Exceptions, or Child Events can cause an Alert State Change event or Note event. This relationship is stored in the twg.eventreIn table. The event attributes are mapped in Table 52 on page 93.

Table 52. Mapping Tivoli Business Systems Manager events with Tivoli Data Warehouse event attributes

EventTyp_Nm	EAttrTyp_Cd	Column in TWG.EventAttr EVENTATTR_LONG_VAL	Tivoli Business Systems Manager database object name	Tivoli Business Systems Manager column name
Message	GTM_NAME	EVENTATTR_VAL	event	name
Message	GTM_EVENT_ID	EVENTATTR_VAL	event	evt_id
Message	GTM_DETAIL	EVENTATTR_VAL	event	detail
Message	GTM_PRIORITY_ID	EVENTATTR_VAL	event	priority
Message	GTM_AS_ID	EVENTATTR_VAL	event	alertstate
Message	GTM_EVENT_CID_ID	EVENTATTR_VAL	event	cid\evt_id
Exception	GTM_NAME	EVENTATTR_VAL	event	name
Exception	GTM_EVENT_ID	EVENTATTR_VAL	event	evt_id
Exception	GTM_DETAIL	EVENTATTR_VAL	event	detail
Exception	GTM_PRIORITY_ID	EVENTATTR_VAL	event	priority
Exception	GTM_AS_ID	EVENTATTR_VAL	event	alertstate
Exception	GTM_EVENT_CID_ID	EVENTATTR_VAL	event	cid\evt_id
Child Event	GTM_NAME	EVENTATTR_VAL	event	name
Child Event	GTM_EVENT_ID	EVENTATTR_VAL	event	evt_id
Child Event	GTM_DETAIL	EVENTATTR_VAL	event	detail
Child Event	GTM_PRIORITY_ID	EVENTATTR_VAL	event	priority
Child Event	GTM_AS_ID	EVENTATTR_VAL	event	alertstate
Child Event	GTM_EVENT_CID_ID	EVENTATTR_VAL	event	cid\evt_id
Alert State Change	GTM_AS_ID	EVENTATTR_VAL	AlertStateHistory	AlertStateID

Support information

This section describes the following options for obtaining support for IBM products:

- “Searching knowledge bases”
- “Obtaining fixes”
- “Contacting IBM Software Support” on page 96

Searching knowledge bases

If you have a problem with your IBM software, you want it resolved quickly. Begin by searching the available knowledge bases to determine whether the resolution to your problem is already documented.

Search the information center on your local system or network

IBM provides extensive documentation that can be installed on your local computer or on an intranet server.

An index is provided for searching the Tivoli Business Systems Manager library. If you have Adobe Acrobat on your system, you can use the Search command to locate specific text in the library. For more information about using the index to search the library, see the online help for Acrobat.

Search the Internet

If you cannot find an answer to your question in the information center, search the Internet for the latest, most complete information that might help you resolve your problem. To search multiple Internet resources for your product, expand the product folder in the navigation frame to the left and select **Web search**. From this topic, you can search a variety of resources including:

- IBM technotes
- IBM downloads
- IBM Redbooks™
- IBM developerWorks®
- Forums and newsgroups
- Google

Obtaining fixes

A product fix might be available to resolve your problem. You can determine what fixes are available for your IBM software product by checking the product support Web site:

1. Go to the IBM Software Support Web site (<http://www.ibm.com/software/support>).
2. Under **Products A - Z**, click **I**. When the list of products is displayed, click **IBM Tivoli Business Systems Manager for z/OS**. This opens the product-specific support site.

3. Under **Search our support knowledge base for IBM Tivoli Business Systems Manger for z/OS**, type your text in the search field and click the **Submit** button. You can limit your search by selecting **Solve a problem**, **Download**, or **Learn**, or any combination. For tips on refining your search, click **Search assistance**.
4. When you find the list of fixes, fix packs, or other service updates that you are looking for, click the name of a fix to read the description and optionally download the fix.

To receive weekly e-mail notifications about fixes and other news about IBM products, follow these steps:

1. From the support page for any IBM product, click **My support** in the upper-right corner of the page.
2. If you have already registered, skip to the next step. If you have not registered, click register in the upper-right corner of the support page to establish your user ID and password.
3. Sign in to **My support**.
4. On the My support page, click **Edit profiles** in the left navigation pane, and scroll to **Select Mail Preferences**. Select a product family and check the appropriate boxes for the type of information you want.
5. Click **Submit**.
6. For e-mail notification for other products, repeat Steps 4 and 5.

For more information about types of fixes, see the *Software Support Handbook* (<http://techsupport.services.ibm.com/guides/handbook.html>).

Contacting IBM Software Support

IBM Software Support provides assistance with product defects.

Before contacting IBM Software Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have:

- For IBM distributed software products (including, but not limited to, Tivoli, Lotus®, and Rational® products, as well as DB2 and WebSphere® products that run on Windows or UNIX operating systems), enroll in Passport Advantage® in one of the following ways:
 - **Online:** Go to the Passport Advantage Web page (http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home) and click **How to Enroll**
 - **By phone:** For the phone number to call in your country, go to the IBM Software Support Web site (<http://techsupport.services.ibm.com/guides/contacts.html>) and click the name of your geographic region.
- For IBM eServer™ software products (including, but not limited to, DB2 and WebSphere products that run in zSeries®, pSeries®, and iSeries™ environments), you can purchase a software maintenance agreement by working directly with an IBM sales representative or an IBM Business Partner. For more information about support for eServer software products, go to the IBM Technical Support Advantage Web page (<http://www.ibm.com/servers/eserver/techsupport.html>).

If you are not sure what type of software maintenance contract you need, call 1-800-IBMSERV (1-800-426-7378) in the United States or, from other countries, go to

the contacts page of the IBM Software Support Handbook on the Web (<http://techsupport.services.ibm.com/guides/contacts.html>) and click the name of your geographic region for phone numbers of people who provide support for your location.

Follow the steps in this topic to contact IBM Software Support:

1. Determine the business impact of your problem.
2. Describe your problem and gather background information.
3. Submit your problem to IBM Software Support.

Determine the business impact of your problem

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem you are reporting. Use the following criteria:

Severity 1	Critical business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
Severity 2	Significant business impact: The program is usable but is severely limited.
Severity 3	Some business impact: The program is usable with less significant features (not critical to operations) unavailable.
Severity 4	Minimal business impact: The problem causes little impact on operations, or a reasonable circumvention to the problem has been implemented.

Describe your problem and gather background information

When explaining a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?
- Do you have logs, traces, and messages that are related to the problem symptoms? IBM Software Support is likely to ask for this information.
- Can the problem be re-created? If so, what steps led to the failure?
- Have any changes been made to the system? (For example, hardware, operating system, networking software, and so on.)
- Are you currently using a workaround for this problem? If so, please be prepared to explain it when you report the problem.

Submit your problem to IBM Software Support

You can submit your problem in one of two ways:

- **Online:** Go to the "Submit and track problems" page on the IBM Software Support site (<http://www.ibm.com/software/support/probsub.html>). Enter your information into the appropriate problem submission tool.
- **By phone:** For the phone number to call in your country, go to the contacts page of the IBM Software Support Handbook on the Web (techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Software Support creates an Authorized Program Analysis

Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Software Support provides a workaround for you to implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM product support Web pages daily, so that other users who experience the same problem can benefit from the same resolutions.

For more information about problem resolution, see [Searching knowledge bases](#) and [Obtaining fixes](#).

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