AS/400® System Performance Feature Guide and Reference

Version 1.7
Tivoli® Decision Support for z/OS®

AS/400® System Performance Feature Guide and Reference

Version 1.7
Before using this information and the product it supports, read the information in “Notices” on page 145.


This edition applies to version 1, release 7 of Tivoli Decision Support for z/OS (program number 5698-A07) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SH19-4019-06.

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Contents

Figures ........................................ vii

Tables .......................................... ix

Preface ................................. xi
Who should read this book ................ xi
What this book contains .............. xii
Publications .......................... xii
   Tivoli Decision Support for z/OS library xii
   Using LookAt to look up message explanations ...... xiv
   Accessing publications online ............ xiv
   Ordering publications ............... xiv
   Accessibility ........................ xv
   Tivoli technical training .......... xv
   Contacting IBM Software Support .... xv
   Determine the business impact of your problem xvi
   Describe your problem and gather background information xvi
   Submit your problem to IBM Software Support xvi
   Searching knowledge bases .......... xvii
   Search the information center on your local system or network xvii
   Search the Internet ................. xvii
   Obtaining fixes ........................ xvii
   Updating support information ........ xviii
   Conventions used in this book .......... xviii
   Typeface conventions ............... xviii
   Changes in this edition ............... xix
   Programming interface information xix

Part 1. Guide .............................. 1

Chapter 1. Introducing the SP400 feature 3
Collecting performance data ............ 3

Chapter 2. Implementing the SP400 feature 5
Planning the implementation process .... 5
Considering which components to install . 6
Installing SP400 feature on AS/400 ........ 7
   Step 1: Check AS/400 requirements .... 7
   Disk space requirements ............ 7
   Software requirements .......... 7
   Step 2: Transfer SP400 feature code to AS/400 .... 7
   Step 2a: Generate tape or transfer file for installation on AS/400 .... 8
   Step 2b: Sign on to the AS/400 as QSECOFR .... 8
   Step 2c: Restore DRLLIB library from tape .... 8
   Step 2d: Restore DRLINST savefile .... 8
   Step 2e: Restore DRLDTA database library from DRLDTA savefile .... 9

Step 2f: Add Library DRLLIB to your library list ........ 10
Log files and data capture on the AS/400 .... 11
OS/400 log files description ............. 11
Capturing data on the AS/400 ............ 12
   Transferring captured data files to OS/390 .... 15
   Additional methods of transferring data to OS/390 .... 17
Installing SP400 feature components on the OS/390 system .... 17
   Updating the lookup tables .......... 19
   Updating OS400_JOB_ACCTCODE .... 20
   Updating OS400_DASDTYPE .... 20
   Updating OS400_DATE_FORMAT .... 20
   Updating OS400_JOBGROUP .... 20
   Testing the installation .......... 21
   Putting the feature into production .... 21

Part 2. Reference .......................... 23

Chapter 3. Data flow and Tivoli Decision Support for z/OS objects 25
SP400 feature general data flow .......... 25
   Description of record definitions and logs .... 27
SP400 feature accounting component data flow .... 28
   Where to look for further information .... 29
SP400 feature configuration component data flow .... 30
   Where to look for further information .... 31
SP400 feature job statistics component data flow .... 32
   Where to look for further information .... 33
SP400 feature messages component data flow .... 34
   Where to look for further information .... 35
SP400 feature performance component data flow .... 36
   Where to look for further information .... 37

Chapter 4. Data tables and lookup tables 39
Naming standard for tables ............... 39
Table descriptions .................. 39
Tables in the SP400 feature accounting component .... 41
   OS400_ACCT_JOB_D_M ............ 41
   OS400_ACCT_PRINT_D_M ........ 43
Tables in the SP400 feature configuration component .... 44
   OS400_CONFIG ............. 44
Tables in the SP400 feature job statistics component .... 46
   OS400_JOB_STAT_D_M ........ 46
Tables in the SP400 feature messages component .... 47
   OS400_MSG_STAT_D_M ........ 47
   OS400_MSG_STAT_DV_MV .... 48
Tables in the SP400 feature performance component .... 49
   OS400_PM_DISK_H_D ........ 49
   OS400_PM_POOL_H_D ........ 52
   OS400_PM_SYS_H_D ........ 54
   OS400_PM_SYS_JGR_H_D ...... 60

i

iii
Figures

1. Organizing and presenting system performance data ........................................... 3
2. Implementation process for the SP400 feature ......................................................... 6
3. Restoring SP400 library from tape ........................................................................... 8
4. Restoring SP400 library from savfile ......................................................................... 9
5. Listing of objects contained in DRLLIB .................................................................... 9
6. Restoring DRLDTA database library from DRLDTA savfile ............................... 10
7. Listing of objects contained in DRLDTA library ...................................................... 10
8. Adding DRLLIB to the library list of a job ............................................................... 11
9. SPMAIN Menu .......................................................................................................... 12
10. Start SP400 Server (STRPSRV) .............................................................................. 13
11. Start Collection Services command ...................................................................... 13
12. Start of data capture of History Log Data ............................................................... 14
13. Set time period parameter for data capturing ......................................................... 14
14. Set parameters to retrieve performance data from collections ............................ 15
15. Initialization of tape for data transfer to Tivoli Decision Support for z/OS ........... 16
16. Density values .......................................................................................................... 16
17. SAVSPDTA command window .............................................................................. 16
18. Tivoli Decision Support for z/OS Administration window .................................... 18
19. Components window ............................................................................................... 18
20. Installation Options window .................................................................................... 19
21. Daily steps involved in using Tivoli Decision Support for z/OS ............................. 21
22. General SP400 feature data flow ............................................................................ 25
23. SP400 feature accounting component data flow .................................................... 28
24. SP400 feature configuration component data flow ................................................ 30
25. SP400 feature job statistics component data flow .................................................... 32
26. SP400 feature messages component data flow ........................................................ 34
27. SP400 feature performance component data flow .................................................... 36
28. Example of OS/400 Acct Job Accounting, Monthly Overview ............................. 70
29. Example of OS/400 Acct Print Accounting, Monthly Overview ............................... 71
30. Example of OS/400 Config all Devices, Overview .................................................. 73
31. Example of OS/400 Config DASD Capacity, Overview .......................................... 74
32. Example of OS/400 Config Main Storage, Overview .............................................. 75
33. Example of OS/400 Config Device Count Type/Model, Overview ......................... 76
34. Example of OS/400 Config Device for Specific Type, Overview ............................. 77
35. Example of OS/400 Job Statistics by User, Monthly Overview ............................... 79
36. Example of OS/400 Job CPU Usage by User, Monthly Overview ............................ 80
37. Example of OS/400 Job Statistics all Systems, Daily Trend ..................................... 81
38. Example of OS/400 Job Statistics all Systems, Monthly Trend ............................... 82
39. Example of OS/400 Jobs Statistics for a User, Monthly Overview ............................ 83
40. Example of OS/400 Job Type Statistics, Monthly Overview ..................................... 84
41. Example of OS/400 Job Acct from History Log, Monthly Overview ....................... 85
42. Example of OS/400 Messages All Systems, Monthly Overview ............................... 87
43. Example of OS/400 Messages Most Frequent, Daily Overview ............................. 88
44. Example of OS/400 Messages Most Frequent, Monthly Overview ......................... 89
45. Example of OS/400 Messages by Sev. Codes, Monthly Overview ........................... 90
46. Example of OS/400 Messages for a User, Monthly Overview ................................... 91
47. Example of OS/400 Messages by Type, Monthly Overview ...................................... 92
48. Example of OS/400 Messages by User Name, Monthly Overview ........................... 93
49. Example of OS/400 Perf CPU and RTM Statistics, Hourly Trend ............................. 95
50. Example of OS/400 Perf Exception and Lock Stat, Hourly Trend ............................. 97
51. Example of OS/400 Perf Disk I/O Statistics, Hourly Trend ......................................... 98
52. Example of OS/400 Perf Disk Capacity Statistics, Hourly Trend ............................ 100
53. Example of OS/400 Perf Disk Arm Movements, Hourly Trend ............................... 102
54. Example of OS/400 Perf CPU and Trans by Job Group, Hourly Trend ..................... 104
55. Example of OS/400 Perf CPU by Job Group, Hourly Trend ..................................... 106
56. Example of OS/400 Perf Paging Statistics, Hourly Trend ....................................... 108
57. Example of OS/400 Perf Storage Pool & Act Level, Hourly Trend ............................ 110
58. Example of OS/400 Perf Transition Statistics, Hourly Trend .................................... 112
59. Example of OS/400 Perf Max & Avg CPU Usage, Hourly Trend ............................. 114
60. Example of OS/400 Perf CPU Usage all Systems, Daily Overview .......................... 115
61. Example of OS/400 Perf Summary all Systems, Daily Overview ............................. 116
62. Example of OS/400 Perf Summary for a System, Daily Trend ................................. 118
63. Example of OS/400 Perf Summary for a System, Hourly Trend .............................. 120
Tables

1. Library members and OS versions . . . . . . . . . 8
2. Number of restored objects. . . . . . . . . . . . . . 9
3. Library members and OS versions . . . . . . . 10
4. Record lengths and logtype entries for OS/400 logs . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 12
5. Record definitions and logs used by SP400 feature . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 27
Preface

The AS/400 System Performance Feature Guide and Reference describes how to use IBM® Tivoli® Decision Support for z/OS® to collect and report performance data generated by AS/400® systems.

IBM Tivoli Decision Support for z/OS (hereafter also referred to as Tivoli Decision Support for z/OS) was previously known as IBM Tivoli Decision Support for OS/390®. This book:

- Describes performance issues and how they affect the level of services you can offer users.
- Guides you through the component-selection, installation, and implementation processes.
- Explores performance characteristics shown in Tivoli Decision Support for z/OS reports so that you can analyze the characteristics of your system.

Note: The short form SP400 feature is used throughout this book instead of the full title AS/400 System Performance feature.

Tivoli Decision Support for z/OS was previously known as Tivoli Decision Support for OS/390.

The following terms are used interchangeably throughout this book:

- MVS™, OS/390, and z/OS.
- Tivoli Decision Support for z/OS and Tivoli Decision Support for OS/390
- OPC and Tivoli Workload Scheduler for z/OS

Who should read this book

The AS/400 System Performance Feature Guide and Reference is for:

- Anyone who analyzes or monitors AS/400 performance.
- Anyone responsible for establishing or meeting service-level objectives for AS/400 user groups.
- Tivoli Decision Support for z/OS administrators (primarily as a guide to feature installation and as a reference to table and report definitions).
- Users with various backgrounds who are interested in analyzing AS/400 performance data and improving AS/400 performance.

You can use the Tivoli Decision Support for z/OS SP400 feature to monitor AS/400, even if you have little experience with AS/400. However, to make the best use of the SP400 feature to improve performance, you should be familiar with AS/400, the terms that are unique to AS/400, and the terminology associated with database design and performance.

If you are not familiar with AS/400, refer to the AS/400 System Introduction and AS/400 System Concepts. These books describe the basic concepts of AS/400 and introduce you to some AS/400 terminology.
Also, the better you understand the interaction of processor cycles, storage, and I/O, the easier it is to identify performance constraints. The AS/400 product library is the authoritative source for information about understanding and tuning AS/400 performance.

What this book contains

Use this book to help you collect AS/400-generated performance data and create the reports supplied with the SP400 feature. This book explains how to create and display Tivoli Decision Support for z/OS reports to both monitor and understand AS/400 performance.

This book contains the following parts:

- Part I, “Guide” explains basic concepts of system management and offers suggestions on establishing performance objectives and service-level agreements. It also describes the SP400 feature role in the Tivoli Decision Support for z/OS environment and contains a task-oriented description of how to plan for and set up the SP400 feature so that useful reports and decision-support information are available immediately.
- Part II, “Reference” describes the flow of data from OS/400® logs to reports, showing Tivoli Decision Support for z/OS log and record definitions, tables, and reports. It also describes the supplied data tables and lookup tables, including their columns and expressions.
- Part III, “Appendixes” describes the use and the syntax of the following commands:
  - INZTAP, which prepares magnetic tape to be used to save data.
  - SAVSPDTA, which saves the performance data and provides the file transfer of this data from the AS/400 system to an OS/390 host system.

In addition, the Appendixes contain a list of abbreviations and a Glossary.

Publications

This section lists publications in the Tivoli Decision Support for z/OS library and any other related documents. It also describes how to access Tivoli publications online, how to order Tivoli publications, and how to submit comments on Tivoli publications.

Tivoli Decision Support for z/OS library

The following documents are available in the Tivoli Decision Support for z/OS library:

- Accounting Feature for z/OS, SH19-4495
  Provides information for users who want to use Tivoli Decision Support for z/OS to collect and report performance data generated by the Accounting Feature for z/OS.
- Administration Guide, SH19-6816
  Provides information about initializing the Tivoli Decision Support for z/OS database and customizing and administering Tivoli Decision Support for z/OS.
- AS/400 System Performance Feature Guide and Reference, SH19-4019
  Provides information for administrators and users about collecting and reporting performance data generated by AS/400 systems.
- CICS Performance Feature Guide and Reference, SH19-6820
Provides information for administrators and users about collecting and reporting performance data generated by Customer Information and Control System (CICS®).

- **Distributed Systems Performance Feature Guide and Reference**, SH19-4018
  Provides information for administrators and users about collecting and reporting performance data generated by operating systems and applications running on a workstation.

- **Guide to the Reporting Dialog**, SH19-6842
  Provides information for users who display existing reports, for users who create and modify reports, and for administrators who control reporting dialog default functions and capabilities.

- **IMS Performance Feature Guide and Reference**, SH19-6825
  Provides information for administrators and users about collecting and reporting performance data generated by Information Management System (IMS™).

- **Language Guide and Reference**, SH19-6817
  Provides information for administrators, performance analysts, and programmers who are responsible for maintaining system log data and reports.

- **Messages and Problem Determination**, SH19-6902
  Provides information to help operators and system programmers understand, interpret, and respond to Tivoli Decision Support for z/OS messages and codes.

- **Network Performance Feature Installation and Administration**, SH19-6901
  Provides information for network analysts or programmers who are responsible for setting up the network reporting environment.

- **Network Performance Feature Reference**, SH19-6822
  Provides information for network analysts or programmers who are responsible for setting up the network reporting environment.

- **Network Performance Feature Reports**, SH19-6821
  Provides information for network analysts or programmers who use the Network Performance feature reports.

- **System Performance Feature Guide**, SH19-6818
  Provides information for performance analysts and system programmers who are responsible for meeting the service-level objectives established in your organization.

- **System Performance Feature Reference Vol. I**, SH19-6819
  Provides information for administrators and users with a variety of backgrounds who want to use Tivoli Decision Support for z/OS to analyze Multiple Virtual Storage (MVS) or Virtual Machine (VM) performance data.

- **System Performance Feature Reference Vol.II**, SH19-4494
  Provides information for administrators and users with a variety of backgrounds who want to use Tivoli Decision Support for z/OS to analyze Multiple Virtual Storage (MVS) or Virtual Machine (VM) performance data.

- **IBM Online Library z/OS Software Products Collection Kit**, SK3T-4270
  CD containing all z/OS documentation.

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

Using LookAt to look up message explanations
LookAt is an online facility that lets you look up explanations for most messages you encounter, as well as for some system abends and codes. Using LookAt to find information is faster than a conventional search because in most cases LookAt goes directly to the message explanation.

You can access LookAt from the Internet at:
http://www.ibm.com/eserver/zseries/zos/bkserv/lookat/ or from anywhere in z/OS or z/OS.e where you can access a TSO/E command line (for example, TSO/E prompt, ISPF, z/OS UNIX® System Services running OMVS).

The LookAt Web site also features a mobile edition of LookAt for devices such as Pocket PCs, Palm OS, or Linux™-based handhelds. So, if you have a handheld device with wireless access and an Internet browser, you can now access LookAt message information from almost anywhere.

To use LookAt as a TSO/E command, you must have LookAt installed on your host system.

Accessing publications online
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:


Scroll down and click the Product manuals link. In the Tivoli Technical Product Documents Alphabetical Listing window, click the Tivoli Decision Support for z/OS 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:


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 additional information, see the Accessibility Appendix in Administration Guide.

Tivoli technical training

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

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

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-IBM-SERV (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” on page xvi
2.  “Describe your problem and gather background information” on page xvi
3.  “Submit your problem to IBM Software Support” on page xvi
Contacting 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:

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

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 recreated? 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:

- **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 [http://techsupport.services.ibm.com/guides/contacts.html](http://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" on page xvii and "Obtaining fixes" on page xvii.
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 machine or on an intranet server. You can use the search function of this information center to query conceptual information, instructions for completing tasks, reference information, and support documents.

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 Support on the Web. 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:

2. Under Products A - Z, select your product name. This opens a product-specific support site.
3. Under Self help, follow the link to All Updates, where you will find a list of fixes, fix packs, and other service updates for your product. For tips on refining your search, click Search tips.
4. 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.
Contacting IBM Software Support

For more information about types of fixes, see the Software Support Handbook [http://techsupport.services.ibm.com/guides/handbook.html].

Updating support information

Information centers typically include one or more support information plug-ins. These plug-ins add IBM technotes and other support documents to the information center. The following steps describe how to update your support information plug-ins:

2. Under Products A - Z, select your product name. This opens a product-specific support site.
3. Under Search support for this product, type the keyword phrase: com.ibm.support. Click the Download check box, and click Submit.
4. Check the search results for updates to support information plug-ins. All support information plug-ins follow the naming convention, "com.ibm.support.product.doc." If an update is available, select it from the list and view the download instructions.
5. Save the attached zip file to a temporary location on your hard drive.
6. Unzip the downloaded file, making sure that you retain the subfolders.
7. From the location where you unzipped the file, copy the support information plug-in folder to your Eclipse plug-ins folder. For example, if your IBM software product is installed at c:\IBM\WebSphere\, copy the updated plug-in folder (com.ibm.support.product.doc) to c:\IBM\WebSphere\eclipse\plugins.
8. To see the updated support information, start the information center (or shut it down and restart it), and expand the Support information node in the navigation tree.

Conventions used in this book

This guide uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

The terms MVS, OS/390, and z/OS are used interchangeably throughout this book.

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)
- Column headings in a table
- Keywords and parameters in text

*Italic*

- Citations (titles of books, diskettes, and CDs)
- Words defined in text
- Emphasis of words (words as words)
Changes in this edition

This edition is an updated version that replaces the previous edition of the same book. The changes are:

- The name of the product has been changed to Tivoli Decision Support for z/OS (except in figures).
- The section "Log files and data capture on the AS/400" on page 11 has been updated.
- "STRSP400 (Start SP400 data capturing) command" on page 127 has been updated and "STRCSSRV (Start Collections Services) command" on page 132 has been added.

Except for editorial changes, updates to this edition are marked with a vertical bar to the left of the change.

Programming interface information

This book is intended to help users monitor AS/400. This book documents information which is Diagnosis, Modification, or Tuning Information provided by Tivoli Decision Support for z/OS.

Attention: Do not use this Diagnosis, Modification, or Tuning Information as a programming interface.
Contacting IBM Software Support
<table>
<thead>
<tr>
<th>Chapter 1. Introducing the SP400 feature</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collecting performance data</td>
<td>3</td>
</tr>
</tbody>
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<tr>
<th>Chapter 2. Implementing the SP400 feature</th>
<th>5</th>
</tr>
</thead>
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<tr>
<td>Planning the implementation process</td>
<td>5</td>
</tr>
<tr>
<td>Considering which components to install</td>
<td>6</td>
</tr>
<tr>
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<td>7</td>
</tr>
<tr>
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<td>7</td>
</tr>
<tr>
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<td>7</td>
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<tr>
<td>Step 2c: Restore DRLLIB library from tape</td>
<td>8</td>
</tr>
<tr>
<td>Step 2d: Restore DRLLIB library from DRLINST savefile</td>
<td>8</td>
</tr>
<tr>
<td>Step 2e: Restore DRLDTA database library from DRLINST savefile</td>
<td>9</td>
</tr>
<tr>
<td>Step 2f: Add Library DRLLIB to your library list</td>
<td>10</td>
</tr>
<tr>
<td>Log files and data capture on the AS/400</td>
<td>11</td>
</tr>
<tr>
<td>OS/400 log files description</td>
<td>11</td>
</tr>
<tr>
<td>Capturing data on the AS/400</td>
<td>12</td>
</tr>
<tr>
<td>Transferring captured data files to OS/390</td>
<td>15</td>
</tr>
<tr>
<td>Additional methods of transferring data to OS/390</td>
<td>17</td>
</tr>
<tr>
<td>Installing SP400 feature components on the OS/390 system</td>
<td>17</td>
</tr>
<tr>
<td>Updating the lookup tables</td>
<td>19</td>
</tr>
<tr>
<td>Updating OS400_JOB_ACCTCODE</td>
<td>20</td>
</tr>
<tr>
<td>Updating OS400_DASDTYPE</td>
<td>20</td>
</tr>
<tr>
<td>Updating OS400_DATE_FORMAT</td>
<td>20</td>
</tr>
<tr>
<td>Updating OS400_JOBGROUP</td>
<td>20</td>
</tr>
<tr>
<td>Testing the installation</td>
<td>21</td>
</tr>
<tr>
<td>Putting the feature into production</td>
<td>21</td>
</tr>
</tbody>
</table>
Chapter 1. Introducing the SP400 feature

IBM Tivoli Decision Support for z/OS is a reporting system that collects utilization and throughput data logged by computer systems, then summarizes the data and presents it in a variety of forms. Tivoli Decision Support for z/OS consists of a base product and several optional features that are used in systems management.

Collecting performance data

All IBM systems and subsystems provide data on how well they perform. For the AS/400, this information is stored in OS/400 logs, which provide the basic information for SP400 feature. However, the information in the OS/400 logs must be captured and then transmitted to OS/390. To transmit the information to OS/390, two methods are supported by SP400 feature: using tape, and Network Job Entry (NJE). However, you can also use the NetView® File Transfer Program or Remote Job Entry (RJE), but you must perform some programming work.

Before you can analyze the transmitted data to understand the AS/400 characteristics, the transmitted data must be collected from the OS/390 log data sets (where it is stored after being transmitted). Tivoli Decision Support for z/OS and the SP400 feature can be customized to collect only the data required to meet your needs. The collected data is combined with more data (called environment data), and is finally presented in reports.

The process of entering and maintaining environment data is called administration. Tivoli Decision Support for z/OS provides an administration dialog for maintaining resource information. Refer to the Administration Guide for information on how to use the administration dialog.

Figure 1 illustrates how data is organized for presentation in Tivoli Decision Support for z/OS reports. For a more detailed description, see “SP400 feature general data flow” on page 25.

Figure 1. Organizing and presenting system performance data
The reports produced by the SP400 feature are grouped in the following report groups:

- **OS400ACT**: Accounting reports
- **OS400CON**: Configuration reports
- **OS400JOB**: Job statistics reports
- **OS400MSG**: Message reports
- **OS400PRF**: Performance reports

The reports cover a wide range of needs in a data processing center, and reporting can be performed online or in batch. The reports are accessible from the reporting dialog.

Finally, the key to successful implementation of Tivoli Decision Support for z/OS is knowing:

- The information and resources on which you want to report and how to perform customization to select them
- The way you want to organize, set objectives for, and process the data (used later to define the environment)
Chapter 2. Implementing the SP400 feature

This chapter supplements the procedure in the Administration Guide for installing a component with information specific to the SP400 feature.

This chapter describes how to:
• Plan the SP400 feature implementation process
• Decide which SP400 feature components to install
• Install the SP400 feature on the AS/400, including transferring SP400 feature code to the AS/400
• Use the collection services application on the AS/400 to change data collection parameters of the OS/400 log files
• Install the SP400 feature components on the Tivoli Decision Support for z/OS system on the OS/390 system
• Update the Tivoli Decision Support for z/OS lookup tables
• Collect data into Tivoli Decision Support for z/OS tables, from OS/390 log files containing data that has been transmitted from the AS/400
• Test the SP400 feature installation
• Put the SP400 feature into production

Planning the implementation process

Before installing the SP400 feature, you should follow these steps to plan the implementation process:
1. Analyze user tasks to determine what data the SP400 feature must gather to help users accomplish those tasks.
2. Determine which SP400 feature components you must install to meet user needs.
3. Determine the administration tasks you must perform for the selected components and make any decisions required by these tasks. These tasks help you customize Tivoli Decision Support for z/OS and the SP400 feature to work efficiently and effectively with your computer system.
4. For each selected component, determine the tasks you must perform to customize the supported products to work with Tivoli Decision Support for z/OS and with the SP400 feature.

If this is your first exercise in implementation planning, follow all these steps to ensure that the SP400 feature implementation is consistent. If you are reading this topic in preparation for modifying your system, you might not need to perform all of these tasks.

Use the planning process to prepare for these main customization tasks:
• Customizing your AS/400 systems to generate the data required by the components you install.
• Defining environment data, which is all the information (besides the input data) that the SP400 feature needs to create reports. Environment data controls the data-collection process and provides more information in the reports.
Figure 2 illustrates the process for implementing the SP400 feature:

Considering which components to install

Your most critical planning task is determining what information users need from the SP400 feature. For example, users might be interested only in error conditions or in processor capacity. Installing only those parts of the feature needed to meet user requirements ensures that the feature benefits users while it minimizes the performance impact caused by data collection and interpretation activities.
The SP400 feature is divided into five components:

- Accounting
- Configuration
- Job statistics
- Messages
- Performance

Consider carefully which components to install. Components are groups of Tivoli Decision Support for z/OS objects, such as predefined update definitions, data tables, and reports. If you find that you need reports from a component that you have not installed, you must install that component, then wait several days or weeks until enough data has been collected to create reports. However, if you install more components than you need, Tivoli Decision Support for z/OS collects needless data, which takes up disk space and uses processor time.

At this point, you might find it helpful to examine the predefined reports for each component. For more information, see Chapter 5, “Reports,” on page 67.

**Installing SP400 feature on AS/400**

This section gives you practical information on how to install SP400 feature on the AS/400.

**Step 1: Check AS/400 requirements**

**Disk space requirements**
The disk space required by SP400 feature depends upon the size of the databases created when data is captured.

To minimize the use of storage, you should perform data captures as frequently as possible. You can run time-set-batches to achieve this.

**Software requirements**
The SP400 feature requires the following programs, or subsequent upward-compatible levels, unless stated otherwise:

- Operating System/400® (OS/400) Version 5 Release 1 (5722-SS1). The AS/400 network should be connected to the OS/390 host either through an SNA, or a TCP/IP connection.
- NetView FTP Version 2 Release 1 (5685-108) and NetView FTP/400 Version 3 Release 1 (5733-196) are recommended for transfer of files to OS/390.
- IBM Performance Tools for AS/400 (5722-PT1) is recommended to change collection services parameters.

**Step 2: Transfer SP400 feature code to AS/400**

To install the AS/400 code from tape, you should:

1. Generate the tape to be installed on AS/400, or use your network to transfer an SMP-installed target library member to your AS/400 installation.
2. Sign on to the AS/400 system as QSECOFR.
3. Restore the DRLLIB library from tape or from the DRLINST savefile.
4. Restore the DRLDTA database library from the DRLDTA savefile.
5. Add the DRLLIB and DRLDTA libraries to your library list.
These steps are explained in detail in Steps 2a through 2f.

**Step 2a: Generate tape or transfer file for installation on AS/400**

If you are installing from tape, you need to create a job that will enable you to transfer the SP400 feature code from the SMP-installed target library DRL170. SDRLA400 to tape. To do this, modify the sample JCL contained in the partitioned data set member DRL170.SDRLCNTL (DRLJA400) using the following table:

<table>
<thead>
<tr>
<th>Members</th>
<th>OS versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRL5A400</td>
<td>OS/400 V5R1 M0 and TAPE transfer</td>
</tr>
<tr>
<td>DRL5400V</td>
<td>OS/400 V5R1 M0 and network transfer</td>
</tr>
<tr>
<td>DRL52400</td>
<td>OS/400 V5R2 M0 and TAPE transfer</td>
</tr>
<tr>
<td>DRL5240V</td>
<td>OS/400 V5R2 M0 and network transfer</td>
</tr>
</tbody>
</table>

Members are stored in DRL170. SDRLA400 library.

Run the job you have created. This produces a tape that contains the savefile used to install the SP400 feature on the AS/400, (see Step 2c).

If you use your network to transfer the file to the AS/400, use NJE or NetView to perform the transfer. This produces the savefile used to install the SP400 feature on the AS/400, (see Step 2d).

**Step 2b: Sign on to the AS/400 as QSECOFR**

Set the QSECOFR message queue in breakmode.

**Step 2c: Restore DRLLIB library from tape**

1. Mount the installation tape.
2. Get the system name for the tape device and the data file label. The data file label is DRL.CODE.
3. Run RSTLIB and press F4. The following window is displayed:

![Figure 3. Restoring SP400 library from tape](image)

**Step 2d: Restore DRLLIB library from DRLINST savefile**

To restore the DRLLIB library:

1. Use the CRTSAVF command to create a temporary savefile called QGPL/DRLINST.
2. Receive the file sent from the OS/390 system into the QGPL/DRLINST savefile.
3. Run the RSTLIB command to restore the DRLLIB library.
4. Press F4 to see a choice of valid field options. See Figure 4.

Figure 4. Restoring SP400 library from savefile

5. Use the DSPLIB command to display the library. See Figure 5.

Figure 5. Listing of objects contained in DRLLIB

6. Check that all objects in the library have been restored. The following table reports the number of restored objects according to the OS version:

<table>
<thead>
<tr>
<th>Member</th>
<th>OS versions</th>
<th>Number of restored objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRL52400</td>
<td>OS/400 V5R2M0</td>
<td>18</td>
</tr>
<tr>
<td>DRL5A400</td>
<td>OS/400 V5R1M0</td>
<td>18</td>
</tr>
</tbody>
</table>

Figure 5 on page 9 shows an example with the first 18 objects restored. To see the remaining objects, press PageDown.

Step 2e: Restore DRLDTA database library from DRLDTA savefile

1. Run the RSTLIB command to restore the DRLDTA library, then press F4 to see a choice of valid field options.
2. Specify the DRLLIB/DRLDTA savefile as the SAVF parameter.

![Figure 6. Restoring DRLDTA database library from DRLDTA savefile](image)

3. Use the DSPLIB command to display the library, see Figure 7.

![Figure 7. Listing of objects contained in DRLDTA library](image)

4. Check that all the objects in the library have been restored. The following table reports the number of restored objects according to the OS/version:

<table>
<thead>
<tr>
<th>Table 3. Library members and OS versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>DRL5240V</td>
</tr>
<tr>
<td>DRL5400V</td>
</tr>
</tbody>
</table>

![Figure 7](image)

shows an example with the first 12 objects restored.

Step 2f: Add Library DRLLIB to your library list

To obtain the correct library list to use with SP400 feature, add DRLLIB to the initial library list of the job description to be used, as shown in Figure 8 on page 11.

Do the same for the DRLDTA library. These library list entries could also be added to the user part of the system library list. All users of the system would then have access to the SP400 feature.
To make sure that the installation was successful, enable the SP400 Main Menu, running the GO SPMAIN command.

Log files and data capture on the AS/400

This section describes:

- The OS/400 log files, their format and record lengths
- Capturing data on the AS/400
- The transfer of captured performance data files to OS/390

OS/400 log files description

The log files to be transferred to OS/390 must have a format that is acceptable to Tivoli Decision Support for z/OS. To distinguish between data from different systems, the SP400 feature uses a column called SYSTEMID containing the name of the system. However, OS/400 logs do not usually contain this information. Therefore, the first record in all log files transferred must be a SOURCE record, with the following layout:

```
| 1...+....10...+....20...+....30...+....40...+....50...+....60...+....|
| SOURCE netname systemid logtypeversntimest
```

The fields have the following format:

- **SOURCE** Must be coded in columns 1-6.
- **netname** Is the network name of the AS/400 and must be coded in columns 8-15.
- **systemid** Is the system identification of the AS/400 and must be coded in columns 16-23.
- **logtype** Is the OS/400 log type used and must be coded in columns 50-57. For each OS/400 log, a specific entry is required in this field, as shown in Table 4 on page 12.
- **version** Is the OS/400 system version and must be coded in columns 57-62 in the form VxRyNz.
- **timestamp** Is the time indication of when data is saved and must be coded in columns 62-67 in the form hhmmss.
All log files must have fixed length records. For each log file, the following table gives the record length, and the entry required in columns 50-57 of the log file’s first record.

Table 4. Record lengths and logtype entries for OS/400 logs

<table>
<thead>
<tr>
<th>OS/400 log</th>
<th>Record length</th>
<th>Logtype entry (pos. 50-57 of 1st record)</th>
<th>OS/400 version</th>
</tr>
</thead>
<tbody>
<tr>
<td>QACGJRN</td>
<td>539</td>
<td>JOURNAL</td>
<td>V5R1 and later</td>
</tr>
<tr>
<td>QRZALLF</td>
<td>330</td>
<td>CONFIG</td>
<td>V5R1 and later</td>
</tr>
<tr>
<td>QHST</td>
<td>142</td>
<td>HISTORY</td>
<td>V5R1 and later</td>
</tr>
<tr>
<td>QAPMSYS</td>
<td>3288</td>
<td>PMSYS</td>
<td>V5R1</td>
</tr>
<tr>
<td></td>
<td>3294</td>
<td></td>
<td>V5R2</td>
</tr>
<tr>
<td>QAPMDISK</td>
<td>366</td>
<td>PMDISK</td>
<td>V5R1</td>
</tr>
<tr>
<td></td>
<td>367</td>
<td></td>
<td>V5R2</td>
</tr>
<tr>
<td>QAPMOOL</td>
<td>95</td>
<td>PMPOOL</td>
<td>V5R1 and later</td>
</tr>
</tbody>
</table>

To see how these OS/400 logs are used as the input to the SP400 feature log and record definitions, see "Description of record definitions and logs" on page 27.

Capturing data on the AS/400

To use the data capturing application, perform the following procedure:

1. To enable the SP400 Main Menu, run the GO SPMAIN command.
   
   The Main Menu window is displayed.

   ```
   SPMAIN   Tivoli Decision Support SP400 Main Menu
   Select one of the following:
   1. Start SP400 Monitor
   2. Collection Services
   3. Start SP400 data capturing
   4. Initialize Tape
   5. Save SP400 data
   90. Signoff
   
   Selection or command
   ===>
   F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
   ```

   Figure 9. SPMAIN Menu

2. From the SP400 Main Menu window, select option 1, and press Enter.
   
   The Start SP400 Server (STRSPSRV) window is displayed.
3. Press Enter to start the SP400 monitor and collection services from the Performance Tool. The SP400 monitoring job runs by default in subsystem QCTL.

When SP400 is active, the message DRL8003 is sent to the system history log as often as specified in the Time Interval parameter. Message DRL8003 contains average values of the performance data computed for the time interval, including CPU utilization, auxiliary storage available, I/O, and paging. When you capture and send the history log DRLQHST respectively with the command STRSP400 and SAVSPDTA, the information contained in message DRL8003 will be used by OS/390 to put data in the tables OS400_PERF_SUM_H and OS400_PERF_SUM_D.

4. From the SP400 Main Menu window, select option 2, and press Enter.

The Start Collection Services window is displayed.

5. To start Collection Services, press Enter and insert the interval (in minutes) for collection and retention period. The QYPSSTRC API starts the QYPSPFRCOL job in subsystem QSYSNOMAX. Performance data is collected according to the interval parameter in *MGTCOL objects stored in the QPFRDATA (for V5R1M0) or QMPGDATA (for V5R2M0) library. Collection data older than retention period is deleted.

6. To end Collection Services, select *END and press Enter. The QYPSENDNC API stops the QYPSPFRCOL job.

7. From the SP400 Main Menu window, select option 3, and press Enter.

The Start SP400 Data Capturing window is displayed.
8. In the Outfile field, enter the data information you want to capture. Valid names are displayed by pressing F4, detailed information is displayed by pressing F13. The selections are DRLQHST, DRLQACG, DRLQHDW, and DRLQPFR.

The selected output file will be emptied up and filled with the newly captured output. For example, if you type DRLQHST and press Enter, the following window is displayed:

```
Start SP400 Data Capturing (STRSP400)
Type choices, press Enter:
Outfile ........... DRLQHST DRLQHST, DRLQACG, DRLQHDW...
Library ........... *BLDPRF Name, *LIBL
Time period for log output:
Start time and date: +AVAIL Time, +AVAIL
Beginning date .... *BEGIN Date, +BEGIN, +CURRENT
End time and date: +AVAIL Time, +AVAIL
Ending time ...... *AVAIL Time, +AVAIL

Bottom F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

**Figure 13. Set time period parameter for data capturing**

The fields under the heading *Time period for log output* contain the start and end times for the data to be captured. Data will be captured from the system history log, based on the values specified in the Time period for log output fields. If the defaults are used, the command will go back to the last time the command was run and capture all the logged message data from that time up to the present.

The first time that the command is executed using the defaults, data is captured from the beginning of all the history files on the system. The maximum number of history files that the SP400 feature can capture is 273. When this number is reached, message DRL000D prompts you to save and delete old history files until fewer than 274 remain. When you press Enter, the data is captured and placed in the DRLQHST outfile. You can then send the data to OS/390 by using the SAVSPDTA command.

**Note:** When you select DRLQHDW as Outfile to capture hardware data, there are no start and end time entries.

9. When you select DRLQPFR as Outfile to capture performance data, no DRLQPRF output file is produced but the output files DRLQSYS, DRLQDSK,
and DRLQPOL. The command STRSP400 with DRLQPRF runs the CRTPFRDATA command to create a performance database from existing or active collections.

For example, if you type DRLQPFR and press Enter, the following window is displayed:

![Start SP400 data capturing (STRSP400)](image)

**Figure 14. Set parameters to retrieve performance data from collections**

Performance data is captured from the performance database by running the CRTPFRDATA command on a management collection (*MGTCOL) object. Performance database files and file members will be created as needed, based on the data contained in the management collection object and the information requested on this command. If database files already exist and the requested member exists in any of them, the member will be cleared before the collection is generated.

The time interval parameter specifies the time interval (in minutes) between successive entries in the database files. Within the database, these collection intervals are identified by interval number and interval time. Interval numbers begin with 1 and increment with each interval. Interval time are based on time at the end of the interval synchronized to the clock time (for example, if INTV(15) is specified, intervals can be generated as 01:00:00, 01:15:00, 01:30:00, and 01:45:00).

Select *FROMMGTCOL to use the interval set for the management collection object. The collection type parameter sets the CRTPFRDATA command to run on the active collection to capture data for the current day starting from 00:00:00 or to run on all the collections available on the system. Use the retention period parameter of the STRCSSRV command to handle the amount of data. You can also specify a starting and ending date and time for collections or use values as in the management collection object.

**Transferring captured data files to OS/390**

There are several methods of transferring captured data to OS/390, the one you choose depends upon the facilities you have available in your environment.

An easy method of transferring captured data to OS/390 involves using the SP400 feature automatic saving tape. To copy the files on the save tape to a disk accessible by Tivoli Decision Support for z/OS:

1. Select option 3 from the main menu, and press Enter. The following window is displayed:
2. On TAP01, mount a tape with a density supported by OS/390. The tape must also be valid for this device and for the device you intend to use on OS/390. To display a list of tape densities in AS/400, press F4. Press Enter to initialize this tape.

3. When you have initialized the tape, select Option 4 (save SP400 data) and press Enter. The following window is displayed:

4. Type the names of all the files you want to save or specify *ALL, then press Enter to start this function.

---

**Figure 15. Initialization of tape for data transfer to Tivoli Decision Support for z/OS**

2. On TAP01, mount a tape with a density supported by OS/390. The tape must also be valid for this device and for the device you intend to use on OS/390. To display a list of tape densities in AS/400, press F4. Press Enter to initialize this tape.

**Figure 16. Density values**

3. When you have initialized the tape, select Option 4 (save SP400 data) and press Enter. The following window is displayed:

**Figure 17. SAVSPDTA command window**

4. Type the names of all the files you want to save or specify *ALL, then press Enter to start this function.
Note: If you select DLRQPF or *ALL in the File field, you are prompted to complete two additional fields. In the Member field, specify either the name of the member you want to save from the AS/400 Performance files, or *SP400 if you want to save all available members. In the Delete unused perf files field, specify *YES or *NO depending on whether or not you want to save the performance files that were captured but not used.

Additional methods of transferring data to OS/390: You can also use one of the following methods to transfer data to OS/390:

NJE connection: If you have an NJE connection to OS/390, you can use NJE instead of tape. In this case, specify *NJE in the File transfer type field in Figure 17 on page 16.

User exit program: You can use a user exit program. In this case, specify *USER in the File transfer type field in Figure 17 on page 16.

To use this method:
- You must first create a user exit program and a data area.
- The user program must reside in a library on the library list. It must define the Library and File parameters because it will be called from the SP400 feature with the library and file names of the files you want to transfer.
- The user data area must have the name DRLDTA/USERDTAARA, and the program name must reside in the first 10 characters of the user data area. The first time that the SAVSPDTA command is executed with *USER specified in the File transfer type, the command creates the DRLDTA/USERDTAARA data area. You must add the program name to this data area.

NetView FTP: You can use the NetView File Transfer Program. This method requires some programming work.

Remote job entry: You can use Remote Job Entry (RJE). This method requires some programming work.

Installing SP400 feature components on the OS/390 system

After the system programmer has successfully installed the Tivoli Decision Support for z/OS base and features, choose the feature components you want to load. Tivoli Decision Support for z/OS installs the necessary log and record definitions, log procedure, and update definitions to Tivoli Decision Support for z/OS system tables. Tivoli Decision Support for z/OS also installs the predefined tables (described in Chapter 4, “Data tables and lookup tables,” on page 39) and reports (described in Chapter 5, “Reports,” on page 67).

Each component of the SP400 feature is optional. To avoid wasting system resources, install only the SP400 feature components that meet your requirements. Use the administration dialog to select which components of the SP400 feature to install.

To install SP400 feature components:
1. From the Tivoli Decision Support for z/OS Administration window (see Figure 18 on page 18), select 2, Components, and press Enter.
The Components window is displayed, see Figure 19.

2. From the Components window, select the components to install (here, the AS/400 accounting component), and press F6. The Installation Options window is displayed:

Figure 18. Tivoli Decision Support for z/OS Administration window

Figure 19. Components window
Updating the lookup tables

All components of the SP400 feature include lookup tables that you can customize to specify the groupings you want reflected in your reports.

If you specify online installation, Tivoli Decision Support for z/OS displays the Lookup Tables window. To edit a lookup table using ISPF edit, select a table and press Enter.

If you specify batch mode installation, you can edit the lookup tables using the ISPF editor after the component is installed. To do this:

1. Select 2, Tivoli Decision Support for z/OS Administration from the Tivoli Decision Support for z/OS Primary Menu.
2. Select 4, Tables.
3. Select the lookup table that you wish to edit, select the Edit pull-down, and press Enter.
4. Select 3, ISPF Editor from the Edit pull-down.
The lookup tables you can customize are:
- OS400_JOB_ACCTCODE
- OS400_DASDTYPE
- OS400_JOBGROUP
- OS400_DATE_FORMAT

These tables are described in the following sections.

### Updating OS400_JOB_ACCTCODE
The OS400_JOB_ACCTCODE is created when you install the SP400 feature Job Statistics component. Default information is provided in the table as a guide to customizing the table for your own use.

You must decide, for example:
- Which account codes are to be used?
- Are account codes to be different for batch and for online jobs types?
- Which account codes should users be allocated?
- Should certain job names carry specific account codes?

A sample of the lookup table contents is given in “OS400_JOB_ACCTCODE” on page 63.

### Updating OS400_DASDTYPE
The SP400 feature uses the OS400_DASDTYPE table when Performance Component reports are produced.

The table contains information about OS/400 device types, model information, and their capacity (in megabytes). You must update this table whenever additional devices are installed.

A sample of the lookup table contents is given in “OS400_DASDTYPE” on page 64.

### Updating OS400_DATE_FORMAT
The OS400_DATE_FORMAT table is created when you install the SP400 feature Job Statistics component or Accounting component.

You must complete the table if the system date format or the job date format in your AS/400 system is not MDY.

In that instance, you must specify:
- The AS/400 system ID
- The system date format (use the DSPSYSVAL QDAFTMT AS/400 command to find the format)
- The job date format (display your Job Definition attribute and use its Date Format)

### Updating OS400_JOBGROUP
All jobs are grouped automatically by the SP400 feature when a job is started. Performance data is collected and categorized on the basis of the job group number.
When the reports “OS/400 Perf CPU & Trans by Job Group, Hourly Trend” and “OS/400 Perf CPU by Job Group, Hourly Trend” are being produced, the SP400 feature uses this lookup table to find a job group name from a job group number.

A sample of the lookup table contents is given in “OS400_JOBGROUP” on page 66.

A description of each of the job group types, together with an example of their use in a performance report, are given in “Explanation of job group types” on page 106.

After installation is complete, Tivoli Decision Support for z/OS returns to the Components window, and the Status field indicates that the component is installed.

Testing the installation

Before starting the daily use of the SP400 feature, run a few tests to check that:

1. The installation is successful.
   • Tivoli Decision Support for z/OS is collecting the correct data.
   • The data is being stored correctly.
   • The correct data is being used for the creation of reports.

2. The lookup tables contain appropriate values.

Refer to the Administration Guide for the steps involved in testing component installation.

Putting the feature into production

After you run the tests and verify that the installation is successful, you can put the SP400 feature and its components into production.

Figure 21 shows the daily steps involved in using Tivoli Decision Support for z/OS:

You can run reports in batch, after setting batch parameters for each report using the administration dialog.

For detailed information about these steps, refer to the Administration Guide.
Part 2. Reference

Chapter 3. Data flow and Tivoli Decision Support for z/OS objects ........................................... 25
  SP400 feature general data flow .......................... 25
    Description of record definitions and logs ................. 27
  SP400 feature accounting component data flow ............. 28
    Where to look for further information .................... 29
  SP400 feature configuration component data flow ......... 30
    Where to look for further information .................... 31
  SP400 feature job statistics component data flow ....... 32
    Where to look for further information .................... 33
  SP400 feature messages component data flow ............. 34
    Where to look for further information .................... 35
  SP400 feature performance component data flow .......... 36
    Where to look for further information .................... 37

Chapter 4. Data tables and lookup tables ................. 39
  Naming standard for tables ............................. 39
  Table descriptions ...................................... 39
  Tables in the SP400 feature accounting component ....... 41
    OS400_ACCT_JOB_D_M ................................... 41
    OS400_ACCT_PRINT D_M .................................. 43
  Tables in the SP400 feature configuration component .. 44
    OS400_CONFIG ........................................... 44
  Tables in the SP400 feature job statistics component ... 46
    OS400_JOB_STAT_D_M ................................... 46
  Tables in the SP400 feature messages component ....... 47
    OS400_MSG_STAT_D_M ................................... 47
    OS400_MSG_STAT _DV_M .................................. 48
  Tables in the SP400 feature performance component .... 49
    OS400_PM_DISK_H_D .................................... 49
    OS400_PM_POOL_H_D ..................................... 52
    OS400_PM_SYS_H_D ..................................... 54
    OS400_PM_SYS_HGR_H_D ................................ 60
    OS400_PERF_SUM_H D ................................... 62
  SP400 feature lookup tables ............................. 63
    OS400_JOB ACCTCODE ................................... 63
    Example of table contents ............................... 63
    OS400_DASDTYPE ........................................ 64
    Example of table contents ............................... 64
    OS400_DATE_FORMAT ..................................... 65
    Example of table contents ............................... 65
    OS400_JOBGROUP ........................................ 66
    Example of table contents ............................... 66

Chapter 5. Reports .......................................... 67
  Report format and general description .................... 67
    Report ID .............................................. 67
    Report group .......................................... 68
    Source Tables ......................................... 68
    Attributes ............................................ 68
    Variables ............................................. 68
  Reports in the accounting component .................... 69
    OS/400 Acct Job Accounting, Monthly Overview .......... 70
    OS/400 Acct Print Accounting, Monthly Overview ....... 71
  Reports in the configuration component .................. 72
    OS/400 Config all Devices, Overview ..................... 73
    OS/400 Config DASD Capacity Overview .................... 74
    OS/400 Config Main Storage Overview .................... 75
    OS/400 Config Device Count Type/Model, Overview ....... 76
    OS/400 Config Device for Specific Type, Overview ...... 77
  Reports in the job statistics component ................. 78
    OS/400 Job Statistics by User, Monthly Overview ....... 79
    OS/400 Job CPU Usage by User, Monthly Overview ...... 80
    OS/400 Job Statistics All Systems, Daily Trend .. 81
    OS/400 Job Statistics all Systems, Monthly Trend .... 82
    OS/400 Job Statistics for a User, Monthly Overview ... 83
    OS/400 Job Type Statistics, Monthly Overview .......... 84
    OS/400 Job Acct from History Log, Monthly Overview ... 85
  Reports in the messages component ...................... 86
    OS/400 Messages All Systems, Monthly Overview ........ 87
    OS/400 Messages Most Frequent, Daily Overview .......... 88
    OS/400 Messages Most Frequent, Monthly Overview ....... 89
    OS/400 Messages by Sev. Codes, Monthly Overview ...... 90
    OS/400 Messages for a User, Monthly Overview .......... 91
    OS/400 Messages by Type, Monthly Overview ............. 92
    OS/400 Messages by User Name, Monthly Overview ....... 93
  Reports in the performance component ................... 94
    OS/400 Perf CPU and RTM Statistics, Hourly Trend .... 95
    OS/400 Perf Exception and Lock Stat, Hourly Trend ... 97
    OS/400 Perf Disk I/O Statistics, Hourly Trend .. 98
    OS/400 Perf Disk Capacity Statistics, Hourly Trend ... 100
    OS/400 Perf Disk Arm Movements, Hourly Trend .......... 102
    OS/400 Perf CPU and Trans by Job Group, Hourly Trend .... 104
    OS/400 Perf CPU by Job Group, Hourly Trend .......... 106
    Explanation of job group types ........................ 106
    OS/400 Perf Paging Statistics, Hourly Trend .......... 108
    OS/400 Perf Storage Pool & Act Level, Hourly Trend .... 110
    OS/400 Perf Transition Statistics, Hourly Trend ....... 112
    OS/400 Perf Max & Avg CPU Usage, Hourly Trend ......... 114
    OS/400 Perf CPU Usage all Systems, Daily Overview .... 115
    OS/400 Perf Summary all Systems, Daily Overview ....... 116
OS/400 Perf Summary for a System, Daily
Trend ................................. 118
OS/400 Perf Summary for a System, Hourly
Trend ................................. 120
Chapter 3. Data flow and Tivoli Decision Support for z/OS objects

This chapter describes:

- The general data flow, starting with the OS/400 logs and ending with the production of Tivoli Decision Support for z/OS reports. Included is a description of the SP400 feature™ record definitions and OS/400 logs.
- The data flow for each SP400 feature component, including the names of OS/400 logs, Tivoli Decision Support for z/OS records, tables, and reports. The SP400 feature components are:
  - Accounting component
  - Configuration component
  - Job statistics component
  - Messages component
  - Performance component

SP400 feature general data flow

![Diagram of SP400 feature general data flow]

The processing steps shown in Figure 22 are:

- Step 1: OS/400 logs
- Step 2: OS/400 log data sets
- Step 3: Log definitions, Record definitions
- Step 4: Tables, Control tables, Lookup tables, Reports

Figure 22. General SP400 feature data flow
1. **Log AS/400 data**, Step 1 (shown in Figure 22 on page 25)

   The AS/400 logs its performance data in six OS/400 logs at a time determined by the AS/400 base interval. The logs are:
   - QACGJRN
   - QRZALLF
   - QHST
   - QAPMSYS
   - QAPMDISK
   - QAPMPPOOL

   These OS/400 logs are used by record definitions to create the information to be entered into Tivoli Decision Support for z/OS tables. The logs and the record definitions that use the logs are described on page 27.

2. **Transmit AS/400 performance data to Tivoli Decision Support for z/OS**, Step 2

   You can transmit information to OS/390 using either tape or Network Job Entry (NJE). You can also use NetView File Transfer Program, or Remote Job Entry (RJE), but some programming work is needed to use these methods.

3. **Collect OS/400 log data into Tivoli Decision Support for z/OS tables**, Step 3

   In processing each record contained in the OS/400 log, the collect procedure:
   a. Uses a log procedure to read the record from the OS/400 log and reformat according to the Tivoli Decision Support for z/OS record definition.
   b. Uses a log collector to update the Tivoli Decision Support for z/OS table with the reformatted record. To do this, the log collector:
      - Uses the log definition and record definitions to update the Tivoli Decision Support for z/OS table with the reformatted record.
      - Uses an update definition to decide which reformatted record fields are to be included in which Tivoli Decision Support for z/OS table, including further summarizing into other tables (for example, updating the monthly table OS400_ACCT_JOB_M from the information used for updating the daily table OS400_ACCT_JOB_D).
      - Takes information from control tables (for example, the SP400 feature may determine the period in which the measurements were made by looking up the day type information in the SPECIAL_DAY or DAY_OF_WEEK tables).
      - Uses lookup tables (which contain user-defined information that defines an organization’s operating environment) to add user-defined data to the Tivoli Decision Support for z/OS table record.

4. For a description of the COLLECT procedure, see the Language Guide and Reference.
   For a description of the use of control tables, refer to the Administration Guide.

5. **Create reports**, Step 4
A description of how to create new reports is provided in the *Guide to the Reporting Dialog*.

The reports that are created after installing the SP400 feature are described in [Chapter 5, “Reports,” on page 67](#).

### Description of record definitions and logs

Table 5 shows the following:
- The OS/400 log file that the record definition uses
- The Tivoli Decision Support for z/OS log to which the record belongs
- The Tivoli Decision Support for z/OS record definition and record definition description
- The SP400 feature component to which the log and the record definitions belong

<table>
<thead>
<tr>
<th>OS/400 log (see Note 2)</th>
<th>Tivoli Decision Support for z/OS log definition</th>
<th>Tivoli Decision Support for z/OS record definition and description (see Note 1)</th>
<th>SP400 feature component</th>
</tr>
</thead>
<tbody>
<tr>
<td>QACGJRN (journal)</td>
<td>OS400_JOURNAL</td>
<td>OS400_ACCT_JOB (accounting job data)</td>
<td>Accounting</td>
</tr>
<tr>
<td>QACGJRN (journal)</td>
<td>OS400_JOURNAL</td>
<td>OS400_ACCT_PRINT (accounting print data)</td>
<td>Accounting</td>
</tr>
<tr>
<td>QARZALLF (config.)</td>
<td>OS400_CONFIG</td>
<td>OS400_CONFIG (configuration data)</td>
<td>Configuration</td>
</tr>
<tr>
<td>QHST (history)</td>
<td>OS400_HISTORY</td>
<td>OS400_HISTORY_MSG (job history data)</td>
<td>Job statistics, Message, Performance</td>
</tr>
<tr>
<td>QAPMSYS (system performance monitor)</td>
<td>OS400_PM_SYS</td>
<td>OS400_PM_SYS (system usage data)</td>
<td>Performance</td>
</tr>
<tr>
<td>QAPMDISK (disk performance monitor)</td>
<td>OS400_PM_DISK</td>
<td>OS400_PM_DISK_5 (disk data) V5R1 OS400_PM_DISK_52 (disk data) V5R2</td>
<td>Performance</td>
</tr>
</tbody>
</table>

**Notes:**

1. The fields contained in each record definition can easily be displayed when you do the following:
   a. Select 2, Tivoli Decision Support for z/OS Administration from the Tivoli Decision Support for z/OS Primary Menu.
   b. Select 3, Logs.
   c. Select the log definition using above table, which contains the record definition you require.
   d. Select the record definition you require, and the fields will be displayed.

2. The OS/400 history log is documented in the *AS/400 CL Programmer’s Guide* The other OS/400 logs are documented in the *AS/400 Work Management Guide*.

The data flow for each SP400 feature component is described in the following sections.

---

*Chapter 3. Data flow and PR objects* 27
The processing steps shown in Figure 23 are:

1. Log AS/400 performance data.
2. Transmit AS/400 performance data to Tivoli Decision Support for z/OS.
3. Collect the OS/400 log data into Tivoli Decision Support for z/OS tables, using information from the log definition, record definitions, control tables, and lookup table.
4. Create reports.
Where to look for further information

<table>
<thead>
<tr>
<th>For details of:</th>
<th>Turn to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A description of steps 1, 2, 3, and 4</td>
<td>Page 26</td>
</tr>
<tr>
<td>A description of the record definitions and OS/400 log</td>
<td>Page 27</td>
</tr>
<tr>
<td>OS400_ACCT_JOB_D and OS400_ACCT_JOB_M tables</td>
<td>Page 41</td>
</tr>
<tr>
<td>OS400_ACCT_PRINT_D and OS400_ACCT_PRINT_M tables</td>
<td>Page 43</td>
</tr>
<tr>
<td>Accounting component reports</td>
<td>Page 69</td>
</tr>
</tbody>
</table>

Note: Control tables are explained in the Administration Guide.
The processing steps shown in Figure 24 are:

1. Log AS/400 performance data.
2. Transmit AS/400 performance data to Tivoli Decision Support for z/OS.
3. Collect the OS/400 log data into Tivoli Decision Support for z/OS tables, using information from the log definition and record definition.
4. Create reports, using lookup table information.
## Where to look for further information

<table>
<thead>
<tr>
<th>For details of:</th>
<th>Turn to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A description of steps 1, 2, 3, and 4</td>
<td>Page 26</td>
</tr>
<tr>
<td>A description of the record definitions and OS/400 log</td>
<td>Page 27</td>
</tr>
<tr>
<td>OS400_CONFIG table</td>
<td>Page 44</td>
</tr>
<tr>
<td>OS400_DASDTYP lookup table</td>
<td>Page 64</td>
</tr>
<tr>
<td>Configuration component reports</td>
<td>Page 72</td>
</tr>
</tbody>
</table>
The processing steps shown in Figure 25 are:

1. Log AS/400 performance data.
2. Transmit AS/400 performance data to Tivoli Decision Support for z/OS.
3. Collect the OS/400 log data into Tivoli Decision Support for z/OS tables using information from the log definition, record definition, control tables, and lookup tables.
4. Create reports.
Where to look for further information

<table>
<thead>
<tr>
<th>For details of:</th>
<th>Turn to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A description of steps 1, 2, 3, and 4</td>
<td>Page 26</td>
</tr>
<tr>
<td>A description of the record definitions and OS/400 log</td>
<td>Page 27</td>
</tr>
<tr>
<td>OS400_JOB_STAT_D and OS400_JOB_STAT_M tables</td>
<td>Page 46</td>
</tr>
<tr>
<td>OS400_JOB_ACCTCODE lookup table</td>
<td>Page 63</td>
</tr>
<tr>
<td>OS400_DATE_FORMAT lookup table</td>
<td>Page 65</td>
</tr>
<tr>
<td>Job statistics component reports</td>
<td>Page 78</td>
</tr>
</tbody>
</table>

**Note:** Control tables are explained in the *Administration Guide.*
The processing steps shown in Figure 26 are:

1. Log AS/400 performance data.
2. Transmit AS/400 performance data to Tivoli Decision Support for z/OS.
3. Collect the OS/400 log data into Tivoli Decision Support for z/OS tables, using information from the log definition, record definition, and control tables.
4. Create reports.
Where to look for further information

<table>
<thead>
<tr>
<th>For details of:</th>
<th>Turn to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A description of steps 1, 2, 3, and 4</td>
<td>Page 26</td>
</tr>
<tr>
<td>A description of the record definitions and OS/400 log</td>
<td>Page 27</td>
</tr>
<tr>
<td>OS400_MSG_STAT_D and OS400_MSG_STAT_M tables</td>
<td>Page 47</td>
</tr>
<tr>
<td>Messages component reports</td>
<td>Page 86</td>
</tr>
</tbody>
</table>

Note: Control tables are explained in the Administration Guide.
Figure 27. SP400 feature performance component data flow

The processing steps shown in Figure 27 are:

1. Log AS/400 performance data.
2. Transmit AS/400 performance data to Tivoli Decision Support for z/OS.
3. Collect the OS/400 log data into Tivoli Decision Support for z/OS tables, using information from the log definitions, record definitions, and control tables.
4. Create reports, using lookup table information.
## Where to look for further information

<table>
<thead>
<tr>
<th>For details of:</th>
<th>Turn to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A description of steps  1 , 2 , 3 , and 4</td>
<td>Page 26</td>
</tr>
<tr>
<td>A description of the record definitions and OS/400 log</td>
<td>Page 27</td>
</tr>
<tr>
<td>OS400_PM_SYS_JGR_H and OS400_PM_SYS_JGR_D tables</td>
<td>Page 60</td>
</tr>
<tr>
<td>OS400_PM_SYS_H and OS400_PM_SYS_D tables</td>
<td>Page 54</td>
</tr>
<tr>
<td>OS400_PM_DISK_H and OS400_PM_DISK_D tables</td>
<td>Page 49</td>
</tr>
<tr>
<td>OS400_PM_POOL_H and OS400_PM_POOL_D tables</td>
<td>Page 52</td>
</tr>
<tr>
<td>OS400_PERF_SUM_H and OS400_PERF_SUM_D tables</td>
<td>Page 62</td>
</tr>
<tr>
<td>OS400_JOBGROUP lookup table</td>
<td>Page 66</td>
</tr>
<tr>
<td>Performance component reports</td>
<td>Page 94</td>
</tr>
</tbody>
</table>

**Note:** Control tables are explained in the *Administration Guide*. 
Chapter 4. Data tables and lookup tables

The Tivoli Decision Support for z/OS database is a collection of DB2® tables, where each table contains a fixed number of columns. The number of rows in each table varies with time, because of rows added by the collect function and because of database maintenance.

This chapter describes:
- The naming standard used for defining SP400 feature table names
- How each table is described in this chapter
- The tables used by the accounting component
- The tables used by the configuration component
- The tables used by the job statistics component
- The tables used by the messages component
- The tables used by the performance component
- The lookup tables used by some of the components

Note: For descriptions of common data tables used by the SP400 feature and other Tivoli Decision Support for z/OS features, refer to the Administration Guide.

Naming standard for tables

The names of SP400 feature tables use this format:

OS400_prefix_content_suffix

where:
- prefix identifies the component (for example, PERF for the performance component).
- content is a description (for example, DISK for the performance component disk statistics).
- suffix indicates the summarization level of the data in the table (for example, PM_DISK_D for disk performance statistics summarized by day). Table names for the configuration component do not contain suffixes.

A table name can have these summarization-level suffixes:

_H The table holds data summarized by hour (hourly data).
_D The table holds data summarized by day (daily data).
_M The table holds data summarized by month (monthly data).

Note: The configuration, lookup, and control tables do not have a prefix or suffix.

Table descriptions

Each description of a table includes information about the table, a description of each of the key columns, and a description of each of the data columns:
- Key columns are marked like this: k. They are sorted in the sequence they appear in the table.
- Data columns follow the last key column and are sorted in alphabetical order with the underscore ignored.
The descriptions of most key columns and data columns contain references to the fields from which they are derived in the record (for example, “From AC_UID”). For an explanation of such fields, refer to the applicable product documentation.

For each component, the tables appear in alphabetical order, with underscores and suffixes ignored.

Tables with similar contents (that is, tables with the same name but with different suffixes) are described under one heading. For example, the heading “OS400_PM_DISK_H, _D” covers two similar tables: OS400_PM_DISK_H and OS400_PM_DISK_D. Except for the DATE column, the contents of these tables are identical. Differences that exist in the contents of similar tables are explained in the column descriptions.
Tables in the SP400 feature accounting component

This section describes the following accounting component tables:
- "OS400_ACCT_JOB_D, _M"
- "OS400_ACCT_PRINT_D, _M" on page 43.

**OS400_ACCT_JOB_D, _M**

These tables contain daily and monthly OS/400 job accounting statistics. They contain data from OS400_ACCT_JOB records.

The default retention periods are:
- 30 days for OS400_ACCT_JOB_D
- 765 days for OS400_ACCT_JOB_M

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. For OS400_ACCT_JOB_M, this is the first day of the month.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LOGDATE and LOGTIME as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>USER_NAME</td>
<td>CHAR(10)</td>
<td>User name. From USERID.</td>
</tr>
<tr>
<td>JOB_NAME</td>
<td>CHAR(10)</td>
<td>Job name. From JOBNAME.</td>
</tr>
<tr>
<td>JOB_TYPE</td>
<td>CHAR(3)</td>
<td>Job type. From JATYPE.</td>
</tr>
<tr>
<td>ACCOUNT_CODE</td>
<td>CHAR(15)</td>
<td>Accounting code. From ACCTCODE.</td>
</tr>
<tr>
<td>COMPLETION_CODE</td>
<td>INTEGER</td>
<td>Job completion code. From JCCDE.</td>
</tr>
<tr>
<td>ACTIVE_SECONDS</td>
<td>FLOAT</td>
<td>Total job active time, in seconds. This is the sum of JAACT.</td>
</tr>
<tr>
<td>COMM_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of communications read operations. This is the sum of JACMGT.</td>
</tr>
<tr>
<td>COMM_WRITE_COUNT</td>
<td>INTEGER</td>
<td>Number of communications write operations. This is the sum of JACMPT.</td>
</tr>
<tr>
<td>CPU_SECONDS</td>
<td>FLOAT</td>
<td>Total processor time, in seconds. This is the sum of JACPU.</td>
</tr>
<tr>
<td>DB_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of database read operations. This is the sum of JADBGT.</td>
</tr>
<tr>
<td>DB_UPDATE_COUNT</td>
<td>INTEGER</td>
<td>Number of database update operations. This is the sum of JADBUP.</td>
</tr>
<tr>
<td>DB_WRITE_COUNT</td>
<td>INTEGER</td>
<td>Number of database write operations. This is the sum of JADBPT.</td>
</tr>
<tr>
<td>ELAPSED_SECONDS</td>
<td>INTEGER</td>
<td>Total elapsed time, in seconds. This is the sum of the interval from JASDTE, JASTME to LOGDATE, LOGTIME.</td>
</tr>
<tr>
<td>IO_ASYNC_COUNT</td>
<td>INTEGER</td>
<td>Number of synchronous auxiliary I/O operations and database operations. This is the sum of JAAUX.</td>
</tr>
<tr>
<td>IO_COUNT</td>
<td>INTEGER</td>
<td>Number of auxiliary I/O. This is the sum of JAAUX.</td>
</tr>
<tr>
<td>JOBS</td>
<td>INTEGER</td>
<td>Number of jobs. This is the count of JOBNAME.</td>
</tr>
<tr>
<td>PRINT_FILE_COUNT</td>
<td>INTEGER</td>
<td>Number of print files. This is the sum of JAPRTF.</td>
</tr>
<tr>
<td>PRINT_LINE_COUNT</td>
<td>INTEGER</td>
<td>Number of print lines. This is the sum of JALINE.</td>
</tr>
<tr>
<td>PRINT_PAGE_COUNT</td>
<td>INTEGER</td>
<td>Number of print pages. This is the sum of JAPAGE.</td>
</tr>
<tr>
<td>ROUTING_STEPS</td>
<td>INTEGER</td>
<td>Number of routing steps. This is the sum of JARTGS.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SUSPEND_SECONDS</td>
<td>FLOAT</td>
<td>Total job suspend time, in seconds. This is the sum of JASPN.</td>
</tr>
<tr>
<td>TRANSACTIONS</td>
<td>INTEGER</td>
<td>Number of transactions. This is the sum of JATRNS.</td>
</tr>
<tr>
<td>TRANSACTION_SEC</td>
<td>INTEGER</td>
<td>Total transaction time, in seconds. This is the sum of JATRNT.</td>
</tr>
</tbody>
</table>
**OS400_ACCT_PRINT_D, _M**

These tables contain daily and monthly OS/400 print accounting statistics. They contain data from OS400_ACCT_PRINT records.

The default retention periods are:
- 30 days for OS400_ACCT_PRINT_D
- 365 days for OS400_ACCT_PRINT_M

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LOGDATE. For OS400_ACCT_PRINT_M, this is the first day of the month.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LOGDATE, and LOGTIME as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>USER_NAME</td>
<td>CHAR(10)</td>
<td>User name. From USERID.</td>
</tr>
<tr>
<td>JOB_NAME</td>
<td>CHAR(10)</td>
<td>Job name. From JOBNAME.</td>
</tr>
<tr>
<td>FORM_TYPE</td>
<td>CHAR(10)</td>
<td>Print form type. From JAFMTTP.</td>
</tr>
<tr>
<td>ACCOUNT_CODE</td>
<td>CHAR(15)</td>
<td>Accounting code. From ACCTCODE.</td>
</tr>
<tr>
<td>JOBS</td>
<td>INTEGER</td>
<td>Number of jobs. This is the count of JOBNAME.</td>
</tr>
<tr>
<td>PRINT_BYTE_COUNT</td>
<td>INTEGER</td>
<td>Number of print bytes. This is the sum of JABYTE.</td>
</tr>
<tr>
<td>PRINT_LINE_COUNT</td>
<td>INTEGER</td>
<td>Number of print lines. This is the sum of JATLIN.</td>
</tr>
<tr>
<td>PRINT_PAGE_COUNT</td>
<td>INTEGER</td>
<td>Number of print pages. This is the sum of JATPAG.</td>
</tr>
</tbody>
</table>
Tables in the SP400 feature configuration component

This section describes the OS400_CONFIG configuration component table:

**OS400_CONFIG**

This table provides information about the hardware resources of AS/400 systems. It contains data from the OS400_CONFIG record.

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From DORDAT.</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
<td>Time when the record was written. From DORTIM.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>OS/400 system ID. From SYSTEMID.</td>
</tr>
<tr>
<td>RESOURCE_NAME</td>
<td>CHAR(10)</td>
<td>System defined resource name. From DORNAM.</td>
</tr>
<tr>
<td>RESOURCE_SERIAL_NO</td>
<td>CHAR(10)</td>
<td>System defined resource name. From DORNAM.</td>
</tr>
<tr>
<td>CARD_POSITION</td>
<td>CHAR(5)</td>
<td>Alternate card position. From DORACP.</td>
</tr>
<tr>
<td>COLOR_DISPLAY</td>
<td>CHAR(1)</td>
<td>Color-capable display: 0=No, 1=Yes. From DORCOL.</td>
</tr>
<tr>
<td>COMMUN_FUNCTION</td>
<td>CHAR(1)</td>
<td>Communications function: 0=No, 1=Yes. From DOCMNF.</td>
</tr>
<tr>
<td>CONFIG_OBJ_NAME</td>
<td>CHAR(10)</td>
<td>Configuration object name. From DOCFGO.</td>
</tr>
<tr>
<td>COUPLED_SYS_MODEL</td>
<td>CHAR(3)</td>
<td>Coupled system model. From DOSMDL.</td>
</tr>
<tr>
<td>COUPLED_SYS_NAME</td>
<td>CHAR(8)</td>
<td>Coupled system name. From DOSYTM.</td>
</tr>
<tr>
<td>COUPLED_SYS_SERIAL_NO</td>
<td>CHAR(10)</td>
<td>Coupled system serial number. From DOSSRN.</td>
</tr>
<tr>
<td>CRYPT_FUNCTION</td>
<td>CHAR(1)</td>
<td>Cryptographic function: 0=No, 1=Yes. From DOCRPF.</td>
</tr>
<tr>
<td>CSA_FUNCTION</td>
<td>CHAR(1)</td>
<td>Coupled System Adapter function: 0=No, 1=Yes. From DOCSAF.</td>
</tr>
<tr>
<td>FRAME_ID</td>
<td>CHAR(4)</td>
<td>Alternate frame identification. From DORAFI.</td>
</tr>
<tr>
<td>KEYBOARD_CODE</td>
<td>CHAR(3)</td>
<td>Keyboard country code. From DORKBD.</td>
</tr>
<tr>
<td>LWS_FUNCTION</td>
<td>CHAR(1)</td>
<td>Local Work Station function: 0=No, 1=Yes. From DOLWSF.</td>
</tr>
<tr>
<td>MAIN_STRG_CAPACITY</td>
<td>INTEGER</td>
<td>Main storage card capacity in MB. From DORMSZ.</td>
</tr>
<tr>
<td>PORT_NUMBER</td>
<td>CHAR(2)</td>
<td>Port number: 00–06. From DORPOR.</td>
</tr>
<tr>
<td>PREV_LEVEL_CONFIG</td>
<td>CHAR(10)</td>
<td>Previous level configuration object name. From DOCFGP.</td>
</tr>
<tr>
<td>PREV_LEVEL_RESOURCE</td>
<td>CHAR(10)</td>
<td>System-defined previous level resource name. From DOCPAR.</td>
</tr>
<tr>
<td>PROC_FEAT_CODE</td>
<td>CHAR(4)</td>
<td>Processor Feature Code. From PRCFCD.</td>
</tr>
<tr>
<td>PROCESSOR_FUNCTION</td>
<td>CHAR(1)</td>
<td>Processor function: 0=No, 1=Yes. From DOPRCF.</td>
</tr>
<tr>
<td>PROGRAMMABLE_WS</td>
<td>CHAR(1)</td>
<td>Programmable workstation: 0=No, 1=Yes. From DORIWS.</td>
</tr>
<tr>
<td>RECORD_FORMAT_ID</td>
<td>CHAR(1)</td>
<td>Record format identifier. From DORECF.</td>
</tr>
<tr>
<td>RESOURCE_DESCR</td>
<td>CHAR(2)</td>
<td>Resource description. From DORDSC.</td>
</tr>
<tr>
<td>RESOURCE_FRAME_ID</td>
<td>CHAR(2)</td>
<td>Resource frame identification. From DORRID.</td>
</tr>
<tr>
<td>RESOURCE_LEVEL</td>
<td>CHAR(1)</td>
<td>Resource level. From DORLVL.</td>
</tr>
<tr>
<td>RESOURCE_MODEL</td>
<td>CHAR(3)</td>
<td>Resource model number. From DORMOD.</td>
</tr>
<tr>
<td>RESOURCE_PART_NO</td>
<td>CHAR(12)</td>
<td>Resource part number. From DORPRT.</td>
</tr>
<tr>
<td>RESOURCE_STATUS</td>
<td>CHAR(1)</td>
<td>Resource status. From DORSTS.</td>
</tr>
<tr>
<td>RESOURCE_TYPE</td>
<td>CHAR(4)</td>
<td>Resource type. From DORTYP.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>RES_CARD_POSITION</td>
<td>CHAR(3)</td>
<td>Resource card position. From DORCSL.</td>
</tr>
<tr>
<td>RES_DEV_POSITION</td>
<td>CHAR(4)</td>
<td>Resource device position. From DORDSL.</td>
</tr>
<tr>
<td>RES_DIRECT_ADDRESS</td>
<td>CHAR(4)</td>
<td>Resource direct select address. From DORDSA.</td>
</tr>
<tr>
<td>RES_EIA_LOCATION</td>
<td>CHAR(2)</td>
<td>Resource EIA location. From DOREIA.</td>
</tr>
<tr>
<td>RES_EXTENDED_DESCR</td>
<td>CHAR(2)</td>
<td>Resource extended description. From DOREDS.</td>
</tr>
<tr>
<td>RES_UNIT_ADDRESS</td>
<td>CHAR(8)</td>
<td>Resource unit address. From DORUAA.</td>
</tr>
<tr>
<td>SCREEN_WIDTH</td>
<td>CHAR(1)</td>
<td>Screen width: 0=Standard, 1=Wide. From DORSWD.</td>
</tr>
<tr>
<td>STORAGE_FUNCTION</td>
<td>CHAR(1)</td>
<td>Storage function: 0=Standard, 1=Wide. From DOSTGF.</td>
</tr>
<tr>
<td>SWITCH_SETTING</td>
<td>CHAR(2)</td>
<td>Switch setting: 00–06 From DORSWT.</td>
</tr>
<tr>
<td>SYSTEM_HW_TYPE</td>
<td>CHAR(4)</td>
<td>System hardware type. From DOSTYP.</td>
</tr>
<tr>
<td>SYSTEM_MODEL_NO</td>
<td>CHAR(3)</td>
<td>System model number. From DOSMOD.</td>
</tr>
<tr>
<td>SYSTEM_SERIAL_NO</td>
<td>CHAR(10)</td>
<td>System serial number. From DOSSER.</td>
</tr>
<tr>
<td>TRANSPORT_TYPE_DEF</td>
<td>CHAR(2)</td>
<td>Transport type definition. From DORTTY.</td>
</tr>
<tr>
<td>TRANSP_LOC_FIELD1</td>
<td>CHAR(4)</td>
<td>Transport location field1. From DORTF1.</td>
</tr>
<tr>
<td>TRANSP_LOC_FIELD2</td>
<td>CHAR(4)</td>
<td>Transport location field2. From DORTF2.</td>
</tr>
<tr>
<td>TRANSP_LOC_FIELD3</td>
<td>CHAR(4)</td>
<td>Transport location field3. From DORTF3.</td>
</tr>
<tr>
<td>UNIT_ADDRESS_TYPE</td>
<td>CHAR(2)</td>
<td>Unit Address type. From DORUAT.</td>
</tr>
<tr>
<td>UNIT_ADDR_FIELD1</td>
<td>CHAR(4)</td>
<td>Unit Address field1. From DORUA1.</td>
</tr>
<tr>
<td>UNIT_ADDR_FIELD2</td>
<td>CHAR(4)</td>
<td>Unit Address field2. From DORUA2.</td>
</tr>
<tr>
<td>UNIT_ADDR_FIELD3</td>
<td>CHAR(4)</td>
<td>Unit Address field3. From DORUA3.</td>
</tr>
<tr>
<td>UNIT_ADDR_FIELD4</td>
<td>CHAR(4)</td>
<td>Unit Address field4. From DORUA4.</td>
</tr>
<tr>
<td>UNIT_ADDR_FIELD5</td>
<td>CHAR(4)</td>
<td>Unit Address field5. From DORUA5.</td>
</tr>
<tr>
<td>UNIT_POSITION</td>
<td>CHAR(5)</td>
<td>Alternate unit position. From DORADP.</td>
</tr>
<tr>
<td>VERS_RELEASE_MOD</td>
<td>CHAR(6)</td>
<td>Operating system level. From DOSVRM.</td>
</tr>
</tbody>
</table>
### Tables in the SP400 feature job statistics component

This section describes the following job statistics component tables:

- **OS400_JOB_STAT_D, _M**

#### OS400_JOB_STAT_D, _M

These tables provide daily and monthly statistics on OS400 jobs. They contain data from CPF1164 messages in the history file.

The default retention periods are:
- 30 days for OS400_JOB_STAT_D
- 365 days for OS400_JOB_STAT_M

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the job ended. From JDEND and JTEND. For OS400_JOB_STAT_M, this is the first day of the month.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, JDEND, and JTEND from the record as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>USER_NAME</td>
<td>CHAR(10)</td>
<td>User name. From USERID.</td>
</tr>
<tr>
<td>JOB_NAME</td>
<td>CHAR(10)</td>
<td>Job name. From JOBNAME.</td>
</tr>
<tr>
<td>JOB_TYPE</td>
<td>CHAR(3)</td>
<td>Job type. From JOBTYPE.</td>
</tr>
<tr>
<td>ACCOUNT_CODE</td>
<td>CHAR(15)</td>
<td>Accounting code. From ACCOUNT_CODE in the OS400_JOB_ACCTCODE lookup table. This is derived using fields SYSTEMID, USERID, JOBNAME and JOBTPE from the record as keys. If no match is found, this column is set to?.</td>
</tr>
<tr>
<td>COMPLETION_CODE</td>
<td>INTEGER</td>
<td>Job completion code. From JOBCC.</td>
</tr>
<tr>
<td>CPU_SECONDS</td>
<td>INTEGER</td>
<td>Total processor time, in seconds. This is the sum of CPUTIME.</td>
</tr>
<tr>
<td>ELAPSED_SECONDS</td>
<td>INTEGER</td>
<td>Total elapsed time, in seconds. This is the sum of the interval from JDSTR, JTSTR to JDEND, JTEND.</td>
</tr>
<tr>
<td>IO_COUNT</td>
<td>INTEGER</td>
<td>Total number of auxiliary I/O. This is the sum of JOBIO.</td>
</tr>
<tr>
<td>JOBS</td>
<td>INTEGER</td>
<td>Total number of jobs. This is the count of MSGID.</td>
</tr>
<tr>
<td>RESPONSE_SECONDS</td>
<td>INTEGER</td>
<td>Total response time, in seconds. This is the sum of JOBRRT.</td>
</tr>
<tr>
<td>ROUTING_STEPS</td>
<td>INTEGER</td>
<td>Total number of routing steps. This is the sum of JOBRSTP.</td>
</tr>
<tr>
<td>TRANSACTIONS</td>
<td>INTEGER</td>
<td>Total number of transactions. This is the sum of JOBTR.</td>
</tr>
</tbody>
</table>
Tables in the SP400 feature messages component

This section describes the following message component tables:

- “OS400_MSG_STAT_D, _M.”
- “OS400_MSG_STAT_DV, _MV” on page 48.

**OS400_MSG_STAT_D, _M**

These tables contain daily and monthly message statistics from the history file. They contain data from messages in the history file.

The default retention periods are:

- 30 days for OS400_MSG_STAT_D
- 365 days for OS400_MSG_STAT_M

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LOGCENTURY and LOGDATE. For OS400_MSG_STAT_M, this is the first day of the month.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LOGCENTURY, LOGDATE and LOGTIME as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>USER_NAME</td>
<td>CHAR(10)</td>
<td>User name. From USERID.</td>
</tr>
<tr>
<td>JOB_NAME</td>
<td>CHAR(10)</td>
<td>Job name. From JOBNAME.</td>
</tr>
<tr>
<td>MESSAGE_ID</td>
<td>CHAR(7)</td>
<td>Message identification. From MSGID.</td>
</tr>
<tr>
<td>MESSAGE_TYPE</td>
<td>CHAR(2)</td>
<td>Message type. From MSGTYPE.</td>
</tr>
<tr>
<td>MESSAGE_SEVERITY</td>
<td>CHAR(2)</td>
<td>Severity code. From SEVERITY.</td>
</tr>
<tr>
<td>MESSAGE_FILE</td>
<td>CHAR(10)</td>
<td>Name of message file. From MSGFILE.</td>
</tr>
<tr>
<td>DATA_BYTE_COUNT</td>
<td>INTEGER</td>
<td>Total number of bytes for data. This is the sum of MSGDATA.</td>
</tr>
<tr>
<td>LINE_COUNT</td>
<td>INTEGER</td>
<td>Total number of message lines. Calculated as the sum of MSGTEXT+MSGDATA+132+132/132.</td>
</tr>
<tr>
<td>MESSAGE_COUNT</td>
<td>INTEGER</td>
<td>Total number of messages. This is the count of MSGID.</td>
</tr>
<tr>
<td>TEXT_BYTE_COUNT</td>
<td>INTEGER</td>
<td>Total number of bytes for text. This is the sum of MSGTEXT.</td>
</tr>
</tbody>
</table>
OS400_MSG_STAT_DV, _MV

These views provide daily and monthly message statistics from the history file. They are based upon the OS400_MSG_STAT_D, _M tables.

The default retention periods are:
- 30 days for OS400_MSG_STAT_DV
- 365 days for OS400_MSG_STAT_MV

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LOGCENTURY and LOGDATE. For OS400_MSG_STAT_MV, this is the first day of the month.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LOGCENTURY, LOGDATE and LOGTIME from the record as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>DATA_BYTE_COUNT</td>
<td>INTEGER</td>
<td>Total number of bytes for data. This is the sum of MSGDATA.</td>
</tr>
<tr>
<td>LINE_COUNT</td>
<td>INTEGER</td>
<td>Total number of message lines. Calculated as the sum of (MSGTEXT+MSGDATA+132+132)/132.</td>
</tr>
<tr>
<td>MESSAGE_COUNT</td>
<td>INTEGER</td>
<td>Total number of messages. This is the count of MSGID.</td>
</tr>
<tr>
<td>TEXT_BYTE_COUNT</td>
<td>INTEGER</td>
<td>Total number of bytes for text. This is the sum of MSGTEXT.</td>
</tr>
</tbody>
</table>
Tables in the SP400 feature performance component

This section describes the following performance component tables:

- “OS400_PM_DISK_H, _D” on page 52
- “OS400_PM_POOL_H, _D” on page 54
- “OS400_PM_SYS_H, _D” on page 54
- “OS400_PM_SYS_JGR_H, _D” on page 60
- “OS400_PERF_SUM_H, _D” on page 62

OS400_PM_DISK_H, _D

These tables contain hourly and daily disk performance statistics. They contain data from the performance data file QAPMDISK.

The default retention periods are:
30 days for OS400_PM_DISK_H
365 days for OS400_PM_DISK_D

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LDATE.</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
<td>Time when the record was written (OS400_PM_DISK_H only). From LTIME.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LDATE, and LTIME from the record as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>IOP_ADDRESS</td>
<td>CHAR(2)</td>
<td>IOP address. From DIOPID.</td>
</tr>
<tr>
<td>DISKARM_NUMBER</td>
<td>CHAR(4)</td>
<td>Disk arm number. From DSARM.</td>
</tr>
<tr>
<td>ACCESS_RATE_AVG</td>
<td>FLOAT</td>
<td>Average arm access rate in I/O per second. Calculated as the average of (DSRDS+DSWRTS)/INTSEC.</td>
</tr>
<tr>
<td>ACCESS_RATE_MAX</td>
<td>FLOAT</td>
<td>Maximum arm access rate in I/O per second. Calculated as the maximum of (DSRDS+DSWRTS)/INTSEC.</td>
</tr>
<tr>
<td>ARM_NOTBUSY_CNT</td>
<td>INTEGER</td>
<td>Sum of times that arm was not busy. This is the sum of DSNBSY.</td>
</tr>
<tr>
<td>ARM_UTIL_AVG</td>
<td>FLOAT</td>
<td>Average arm utilization%. Calculated as the average of 100*(DSSMPL-DSNBSY)/DSSMPL.</td>
</tr>
<tr>
<td>ARM_UTIL_MAX</td>
<td>FLOAT</td>
<td>Maximum arm utilization%. Calculated as the maximum of 100*(DSSMPL-DSNBSY)/DSSMPL.</td>
</tr>
<tr>
<td>AVAILABLE_SPACE_MB</td>
<td>FLOAT</td>
<td>Average of drive available space in megabytes. Calculated as the average of DSAVL/1048576.</td>
</tr>
<tr>
<td>BACK_DIR_READ_CNT</td>
<td>INTEGER</td>
<td>Total number of device read operations on compression directory structures not immediately required to complete host commands. It is 0 for non-compressed units. Calculated as the sum of DSBGDR.</td>
</tr>
<tr>
<td>BACK_DIR_WRT_CNT</td>
<td>INTEGER</td>
<td>Total number of device write operations on compression directory structures not immediately required to complete host commands. It is 0 for non-compressed units. Calculated as the sum of DSBGDW.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>BACK_SWEEPS_CNT</td>
<td>INTEGER</td>
<td>Total number of times a 1 MB compression group was required to be swept not immediately required to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSBGS.</td>
</tr>
<tr>
<td>BFR_OVERRUN_CNT</td>
<td>INTEGER</td>
<td>Sum of buffer overruns. This is the sum of DSBUFO.</td>
</tr>
<tr>
<td>BFR_UNDERRUN_CNT</td>
<td>INTEGER</td>
<td>Sum of buffer underruns. This is the sum of DSBUFU.</td>
</tr>
<tr>
<td>BLOCK_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of blocks read. This is the sum of DSBLKR.</td>
</tr>
<tr>
<td>BLOCK_WRITE_COUNT</td>
<td>INTEGER</td>
<td>Number of blocks written. This is the sum of DSBLKW.</td>
</tr>
<tr>
<td>COMP_UNIT_IND</td>
<td>CHAR(1)</td>
<td>Compressed unit indicator. It is 1 if the disk data is compressed, 0 if the disk data is not compressed. From DSCOMP.</td>
</tr>
<tr>
<td>CNTRL_RD_CACHE</td>
<td>INTEGER</td>
<td>Total number of times that the data requested by the read operation could have been obtained from a controller read cache. It is 0 when the extended cache simulator is not enabled. Calculated as the sum of DSCERC.</td>
</tr>
<tr>
<td>DISK_TYPE</td>
<td>CHAR(4)</td>
<td>Disk drive type. From DSTYPE.</td>
</tr>
<tr>
<td>DRIVE_CAPACITY_MB</td>
<td>FLOAT</td>
<td>Average of drive capacity in megabytes. Calculated as the average of DSCAP/1048576.</td>
</tr>
<tr>
<td>FOR_DIR_READ_CNT</td>
<td>INTEGER</td>
<td>Total number of device read operations on compression directory structures needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGDR.</td>
</tr>
<tr>
<td>FOR_DIR_WRT_CNT</td>
<td>INTEGER</td>
<td>Total number of device write operations on compression directory structures needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGDW.</td>
</tr>
<tr>
<td>FOR_EXC_READ_CNT</td>
<td>INTEGER</td>
<td>Total number of additional read operations on compression exception area needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGRE.</td>
</tr>
<tr>
<td>FOR_EXC_WRT_CNT</td>
<td>INTEGER</td>
<td>Total number of additional write operations on compression exception area needed to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGWE.</td>
</tr>
<tr>
<td>FOR_SWEEPS_CNT</td>
<td>INTEGER</td>
<td>Total number of times a 1 MB compression group was required to be swept to complete host system commands. It is 0 for non-compressed units. Calculated as the sum of DSFGS.</td>
</tr>
<tr>
<td>IOP_UTIL_AVG</td>
<td>FLOAT</td>
<td>Average IOP utilization%. Calculated as the average of 100 * (INTSEC-DSIDL<em>C</em>DSIDL / 100000000) / INTSEC.</td>
</tr>
<tr>
<td>IOP_UTIL_MAX</td>
<td>FLOAT</td>
<td>Maximum IOP utilization%. Calculated as the maximum of 100 * (INTSEC-DSIDL<em>C</em>DSIDL / 100000000) / INTSEC.</td>
</tr>
<tr>
<td>LOG_BLOCK_ALL_CNT</td>
<td>INTEGER</td>
<td>Total number of logical blocks contained in allocated compression groups. It is 0 for non-compressed units. Calculated as the sum of DLSBA.</td>
</tr>
<tr>
<td>LOG_BLOCK_WRT_CNT</td>
<td>INTEGER</td>
<td>Total number of logical blocks written in the device user data area. It is 0 for non-compressed units. Calculated as the sum of DLSBW.</td>
</tr>
<tr>
<td>MEASURED_SEC</td>
<td>INTEGER</td>
<td>Interval time, in seconds. This is the sum of INTSEC.</td>
</tr>
<tr>
<td>PERM_STOR_AVAIL_MB</td>
<td>FLOAT</td>
<td>Average of permanent storage available in megabytes. Calculated as the average of DSPAVL/1048576.</td>
</tr>
<tr>
<td>PERM_STOR_CAP_MB</td>
<td>FLOAT</td>
<td>Average of permanent storage capacity in megabytes. Calculated as the average of DSPCAP/1048576.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PHYS_BLOCK_ALL_CNT</td>
<td>INTEGER</td>
<td>Total number of physical blocks reserved in the device data area for DASD extents. It is 0 for non-compressed units. Calculated as the sum of DLPBA.</td>
</tr>
<tr>
<td>PHYS_BLOCK_CPR_CNT</td>
<td>INTEGER</td>
<td>Total number of physical blocks used for compression overhead, that is, compression directory structures and other reserved areas. It is 0 for non-compressed units. Calculated as the sum of DSPBCO.</td>
</tr>
<tr>
<td>PHYS_BLOCK_USE_CNT</td>
<td>INTEGER</td>
<td>Total number of physical blocks reserved in the device user data area. It is 0 for non-compressed units. Calculated as the sum of DSPBU.</td>
</tr>
<tr>
<td>QUEUE_ELEMENT_CNT</td>
<td>INTEGER</td>
<td>Total queue elements. This is the sum of DSQUEL.</td>
</tr>
<tr>
<td>QUEUE_LENGTH_AVG</td>
<td>FLOAT</td>
<td>Average queue length. Calculated as the average of DSQUEL/DSSMPL.</td>
</tr>
<tr>
<td>QUEUE_LENGTH_MAX</td>
<td>FLOAT</td>
<td>Maximum queue length. Calculated as the maximum of DSQUEL/DSSMPL.</td>
</tr>
<tr>
<td>READ_DATA_CMD_CNT</td>
<td>INTEGER</td>
<td>Sum of read data commands. This is the sum of DSRDS.</td>
</tr>
<tr>
<td>SAMPLES</td>
<td>INTEGER</td>
<td>Number of intervals. This is the count of INTNUM.</td>
</tr>
<tr>
<td>SAMPLES_2PERSEC</td>
<td>INTEGER</td>
<td>Sum of samples taken at 2 per second. This is the sum of DSSMPL.</td>
</tr>
<tr>
<td>SEARCH_STRCMD_CNT</td>
<td>INTEGER</td>
<td>Number of search string commands. This is the sum of DSSCAN.</td>
</tr>
<tr>
<td>SEEK_EQ_0_CNT</td>
<td>INTEGER</td>
<td>Total number of zero seeks. This is the sum of DSSk6.</td>
</tr>
<tr>
<td>SEEK_GT_1_12_CNT</td>
<td>INTEGER</td>
<td>Total number of seeks arm traveled &gt; 1/12 and &lt; 1/6 on disk. This is the sum of DSSk4.</td>
</tr>
<tr>
<td>SEEK_GT_1_3_CNT</td>
<td>INTEGER</td>
<td>Total number of seeks arm traveled &gt; 1/3 and &lt; 2/3 on disk. This is the sum of DSSk2.</td>
</tr>
<tr>
<td>SEEK_GT_1_6_CNT</td>
<td>INTEGER</td>
<td>Total number of seeks arm traveled &gt; 1/6 and &lt; 1/3 on disk. This is the sum of DSSk3.</td>
</tr>
<tr>
<td>SEEK_GT_2_3_CNT</td>
<td>INTEGER</td>
<td>Total number of seeks arm traveled &gt; 2/3 on disk. This is the sum of DSSk1.</td>
</tr>
<tr>
<td>SEEK_LT_1_12_CNT</td>
<td>INTEGER</td>
<td>Total number of seeks arm traveled &lt; 1/12 on disk. This is the sum of DSSk5.</td>
</tr>
<tr>
<td>SERVICE_TIME_AVG</td>
<td>FLOAT</td>
<td>Average arm service time in seconds. Calculated as the average of ((DSSMPL-DSNBSY)/DSSMPL) / ((DSRDS+DSWRTS)/INTSEC).</td>
</tr>
<tr>
<td>SERVICE_TIME_MAX</td>
<td>FLOAT</td>
<td>Maximum arm service time in seconds. Calculated as the maximum of ((DSSMPL-DSNBSY)/DSSMPL) / ((DSRDS+DSWRTS)/INTSEC).</td>
</tr>
<tr>
<td>WRITE_DATA_CMD_CNT</td>
<td>INTEGER</td>
<td>Sum of write data commands. This is the sum of DSWRTS.</td>
</tr>
</tbody>
</table>
These tables provide hourly and daily storage pool performance statistics. They contain data from the performance data file QAPMPOOL.

The default retention periods are:
30 days for OS400_PM_POOL_H
365 days for OS400_PM_POOL_D

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LDATE.</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
<td>Time when the record was written (for OS400_PM_POOL_H only). From LTIME.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LDATE and LTIME from the record as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>POOL_NUMBER</td>
<td>CHAR(2)</td>
<td>Pool number. From PONBR.</td>
</tr>
<tr>
<td>ACT_INEL_RTE_MAX</td>
<td>FLOAT</td>
<td>Maximum active to ineligible transitions rate. Calculated as the maximum of POAI/INTSEC.</td>
</tr>
<tr>
<td>ACT_INEL_SUM</td>
<td>INTEGER</td>
<td>Sum of active to ineligible transitions. From POAI.</td>
</tr>
<tr>
<td>ACT_LVL_SET_AVG</td>
<td>FLOAT</td>
<td>Average activity level setting. This is the average of POACTL.</td>
</tr>
<tr>
<td>ACT_LVL_SET_MAX</td>
<td>INTEGER</td>
<td>Maximum activity level setting. This is the maximum of POACTL.</td>
</tr>
<tr>
<td>ACT_LVL_SET_MIN</td>
<td>INTEGER</td>
<td>Minimum activity level setting. This is the minimum of POACTL.</td>
</tr>
<tr>
<td>ACT_WAIT_RTE_MAX</td>
<td>FLOAT</td>
<td>Maximum active to wait transitions rate. Calculated as the maximum of POAW/INTSEC.</td>
</tr>
<tr>
<td>ACT_WAIT_SUM</td>
<td>INTEGER</td>
<td>Sum of active to wait transitions. This is the sum of POAW.</td>
</tr>
<tr>
<td>DB_FAULTRTE_MAX</td>
<td>FLOAT</td>
<td>Maximum database fault rate. Calculated as the maximum of PODBF/INTSEC.</td>
</tr>
<tr>
<td>DB_FAULT_SUM</td>
<td>INTEGER</td>
<td>Sum of database faults. This is the sum of PODBF.</td>
</tr>
<tr>
<td>DBGPG_READRTE_MAX</td>
<td>FLOAT</td>
<td>Maximum database page read rate. Calculated as the maximum of PODBPG/INTSEC.</td>
</tr>
<tr>
<td>DBGPG_READ_SUM</td>
<td>INTEGER</td>
<td>Sum of database pages read. This is the sum of PODBPG.</td>
</tr>
<tr>
<td>MEASURED_SEC</td>
<td>INTEGER</td>
<td>Total interval seconds. This is the sum of INTSEC.</td>
</tr>
<tr>
<td>NDB_FAULTRTE_MAX</td>
<td>FLOAT</td>
<td>Maximum non-database fault rate. Calculated as the maximum of PONDBF/INTSEC.</td>
</tr>
<tr>
<td>NDB_FAULT_SUM</td>
<td>INTEGER</td>
<td>Sum of non-database faults. This is the sum of PONDBF.</td>
</tr>
<tr>
<td>NDBGPG_READRTE_MAX</td>
<td>FLOAT</td>
<td>Maximum non-database page read rate. Calculated as the maximum of PONDPG/INTSEC.</td>
</tr>
<tr>
<td>NDBGPG_READ_SUM</td>
<td>INTEGER</td>
<td>Sum of non-database pages read. This is the sum of PONDPG.</td>
</tr>
<tr>
<td>POOL_SIZE_AVG</td>
<td>FLOAT</td>
<td>Average pool size, in kilobytes. This is the average of POSIZ.</td>
</tr>
<tr>
<td>POOL_SIZE_MAX</td>
<td>INTEGER</td>
<td>Maximum pool size, in kilobytes. This is the maximum of POSIZ.</td>
</tr>
<tr>
<td>POOL_SIZE_MIN</td>
<td>INTEGER</td>
<td>Minimum pool size, in kilobytes. This is the minimum of POSIZ.</td>
</tr>
<tr>
<td>POOL_SIZE_RSV_AVG</td>
<td>FLOAT</td>
<td>Average reserved pool size, in kilobytes. This is the average of PORES.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>POOL_SIZE_RSV_MAX</td>
<td>INTEGER</td>
<td>Maximum reserved pool size, in kilobytes. This is the maximum of PORES.</td>
</tr>
<tr>
<td>POOL_SIZE_RSV_MIN</td>
<td>INTEGER</td>
<td>Minimum reserved pool size, in kilobytes. This is the minimum of PORES.</td>
</tr>
<tr>
<td>SAMPLES</td>
<td>INTEGER</td>
<td>Total number of intervals. This is the count of INTNUM.</td>
</tr>
<tr>
<td>WAIT_INEL_RTE_MAX</td>
<td>FLOAT</td>
<td>Maximum wait to ineligible transitions rate. Calculated as the maximum of POWI/INTSEC.</td>
</tr>
<tr>
<td>WAIT_INEL_SUM</td>
<td>INTEGER</td>
<td>Sum of wait to ineligible transitions. This is the sum of POWI.</td>
</tr>
</tbody>
</table>
These tables contain hourly and daily OS/400 system performance statistics. They contain data from OS400_PM_SYS records in the OS/400 system performance monitor.

The default retention periods are:
- 30 days for OS400_PM_SYS_H
- 365 days for OS400_PM_SYS_D

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LDATE</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
<td>Time when the record was written (for OS400_PM_SYS_H only). From LTIME.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LDATE, and LTIME as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>OS/400 system ID. From SYSTEMID</td>
</tr>
<tr>
<td>AGMPG_FAULT_CNT</td>
<td>INTEGER</td>
<td>Number of access group member page faults. This is the sum of SYAPGF.</td>
</tr>
<tr>
<td>ASYNCH_LOCK_CNT</td>
<td>INTEGER</td>
<td>Number of asynchronous lock conflicts. This is the sum of SYASYL.</td>
</tr>
<tr>
<td>AUTH_LOOKUP_CNT</td>
<td>INTEGER</td>
<td>Number of authority lookups. This is the sum of SYAUTH.</td>
</tr>
<tr>
<td>BND_WRT_INTSYS</td>
<td>INTEGER</td>
<td>Bundle writes to internal system journals. This is the sum of SYJOB.</td>
</tr>
<tr>
<td>BND_WRT_USERJRN</td>
<td>INTEGER</td>
<td>Bundle writes to user-created journals. This is the sum of SYJOB.</td>
</tr>
<tr>
<td>BUSY_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of busy exceptions. This is the sum of SYBSYC.</td>
</tr>
<tr>
<td>CHANNEL_BUSY_CNT</td>
<td>INTEGER</td>
<td>Number of channel busy occurrences. This is the sum of SYCHNB.</td>
</tr>
<tr>
<td>CPUH_MILLISEC</td>
<td>INTEGER</td>
<td>Number of microseconds of processor time used by microcode or system jobs, or both. This is the sum of SHCPU.</td>
</tr>
<tr>
<td>CPUH_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SHCPU utilization, in percent. Calculated as the maximum of SHCPU/INTSEC/10.</td>
</tr>
<tr>
<td>CPU1_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU1, in milliseconds. This is the sum of SYSCPU.</td>
</tr>
<tr>
<td>CPU1_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU utilization, in percent. Calculated as the maximum of SYSCPU/INTSEC/10.</td>
</tr>
<tr>
<td>CPU2_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU2, in milliseconds. This is the sum of SYSCPU2.</td>
</tr>
<tr>
<td>CPU2_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU2 utilization, in percent. Calculated as the maximum of SYSCPU2/INTSEC/10.</td>
</tr>
<tr>
<td>CPU3_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU3, in milliseconds. This is the sum of SYSCPU3.</td>
</tr>
<tr>
<td>CPU3_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU3 utilization, in percent. Calculated as the maximum of SYSCPU3/INTSEC/10.</td>
</tr>
<tr>
<td>CPU4_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU4, in milliseconds. This is the sum of SYSCPU4.</td>
</tr>
<tr>
<td>CPU4_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU4 utilization, in percent. Calculated as the maximum of SYSCPU4/INTSEC/10.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CPU5_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU5, in milliseconds. This is the sum of SYSCPUS5.</td>
</tr>
<tr>
<td>CPU5_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS5 utilization, in percent. Calculated as the maximum of SYSCPUS5/INTSEC/10.</td>
</tr>
<tr>
<td>CPU6_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU6, in milliseconds. This is the sum of SYSCPUS6.</td>
</tr>
<tr>
<td>CPU6_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS6 utilization, in percent. Calculated as the maximum of SYSCPUS6/INTSEC/10.</td>
</tr>
<tr>
<td>CPU7_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU7, in milliseconds. This is the sum of SYSCPUS7.</td>
</tr>
<tr>
<td>CPU7_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS7 utilization, in percent. Calculated as the maximum of SYSCPUS7/INTSEC/10.</td>
</tr>
<tr>
<td>CPU8_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU8, in milliseconds. This is the sum of SYSCPUS8.</td>
</tr>
<tr>
<td>CPU8_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS8 utilization, in percent. Calculated as the maximum of SYSCPUS8/INTSEC/10.</td>
</tr>
<tr>
<td>CPU9_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU9, in milliseconds. This is the sum of SYSCPUS9.</td>
</tr>
<tr>
<td>CPU9_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS9 utilization, in percent. Calculated as the maximum of SYSCPUS9/INTSEC/10.</td>
</tr>
<tr>
<td>CPU10_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU10, in milliseconds. This is the sum of SYSCPUS10.</td>
</tr>
<tr>
<td>CPU10_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS10 utilization, in percent. Calculated as the maximum of SYSCPUS10/INTSEC/10.</td>
</tr>
<tr>
<td>CPU11_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU11, in milliseconds. This is the sum of SYSCPUS11.</td>
</tr>
<tr>
<td>CPU11_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS11 utilization, in percent. Calculated as the maximum of SYSCPUS11/INTSEC/10.</td>
</tr>
<tr>
<td>CPU12_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU12, in milliseconds. This is the sum of SYSCPUS12.</td>
</tr>
<tr>
<td>CPU12_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS12 utilization, in percent. Calculated as the maximum of SYSCPUS12/INTSEC/10.</td>
</tr>
<tr>
<td>CPU13_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU13, in milliseconds. This is the sum of SYSCPUS13.</td>
</tr>
<tr>
<td>CPU13_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS13 utilization, in percent. Calculated as the maximum of SYSCPUS13/INTSEC/10.</td>
</tr>
<tr>
<td>CPU14_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU14, in milliseconds. This is the sum of SYSCPUS14.</td>
</tr>
<tr>
<td>CPU14_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS14 utilization, in percent. Calculated as the maximum of SYSCPUS14/INTSEC/10.</td>
</tr>
<tr>
<td>CPU15_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU15, in milliseconds. This is the sum of SYSCPUS15.</td>
</tr>
<tr>
<td>CPU15_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS15 utilization, in percent. Calculated as the maximum of SYSCPUS15/INTSEC/10.</td>
</tr>
<tr>
<td>CPU16_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU16, in milliseconds. This is the sum of SYSCPUS16.</td>
</tr>
<tr>
<td>CPU16_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPUS16 utilization, in percent. Calculated as the maximum of SYSCPUS16/INTSEC/10.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CPU17_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU17, in milliseconds. This is the sum of SYSCPU17.</td>
</tr>
<tr>
<td>CPU17_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU17 utilization, in percent. Calculated as the maximum of SYSCPU17/INTSEC/10.</td>
</tr>
<tr>
<td>CPU18_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU18, in milliseconds. This is the sum of SYSCPU18.</td>
</tr>
<tr>
<td>CPU18_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU18 utilization, in percent. Calculated as the maximum of SYSCPU18/INTSEC/10.</td>
</tr>
<tr>
<td>CPU19_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU19, in milliseconds. This is the sum of SYSCPU19.</td>
</tr>
<tr>
<td>CPU19_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU19 utilization, in percent. Calculated as the maximum of SYSCPU19/INTSEC/10.</td>
</tr>
<tr>
<td>CPU20_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU20, in milliseconds. This is the sum of SYSCPU20.</td>
</tr>
<tr>
<td>CPU20_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU20 utilization, in percent. Calculated as the maximum of SYSCPU20/INTSEC/10.</td>
</tr>
<tr>
<td>CPU21_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU21, in milliseconds. This is the sum of SYSCPU21.</td>
</tr>
<tr>
<td>CPU21_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU21 utilization, in percent. Calculated as the maximum of SYSCPU21/INTSEC/10.</td>
</tr>
<tr>
<td>CPU22_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU22, in milliseconds. This is the sum of SYSCPU22.</td>
</tr>
<tr>
<td>CPU22_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU22 utilization, in percent. Calculated as the maximum of SYSCPU22/INTSEC/10.</td>
</tr>
<tr>
<td>CPU23_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU23, in milliseconds. This is the sum of SYSCPU23.</td>
</tr>
<tr>
<td>CPU23_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU23 utilization, in percent. Calculated as the maximum of SYSCPU23/INTSEC/10.</td>
</tr>
<tr>
<td>CPU24_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU24, in milliseconds. This is the sum of SYSCPU24.</td>
</tr>
<tr>
<td>CPU24_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU24 utilization, in percent. Calculated as the maximum of SYSCPU24/INTSEC/10.</td>
</tr>
<tr>
<td>CPU25_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU25, in milliseconds. This is the sum of SYSCPU25.</td>
</tr>
<tr>
<td>CPU26_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU26, in milliseconds. This is the sum of SYSCPU26.</td>
</tr>
<tr>
<td>CPU26_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU26 utilization, in percent. Calculated as the maximum of SYSCPU26/INTSEC/10.</td>
</tr>
<tr>
<td>CPU27_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU27, in milliseconds. This is the sum of SYSCPU27.</td>
</tr>
<tr>
<td>CPU27_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU27 utilization, in percent. Calculated as the maximum of SYSCPU27/INTSEC/10.</td>
</tr>
<tr>
<td>CPU28_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU28, in milliseconds. This is the sum of SYSCPU28.</td>
</tr>
<tr>
<td>CPU28_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU28 utilization, in percent. Calculated as the maximum of SYSCPU28/INTSEC/10.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CPU29_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU29, in milliseconds. This is the sum of SYSCPU29.</td>
</tr>
<tr>
<td>CPU29_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU29 utilization, in percent. Calculated as the maximum of SYSCPU29/INTSEC/10.</td>
</tr>
<tr>
<td>CPU30_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU30, in milliseconds. This is the sum of SYSCPU30.</td>
</tr>
<tr>
<td>CPU30_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU30 utilization, in percent. Calculated as the maximum of SYSCPU30/INTSEC/10.</td>
</tr>
<tr>
<td>CPU31_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU31, in milliseconds. This is the sum of SYSCPU31.</td>
</tr>
<tr>
<td>CPU31_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU31 utilization, in percent. Calculated as the maximum of SYSCPU31/INTSEC/10.</td>
</tr>
<tr>
<td>CPU32_MILLISEC</td>
<td>INTEGER</td>
<td>Processor time used by CPU32, in milliseconds. This is the sum of SYSCPU32.</td>
</tr>
<tr>
<td>CPU32_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum SYSCPU32 utilization, in percent. Calculated as the maximum of SYSCPU32/INTSEC/10.</td>
</tr>
<tr>
<td>DB_CPU_MSEC</td>
<td>FLOAT</td>
<td>Database CPU time in milliseconds. New with DSD/EWL support. Calculated as the sum of SYSDBC.</td>
</tr>
<tr>
<td>DECDATA_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of decimal data exceptions. This is the sum of SYDECD.</td>
</tr>
<tr>
<td>DIRPG_FAULT_CNT</td>
<td>INTEGER</td>
<td>Number of directory page faults. This is the sum of SYDPGF.</td>
</tr>
<tr>
<td>DISK_UTIL_MAX</td>
<td>INTEGER</td>
<td>Sum of maximum disk utilization. This is the sum of SMXDU.</td>
</tr>
<tr>
<td>EADDR_LOFL_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of effective address length overflow exceptions. This is the sum of SYEAOL.</td>
</tr>
<tr>
<td>EADDR_OFIL_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of effective address overflow exceptions. This is the sum of SYEAOT.</td>
</tr>
<tr>
<td>EXCEPTION_CNT</td>
<td>INTEGER</td>
<td>Number of exceptions. This is the sum of SYEXPN.</td>
</tr>
<tr>
<td>EXP_ACC_PATH_JRN</td>
<td>INTEGER</td>
<td>Exposed access paths currently being journalized by the system. This is the sum of STJOJY.</td>
</tr>
<tr>
<td>EXP_ACC_PATH_NOJRN</td>
<td>INTEGER</td>
<td>Exposed access paths currently not being journalized. This is the sum of STJOJN.</td>
</tr>
<tr>
<td>FALSE_TRAP_CNT</td>
<td>INTEGER</td>
<td>False traps, that is, the number of space address computations that required extra processing. It is the sum of SYHFT5.</td>
</tr>
<tr>
<td>IND_REBLD_CNT</td>
<td>INTEGER</td>
<td>Number of index rebuilds system wide. This is the sum of SYIXRB.</td>
</tr>
<tr>
<td>INTER_FEAT_MSEC</td>
<td>FLOAT</td>
<td>Time used on interactive feature. New with the support of interactive counters. Calculated as the sum of SYIFUS.</td>
</tr>
<tr>
<td>INT_THRS_EXCD_MSEC</td>
<td>FLOAT</td>
<td>Time used on exceeding the interactive threshold. New with the support of interactive counters. Calculated as the sum of SYIFTE.</td>
</tr>
<tr>
<td>JRNDEP_SYSJRN_TOT</td>
<td>INTEGER</td>
<td>Journal deposits resulting from system-journaled objects–total. This is the sum of SYJOID.</td>
</tr>
<tr>
<td>JRNDEP_SYS_TO_USR</td>
<td>INTEGER</td>
<td>Journal deposits resulting from system-journaled objects to user-created journals. This is the sum of SYJOJP.</td>
</tr>
<tr>
<td>JRNDEP_USRJRNR</td>
<td>INTEGER</td>
<td>Journal deposits resulting from user-journaled objects. This is the sum of SYJOXD.</td>
</tr>
<tr>
<td>MCPG_FAULT_CNT</td>
<td>INTEGER</td>
<td>Number of microcode page faults. This is the sum of SYMPGF.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>MEASURED_SEC</td>
<td>INTEGER</td>
<td>Total measurement time, in seconds. This is the sum of INTSEC.</td>
</tr>
<tr>
<td>MPOOL_PKG_CNT</td>
<td>INTEGER</td>
<td>Number of machine pool paging operations. This is the sum of SMPLP.</td>
</tr>
<tr>
<td>MPOOL_PKG_MAX_CNT</td>
<td>INTEGER</td>
<td>Number of user pool paging operations for pool with highest paging. This is the sum of SMUPL.</td>
</tr>
<tr>
<td>MRT_MAX_SEC</td>
<td>INTEGER</td>
<td>Number of seconds spent at MRTMAX by all multi-requesting terminals. This is the sum of SMMMT.</td>
</tr>
<tr>
<td>MRT_REQ_CNT</td>
<td>INTEGER</td>
<td>Number of requests routed to a multi-requesting terminal. This is the sum of SMMME.</td>
</tr>
<tr>
<td>MTASK_READ_CNT</td>
<td>INTEGER</td>
<td>Number of microtask read operations. This is the sum of SYMCTR.</td>
</tr>
<tr>
<td>MTASK_WRITE_CNT</td>
<td>INTEGER</td>
<td>Number of microtask write operations. This is the sum of SYMCTW.</td>
</tr>
<tr>
<td>OPEN_SYST_CNT</td>
<td>INTEGER</td>
<td>Number of full opens system wide. This is the sum of SYFOPN.</td>
</tr>
<tr>
<td>PERM_TRANS_BLOCK</td>
<td>INTEGER</td>
<td>Number of 512-byte blocks of permanent data transferred from main storage. This is the sum of SYPRMW.</td>
</tr>
<tr>
<td>REDUND_TRANS_BLOCK</td>
<td>INTEGER</td>
<td>Number of 512-byte blocks of redundancy data transferred from main storage. This is the sum of SYXSRW.</td>
</tr>
<tr>
<td>SAMPLES</td>
<td>INTEGER</td>
<td>Total number of measurement intervals. This is the count of INTNUM.</td>
</tr>
<tr>
<td>SEC_WRKLD_CPU_MSEC</td>
<td>FLOAT</td>
<td>Secondary workload CPU in milliseconds. New with DSD/EWL support. Calculated as the sum of SYSSWC.</td>
</tr>
<tr>
<td>SEIZE_WAIT_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of seize wait exceptions. This is the sum of SYSEZC.</td>
</tr>
<tr>
<td>SEIZE_WAIT_TIME</td>
<td>INTEGER</td>
<td>Seize/Wait time in milliseconds. This is the sum of SYSZWT.</td>
</tr>
<tr>
<td>SIZE_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of size exceptions. This is the sum of SYSIZC.</td>
</tr>
<tr>
<td>STPJRNP_USER</td>
<td>INTEGER</td>
<td>Stop journal operations initiated by user. This is the sum of SYJOXP.</td>
</tr>
<tr>
<td>STRJRNP_USER</td>
<td>INTEGER</td>
<td>Start journal operations initiated by user. This is the sum of SYJOXR.</td>
</tr>
<tr>
<td>STPJRNP_SYS</td>
<td>INTEGER</td>
<td>Stop journal operations initiated by system. This is the sum of SYJOIP.</td>
</tr>
<tr>
<td>STRJRNP_SYS</td>
<td>INTEGER</td>
<td>Start journal operations initiated by system. This is the sum of SYJOIR.</td>
</tr>
<tr>
<td>SYNCH_LOCK_CNT</td>
<td>INTEGER</td>
<td>Number of synchronous lock conflicts. This is the sum of SYSYNL.</td>
</tr>
<tr>
<td>SYSAUX_AVAIL_MB</td>
<td>FLOAT</td>
<td>Number of megabytes of available system auxiliary storage pools space available. Calculated as the average of SYSSAP/1048576.</td>
</tr>
<tr>
<td>SYS_EST_AP_REC_JRN</td>
<td>INTEGER</td>
<td>System-estimated access path recovery time exposure in milliseconds if no access paths were being journaled by the system. This is the sum of SYJOND.</td>
</tr>
<tr>
<td>SYS_EST_AP_RECOV</td>
<td>INTEGER</td>
<td>System-estimated access path recovery time exposure in milliseconds. This is the sum of SYJOSE.</td>
</tr>
<tr>
<td>SYS_MAN_AP_TADJ</td>
<td>INTEGER</td>
<td>System-managed access path tuning adjustments. This is the sum of SYJORT.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>TRAN_RTM1_CNT</td>
<td>INTEGER</td>
<td>Number of transactions in the 1st RTM bracket. This is the sum of SYLRT1.</td>
</tr>
<tr>
<td>TRAN_RTM2_CNT</td>
<td>INTEGER</td>
<td>Number of transactions in the 2nd RTM bracket. This is the sum of SYLRT2.</td>
</tr>
<tr>
<td>TRAN_RTM3_CNT</td>
<td>INTEGER</td>
<td>Number of transactions in the 3rd RTM bracket. This is the sum of SYLRT3.</td>
</tr>
<tr>
<td>TRAN_RTM4_CNT</td>
<td>INTEGER</td>
<td>Number of transactions in the 4th RTM bracket. This is the sum of SYLRT4.</td>
</tr>
<tr>
<td>TRAN_RTM5_CNT</td>
<td>INTEGER</td>
<td>Number of transactions in the 5th RTM bracket. This is the sum of SYLRT5.</td>
</tr>
<tr>
<td>TR_EAO_EXCEPT_CNT</td>
<td>INTEGER</td>
<td>Teraspace EAO exceptions, that is, the number of tolerated crossings of a 16 MB boundary within any teraspace. It is the sum of SYHEAO.</td>
</tr>
<tr>
<td>TR_FALSE_TRAP_CNT</td>
<td>INTEGER</td>
<td>False traps addressing teraspace, that is, the number of teraspace address computations that required extra processing. It is the sum of SYHFTH.</td>
</tr>
<tr>
<td>VERIFY_COUNT</td>
<td>INTEGER</td>
<td>Number of verifies. This is the sum of SYVFYC.</td>
</tr>
</tbody>
</table>
These tables provide hourly and daily OS/400 system performance statistics for job groups. They contain data from OS/400_PM_SYS records in the OS/400 system performance monitor.

The default retention periods are:
- 30 days for OS400_PM_SYS_JGR_H
- 365 days for OS400_PM_SYS_JGR_D

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LDATE.</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
<td>Time when the record was written (for OS400_PM_SYS_JGR_H only). From LTIME.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using fields SYSTEMID, LDATE, and LTIME as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>OS/400 system ID. From SYSTEMID.</td>
</tr>
<tr>
<td>JOB_GROUP_NUMBER</td>
<td>INTEGER</td>
<td>Job group number. From SECTNUM(GRP).</td>
</tr>
<tr>
<td>BIN_OFL_CNT</td>
<td>INTEGER</td>
<td>Number of binary overflows. This is the sum of OBIN.</td>
</tr>
<tr>
<td>COMM_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of communications reads. This is the sum of CMGT.</td>
</tr>
<tr>
<td>COMM_WRITE_COUNT</td>
<td>INTEGER</td>
<td>Number of communications writes. This is the sum of CMPT.</td>
</tr>
<tr>
<td>CPU_MILLISEC</td>
<td>INTEGER</td>
<td>Total processing unit time in milliseconds. This is the sum of CPU.</td>
</tr>
<tr>
<td>CPU_UTIL_MAX_PCT</td>
<td>FLOAT</td>
<td>Maximum processor utilization in percent. Calculated as the maximum of CPU/INTSEC/10.</td>
</tr>
<tr>
<td>DB_ASREAD_CNT</td>
<td>INTEGER</td>
<td>Number of asynchronous database reads. This is the sum of ADBR.</td>
</tr>
<tr>
<td>DB_ASWRITE_CNT</td>
<td>INTEGER</td>
<td>Number of asynchronous database writes. This is the sum of ADBW.</td>
</tr>
<tr>
<td>DB_LOG_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of logical database reads. This is the sum of LDBR.</td>
</tr>
<tr>
<td>DB_LOG_WRITE_COUNT</td>
<td>INTEGER</td>
<td>Number of logical database writes. This is the sum of LDBW.</td>
</tr>
<tr>
<td>DB_MISC_OPER_COUNT</td>
<td>INTEGER</td>
<td>Number of miscellaneous database operations. This is the sum of LDBU.</td>
</tr>
<tr>
<td>DBNDB_PS_WRITE_CNT</td>
<td>INTEGER</td>
<td>Number of physical synchronous database and non-database writes. This is the sum of PWRT.</td>
</tr>
<tr>
<td>DB_PS_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of physical synchronous database reads. This is the sum of PDBR.</td>
</tr>
<tr>
<td>DB_WRITE_CNT</td>
<td>INTEGER</td>
<td>Number of synchronous database writes. This is the sum of DBW.</td>
</tr>
<tr>
<td>DECIMAL_OFL_CNT</td>
<td>INTEGER</td>
<td>Number of decimal overflows. This is the sum of ODEC.</td>
</tr>
<tr>
<td>EADDR_OFL_EXC_CNT</td>
<td>INTEGER</td>
<td>Number of effective address overflow exceptions. This is the sum of EAO.</td>
</tr>
<tr>
<td>EFS_REG_FILE_READS</td>
<td>INTEGER</td>
<td>Enhanced file system regular file reads. This is the sum of XFRFR.</td>
</tr>
<tr>
<td>EFS_REG_FILE_WRTES</td>
<td>INTEGER</td>
<td>Enhanced file system regular file writes. This is the sum of XRFW.</td>
</tr>
<tr>
<td>EFS_SYM_DIR_READS</td>
<td>INTEGER</td>
<td>Enhanced file system directory reads. This is the sum of XDYR.</td>
</tr>
<tr>
<td>EFS_SYM_DR_LC_HITS</td>
<td>INTEGER</td>
<td>Enhanced file system directory lookup cache hits. This is the sum of DLCH.</td>
</tr>
<tr>
<td>Column name</td>
<td>Data type</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EFS_SYM_DR_LC_MISS</td>
<td>INTEGER</td>
<td>Enhanced file system directory lookup cache misses. This is the sum of DLCM.</td>
</tr>
<tr>
<td>EFS_SYM_LINK_READS</td>
<td>INTEGER</td>
<td>Enhanced file system symbolic link reads. This is the sum of XSLR.</td>
</tr>
<tr>
<td>FLP_OFL_CNT</td>
<td>INTEGER</td>
<td>Number of floating point overflows. This is the sum of OFLP.</td>
</tr>
<tr>
<td>IO_CHECKSUM_CNT</td>
<td>INTEGER</td>
<td>Number of checksum I/Os. This is the sum of CS.</td>
</tr>
<tr>
<td>IO_WAIT_COUNT</td>
<td>INTEGER</td>
<td>Number of waits for asynchronous I/O operations. This is the sum of WIO.</td>
</tr>
<tr>
<td>JOB_END_COUNT</td>
<td>INTEGER</td>
<td>Number of ended jobs. This is the sum of JBTERM.</td>
</tr>
<tr>
<td>JOBS</td>
<td>INTEGER</td>
<td>Total number of jobs. This is the sum of JBCT.</td>
</tr>
<tr>
<td>JOB_START_COUNT</td>
<td>INTEGER</td>
<td>Number of started jobs. This is the sum of JBNW.</td>
</tr>
<tr>
<td>MEASURED_SEC</td>
<td>INTEGER</td>
<td>Total measurement time in seconds. This is the sum of INTSEC.</td>
</tr>
<tr>
<td>NDB_PS_READ_COUNT</td>
<td>INTEGER</td>
<td>Number of physical synchronous non-database reads. This is the sum of PNDB.</td>
</tr>
<tr>
<td>NDB_ASREAD_CNT</td>
<td>INTEGER</td>
<td>Number of asynchronous non-database reads. This is the sum of ANDR.</td>
</tr>
<tr>
<td>NDB_ASWRITE_CNT</td>
<td>INTEGER</td>
<td>Number of asynchronous non-database writes. This is the sum of ANDW.</td>
</tr>
<tr>
<td>NDB_SWRITE_CNT</td>
<td>INTEGER</td>
<td>Number of synchronous non-database writes. This is the sum of NDW.</td>
</tr>
<tr>
<td>PAGE_FAULT_AUX_CNT</td>
<td>INTEGER</td>
<td>Number of page faults on an address currently part of an auxiliary I/O operation. This is the sum of IPF.</td>
</tr>
<tr>
<td>PAGE_FAULT_CNT</td>
<td>INTEGER</td>
<td>Number of program access group (PAG) faults. This is the sum of PAGF.</td>
</tr>
<tr>
<td>PRINT_LINE_COUNT</td>
<td>INTEGER</td>
<td>Number of print lines. This is the sum of PRTL.</td>
</tr>
<tr>
<td>PRINT_PAGE_COUNT</td>
<td>INTEGER</td>
<td>Number of print pages. This is the sum of PRTP.</td>
</tr>
<tr>
<td>REROUTE_WAIT_MS</td>
<td>INTEGER</td>
<td>Total time a job waited during rerouting in milliseconds. This is the sum of RRTT.</td>
</tr>
<tr>
<td>SAMPLES</td>
<td>INTEGER</td>
<td>Total number of measurement intervals. This is the sum of INTNUM.</td>
</tr>
<tr>
<td>SEIZE_WAIT_TIME</td>
<td>INTEGER</td>
<td>Seize/wait time in milliseconds. This is the sum of SZWT.</td>
</tr>
<tr>
<td>SOCKET_BS_REC_CNT</td>
<td>INTEGER</td>
<td>Number of socket bytes received. This is the sum of SKBR.</td>
</tr>
<tr>
<td>SOCKET_BS_SENT_CNT</td>
<td>INTEGER</td>
<td>Number of socket bytes sent. This is the sum of SKBS.</td>
</tr>
<tr>
<td>SOCKET_RECES_CNT</td>
<td>INTEGER</td>
<td>Number of socket receives. This is the sum of SKRC.</td>
</tr>
<tr>
<td>SOCKET_SENDS_CNT</td>
<td>INTEGER</td>
<td>Number of socket sends. This is the sum of SKSC.</td>
</tr>
<tr>
<td>SUSPEND_MILLISEC</td>
<td>INTEGER</td>
<td>Total job suspend time in milliseconds. This is the sum of SPDT.</td>
</tr>
<tr>
<td>TRAN_MILLISEC</td>
<td>INTEGER</td>
<td>Total transaction time in milliseconds. This is the sum of TRNT.</td>
</tr>
<tr>
<td>TRAN_PNO_COUNT</td>
<td>INTEGER</td>
<td>Number of DYNAMIC PURGE(*NO) transactions. This is the sum of PRG.</td>
</tr>
<tr>
<td>TRAN_PYYES_COUNT</td>
<td>INTEGER</td>
<td>Number of PURGE(*YES) transactions. This is the sum of BRG.</td>
</tr>
<tr>
<td>TRAN_RATE_MAX</td>
<td>FLOAT</td>
<td>Maximum number of transactions per second. Calculated as the maximum of TRNT/INTSEC.</td>
</tr>
<tr>
<td>TRAN_RESP_MAX_SEC</td>
<td>FLOAT</td>
<td>Maximum transaction response time in seconds. Calculated as the maximum of TRNT/TRNS.</td>
</tr>
<tr>
<td>TRANSACTIONS</td>
<td>INTEGER</td>
<td>Number of transactions. This is the sum of TRNS.</td>
</tr>
</tbody>
</table>
### OS400_PERF_SUM_H, _D

These tables provide hourly and daily summary performance statistics. They contain data from DRL8003 messages in the history file.

The default retention periods are:
- 30 days for OS400_PERF_SUM_H
- 365 days for OS400_PERF_SUM_D

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRITE_PERM_CNT</td>
<td>INTEGER</td>
<td>Number of permanent writes. This is the sum of PW.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
<tr>
<td>AUX_STOR_AVAIL_MB</td>
<td>FLOAT</td>
<td>Average of available auxiliary storage, in megabytes. This is the average of AAUX.</td>
</tr>
<tr>
<td>AUX_STOR_MB</td>
<td>FLOAT</td>
<td>Average of total auxiliary storage, in megabytes. This is the average of TAUX.</td>
</tr>
<tr>
<td>CPU_PCT_MAX</td>
<td>FLOAT</td>
<td>Maximum processor time used, in percent. Calculated as the maximum of 100*CPUU/MINT.</td>
</tr>
<tr>
<td>CPU_SECONDS</td>
<td>INTEGER</td>
<td>Total processor time used, in seconds. This is the sum of CPUU.</td>
</tr>
<tr>
<td>IO_COUNT</td>
<td>INTEGER</td>
<td>Sum of I/Os. This is the sum of IOS.</td>
</tr>
<tr>
<td>IO_MAX_RATE</td>
<td>FLOAT</td>
<td>Maximum I/O rate. Calculated as the maximum of IOS/MINT.</td>
</tr>
<tr>
<td>JOB_COUNT</td>
<td>INTEGER</td>
<td>Sum of jobs. This is the sum of TJOBS.</td>
</tr>
<tr>
<td>MEASURED_SEC</td>
<td>INTEGER</td>
<td>Total measurement time, in seconds. This is the sum of MSINT.</td>
</tr>
<tr>
<td>PAGE_COUNT</td>
<td>INTEGER</td>
<td>Sum of pages. This is the sum of PAGES.</td>
</tr>
<tr>
<td>PAGE_MAX_RATE</td>
<td>FLOAT</td>
<td>Maximum page rate. Calculated as the maximum of PAGES/MINT.</td>
</tr>
<tr>
<td>SAMPLES</td>
<td>INTEGER</td>
<td>Total number of measurement intervals. This is the count of MSGID.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Date when the record was written. From LOGDATE.</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
<td>Time when the record was written (for OS400_PERF_SUM_H only). Calculated from LOGTIME and MINT.</td>
</tr>
<tr>
<td>PERIOD_NAME</td>
<td>CHAR(8)</td>
<td>Name of the period. This is derived using the field SYSTEMID and calculations from the fields LOGDATE, LOGTIME and MINT as parameters in the PERIOD function.</td>
</tr>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>CHAR(8)</td>
<td>System identification. From SYSTEMID.</td>
</tr>
</tbody>
</table>
SP400 feature lookup tables

This section describes the following lookup tables specific to the SP400 feature:

- “OS400_JOB_ACCTCODE”
- “OS400_DASDTYPE” on page 64.
- “OS400_JOBGROUP” on page 66.

For descriptions of common lookup tables used by the SP400 feature and other Tivoli Decision Support for z/OS features, refer to the Administration Guide.

OS400_JOB_ACCTCODE

This lookup table is used in the SP400 feature job statistics component and contains account code information. It converts system identification, user name, job name and job type to an accounting code.

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS400_SYSTEM_ID</td>
<td>k CHAR(8)</td>
<td>System identification. This field can contain global search</td>
</tr>
<tr>
<td>USER_NAME</td>
<td>k CHAR(10)</td>
<td>User name. This field can contain global search characters.</td>
</tr>
<tr>
<td>JOB_NAME</td>
<td>k CHAR(10)</td>
<td>Job name. This field can contain global search characters.</td>
</tr>
<tr>
<td>JOB_TYPE</td>
<td>k CHAR(3)</td>
<td>Job type. This field can contain global search characters.</td>
</tr>
<tr>
<td>ACCOUNT_CODE</td>
<td>CHAR(15)</td>
<td>Accounting code to be assigned to job</td>
</tr>
</tbody>
</table>

Example of table contents

<table>
<thead>
<tr>
<th>OS400_SYSTEM_ID</th>
<th>USER_NAME</th>
<th>JOB_NAME</th>
<th>JOB_TYPE</th>
<th>ACCOUNT_CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44A0061</td>
<td>LENNART</td>
<td>%</td>
<td>%</td>
<td>100000000000000</td>
</tr>
<tr>
<td>S44A0061</td>
<td>ALMOS</td>
<td>%</td>
<td>%</td>
<td>100000000000000</td>
</tr>
<tr>
<td>S44A0061</td>
<td>RAYNER</td>
<td>%</td>
<td>%</td>
<td>400000000000000</td>
</tr>
<tr>
<td>S44A0061</td>
<td>DAVIS</td>
<td>%</td>
<td>B</td>
<td>400000000000000</td>
</tr>
<tr>
<td>S44A0061</td>
<td>DAVIS</td>
<td>%</td>
<td>I</td>
<td>406600000000000</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>999999999999999</td>
</tr>
</tbody>
</table>

The above six table entries are explained as follows:

1. The user LENNART is given the account code 100000000000000 for all job names and all job types in the system S44A0061
2. The user ALMOS is also given the account code 100000000000000 for all job names and all job types in the system S44A0061
3. The user RAYNER is given the account code 400000000000000 for all job names and all job types in the system S44A0061
4. The user DAVIS is given the account code 400000000000000 for all job names with job type B in the system S44A0061
5. The user DAVIS is given the account code 406600000000000 for all job names with job type I in the system S44A0061
6. The default account code 999999999999999 is given for all other jobs in all other systems.
This lookup table is used in the SP400 feature configuration component to calculate DASD capacity for a device type and model.

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVICE_TYPE</td>
<td>k</td>
<td>CHAR(4) Device type</td>
</tr>
<tr>
<td>DEVICE_MODEL</td>
<td>k</td>
<td>CHAR(3) Device model</td>
</tr>
<tr>
<td>MEGABYTE_COUNT</td>
<td>INTEGER</td>
<td>Number of megabytes per actuator</td>
</tr>
</tbody>
</table>

**Example of table contents**

<table>
<thead>
<tr>
<th>DEVICE_TYPE</th>
<th>DEVICE_MODEL</th>
<th>MEGABYTE_COUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2800</td>
<td>001</td>
<td>320</td>
</tr>
<tr>
<td>2801</td>
<td>050</td>
<td>988</td>
</tr>
<tr>
<td>2802</td>
<td>070</td>
<td>1031</td>
</tr>
<tr>
<td>6100</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6102</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6103</td>
<td>050</td>
<td>1967</td>
</tr>
<tr>
<td>6104</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6105</td>
<td>050</td>
<td>1967</td>
</tr>
<tr>
<td>6107</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6109</td>
<td>050</td>
<td>1967</td>
</tr>
<tr>
<td>6601</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6602</td>
<td>050</td>
<td>1967</td>
</tr>
<tr>
<td>6603</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6605</td>
<td>050</td>
<td>1967</td>
</tr>
<tr>
<td>6606</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6607</td>
<td>050</td>
<td>1967</td>
</tr>
<tr>
<td>6608</td>
<td>070</td>
<td>1967</td>
</tr>
<tr>
<td>6713</td>
<td>050</td>
<td>8589</td>
</tr>
<tr>
<td>6713</td>
<td>070</td>
<td>8589</td>
</tr>
<tr>
<td>6906</td>
<td>050</td>
<td>8589</td>
</tr>
<tr>
<td>6906</td>
<td>070</td>
<td>8589</td>
</tr>
<tr>
<td>6907</td>
<td>050</td>
<td>8589</td>
</tr>
<tr>
<td>6907</td>
<td>070</td>
<td>8589</td>
</tr>
<tr>
<td>9332</td>
<td>050</td>
<td>8589</td>
</tr>
<tr>
<td>9332</td>
<td>070</td>
<td>8589</td>
</tr>
<tr>
<td>9335</td>
<td>050</td>
<td>8589</td>
</tr>
<tr>
<td>9335</td>
<td>070</td>
<td>8589</td>
</tr>
<tr>
<td>9336</td>
<td>050</td>
<td>8589</td>
</tr>
<tr>
<td>9336</td>
<td>070</td>
<td>8589</td>
</tr>
<tr>
<td>9337</td>
<td>050</td>
<td>542</td>
</tr>
<tr>
<td>9337</td>
<td>070</td>
<td>542</td>
</tr>
<tr>
<td>9337</td>
<td>050</td>
<td>970</td>
</tr>
<tr>
<td>9337</td>
<td>070</td>
<td>970</td>
</tr>
<tr>
<td>9337</td>
<td>050</td>
<td>970</td>
</tr>
<tr>
<td>9337</td>
<td>070</td>
<td>970</td>
</tr>
<tr>
<td>9337</td>
<td>040</td>
<td>1967</td>
</tr>
<tr>
<td>9337</td>
<td>041</td>
<td>1967</td>
</tr>
<tr>
<td>9337</td>
<td>110</td>
<td>542</td>
</tr>
</tbody>
</table>
**OS400_DATE_FORMAT**

This lookup table is used in the SP400 feature job statistics component and accounting component. It defines the format of the job start and job completion message dates in the QHST file (QDATFMT column) and the format of the date for the journal entry that is generated in the QACGJRN file (DATFMT column).

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEMID</td>
<td>k</td>
<td>CHAR(8) AS/400 system ID</td>
</tr>
<tr>
<td>QDATFMT</td>
<td>CHAR(3)</td>
<td>System date format</td>
</tr>
<tr>
<td>DATFMT</td>
<td>CHAR(3)</td>
<td>Job date format</td>
</tr>
</tbody>
</table>

**Example of table contents**

<table>
<thead>
<tr>
<th>SYSTEMID</th>
<th>QDATFMT</th>
<th>DATFMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44A0061</td>
<td>YMD</td>
<td>DMY</td>
</tr>
<tr>
<td>S4415996</td>
<td>DMY</td>
<td>MDY</td>
</tr>
<tr>
<td>S4440400</td>
<td>JUL</td>
<td>JUL</td>
</tr>
</tbody>
</table>

Chapter 4. Data tables and lookup tables  65
**OS400_JOBGROUP**

This lookup table is used in the SP400 feature performance component, and converts job group number to job group name.

<table>
<thead>
<tr>
<th>Column name</th>
<th>Data type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOB_GROUP_NUMBER</td>
<td>INTEGER</td>
<td>Job group number</td>
</tr>
<tr>
<td>JOB_GROUP_NAME</td>
<td>CHAR(6)</td>
<td>Job group name</td>
</tr>
</tbody>
</table>

**Example of table contents**

<table>
<thead>
<tr>
<th>JOB_GROUP_NUMBER</th>
<th>JOB_GROUP_NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A-DDM</td>
</tr>
<tr>
<td>2</td>
<td>A-PCS</td>
</tr>
<tr>
<td>3</td>
<td>A-PTT</td>
</tr>
<tr>
<td>4</td>
<td>B-MRT</td>
</tr>
<tr>
<td>5</td>
<td>B-S/36</td>
</tr>
<tr>
<td>6</td>
<td>B-COMM</td>
</tr>
<tr>
<td>7</td>
<td>B-AUTO</td>
</tr>
<tr>
<td>8</td>
<td>B-BTCH</td>
</tr>
<tr>
<td>9</td>
<td>A-INT</td>
</tr>
<tr>
<td>10</td>
<td>B-CPF</td>
</tr>
</tbody>
</table>

You can find an explanation of the job groups, and see how these job groups are used in the performance component, by referring to the report “OS/400 Perf CPU by Job Group, Hourly Trend” on page 106.
Chapter 5. Reports

The reporting function produces reports based on the data in the Tivoli Decision Support for z/OS database. Reports can show data from tables or from views. You can request reports online or by submitting batch jobs. Typically, you use online reporting for reports that you use once, and batch reporting for regularly required reports.

This chapter describes:
- The format of the names used to define each report, and how source tables, attributes, and variables are used
- The reports in the accounting component
- The reports in the configuration component
- The reports in the job statistics component
- The reports in the messages component
- The reports in the performance component

Report format and general description

Tivoli Decision Support for z/OS presents reports in tables or graphs. All reports have the same basic report layout. This section describes the elements that are common among Tivoli Decision Support for z/OS feature reports:
- Report ID
- Report group
- Source
- Attributes
- Variables

Report ID

Tivoli Decision Support for z/OS assigns each report a unique identifier. The SP400 feature uses the following format for report IDs:

OS400yxx

where:
- y can be:
  A   The accounting component
  C   The configuration component
  J   The job statistics component
  M   The messages component
  P   The performance component
- xx is a sequential number identifying the report.

Examples:
- OS400A01
- OS400P11
Report group

Tivoli Decision Support for z/OS uses several predefined report groups. For SP400 feature, each component has one group. The five SP400 feature report groups are given on page 4.

Source Tables

Each report contains information from one or more source tables. The report descriptions in this chapter list source tables. Refer to these tables to learn where certain data originates.

Attributes

Each report has certain attributes associated with it. Use these attributes as keywords to search for specific reports in the dialogs.

You can specify any number of attributes for a report, but these attributes are always present for predefined reports:

• The area to which the report belongs (for example, AS400)
• The task that the report supports:
  Performance       Performance control task
  Service           Service-level planning task
  Capacity          Capacity planning task
  Security          Security control task
  Configuration     Configuration management discipline
  Operation         Operations management discipline
  Change            Change management discipline
  Problem           Problem management discipline

You can also specify these attributes, when appropriate:

• Resource types, such as storage or processor time
• Performance issues, such as availability or response
• Presentation forms, such as detail, overview, or trend
• Time resolutions, such as hourly, daily, or monthly

Variables

Each report has variables associated with it. You specify the values for these variables when you generate the report using the reporting dialog.

When you specify a date for a monthly report, specify the first day of the month. Otherwise, there is no match in the data table.

If a character variable has only numeric characters, enclose it in single quotation marks, otherwise it will not match the data. For example, if you have a system ID of 1234, specify it as ‘1234’ in the Variables window.
Reports in the accounting component

This section describes the following accounting component reports:

- “OS/400 Acct Job Accounting, Monthly Overview” on page 70.
- “OS/400 Acct Print Accounting, Monthly Overview” on page 71.

The data flow for the accounting component (including the names of OS/400 logs, Tivoli Decision Support for z/OS records and tables) is given in “SP400 feature accounting component data flow” on page 28.
OS/400 Acct Job Accounting, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 28) provides monthly overview information about how much of the resources each user and department has used, summarized by account code. The report can be used as a guide for charging users and departments for the system resources they have used, and is produced by period name (for example, PRIME or NIGHT).

This information identifies the report:

Report ID  OS400A01
Report group  OS/400 Accounting Component Reports
Source  OS400_ACCT_JOB_M (described on page 41)
Attributes  OS400, Acct, Accounting, Job, Monthly, Overview,
Variables  Month, Period name, OS400 system ID

The report contains this information:

Account code  The accounting code.
User name  The user name.
Jobs (count)  The number of jobs.
CPU time (hours)  The total processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.
I/O (1000s)  The total number of auxiliary I/Os, in thousands. This is calculated as SUM(IO_COUNT)/1000.

Figure 28. Example of OS/400 Acct Job Accounting, Monthly Overview

<table>
<thead>
<tr>
<th>Account code</th>
<th>User name</th>
<th>Jobs (count)</th>
<th>CPU time (hours)</th>
<th>I/O (1000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AURELL</td>
<td>34</td>
<td>0.46</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>CHRISTIN</td>
<td>312</td>
<td>0.43</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>FAXADMN</td>
<td>62</td>
<td>0.16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>IBM</td>
<td>18</td>
<td>0.05</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>JAN400</td>
<td>11</td>
<td>0.25</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>JIVE</td>
<td>74</td>
<td>0.07</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>LENNART</td>
<td>48</td>
<td>0.09</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>QPDRM</td>
<td>12</td>
<td>0.03</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>QSECOFR</td>
<td>21</td>
<td>0.12</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>OSNADMS</td>
<td>19</td>
<td>0.04</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>QSYSOPR</td>
<td>80</td>
<td>0.28</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>QUSER</td>
<td>21</td>
<td>0.02</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SVEN</td>
<td>62</td>
<td>0.24</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>774</strong></td>
<td><strong>2.24</strong></td>
<td><strong>294</strong></td>
<td></td>
</tr>
<tr>
<td>*SYS</td>
<td><strong>Total</strong></td>
<td><strong>88</strong></td>
<td><strong>0.32</strong></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>862</strong></td>
<td><strong>2.56</strong></td>
<td><strong>311</strong></td>
<td></td>
</tr>
</tbody>
</table>

Tivoli Decision Support for z/OS Report: OS400A01
OS/400 Acct Print Accounting, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 29) provides monthly overview information about how much of the printing resources each user and department has used. The report is produced by period name (for example, PRIME or NIGHT), and can be used as a guide for charging users and departments for the printing resources they have used.

This information identifies the report:

**Report ID** OS400A02

**Report group** OS/400 Accounting Component Reports

**Source** OS400_ACCT_PRINT_M (described on page 43)

**Attributes** OS400, Acct, Accounting, Print, Monthly, Overview

**Variables** Month, Period name, OS400 system ID

```
<table>
<thead>
<tr>
<th>Account code</th>
<th>User name</th>
<th>Form type</th>
<th>Jobs (count)</th>
<th>Print lines (count)</th>
<th>Print pages (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRISTIN</td>
<td>STD</td>
<td>47</td>
<td>4520</td>
<td>248</td>
<td></td>
</tr>
<tr>
<td>FAXADMIN</td>
<td>STD</td>
<td>2</td>
<td>157</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>JIVE</td>
<td>STD</td>
<td>1</td>
<td>17</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NI3</td>
<td>CPOPGMR</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Total = 51 4706 255
```

*Figure 29. Example of OS/400 Acct Print Accounting, Monthly Overview*

The report contains this information:

**Account code** The accounting code.

**User name** The user name.

**Form type** The print form type.

**Jobs (count)** The number of jobs.

**Print lines (count)** The number of print lines.

**Print pages (count)** The number of print pages.
Reports in the configuration component

This section describes the following configuration component reports:

- “OS/400 Config all Devices, Overview” on page 73.
- “OS/400 Config DASD Capacity Overview” on page 74.
- “OS/400 Config Main Storage Overview” on page 75.
- “OS/400 Config Device Count Type/Model, Overview” on page 76.
- “OS/400 Config Device for Specific Type, Overview” on page 77.

The data flow for the configuration component (including the names of OS/400 logs, Tivoli Decision Support for z/OS records, and tables) is given in “SP400 feature configuration component data flow” on page 30.
OS/400 Config all Devices, Overview

For a specific OS/400 system in the network, this report (see Figure 30) provides overview information about the hardware resources the system uses.

The following information identifies the report:

- **Report ID**: OS436C01
- **Report group**: OS/400 Configuration Component Reports
- **Source**: OS400_CONFIG (described on page 44)
- **Attributes**: OS400, Configuration, HW, Hardware, Device Overview
- **Variables**: Date, OS/400 system ID

The report contains the following information:

**Resource Name**

The resource name.

**Resource Type**

The resource type.

**Resource Serial number**

The resource serial number.

**Resource Model**

The resource model.

**Resource Part number**

The resource part number.

**Resource Status**

The resource status.

---

![Figure 30. Example of OS/400 Config all Devices, Overview](image-url)
OS/400 Config DASD Capacity Overview

For each OS/400 system in the network, this report (see Figure 31) provides overview information about the disk devices the system contains. You might use this report when considering disk device changes (replacing, removing, or adding capacity).

The following information identifies the report:

Report ID: OS436C02
Report group: OS/400 Configuration Component Reports
Source: OS400_CONFIG (described on page 44) and OS400_DASDTYPE (described on page 64)
Attributes: OS400, Configuration, HW, Hardware, Disk, DASD, Overview
Variables: Date

<table>
<thead>
<tr>
<th>OS/400 system ID</th>
<th>Resource Type</th>
<th>Resource Model</th>
<th>Device (count)</th>
<th>Capacity (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44R6067</td>
<td>6606</td>
<td>030</td>
<td>6</td>
<td>11802</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>6</td>
<td>11802</td>
</tr>
</tbody>
</table>

Figure 31. Example of OS/400 Config DASD Capacity, Overview

The report contains the following information:

OS/400 system ID: The system identification.
Resource Type: The resource type.
Resource Model: The resource model.
Device (count): The number of devices.
Capacity (MB): The sum of drive capacity, in MB.
OS/400 Config Main Storage Overview

For each OS/400 system in the network, this report (see Figure 32) provides overview information about the main storage the system contains. The report also contains the total main storage of all OS/400 systems. You might use this report to control the currently available main storage and, therefore, the number of concurrently active jobs that can run on each OS/400 system.

The following information identifies the report:

Report ID: OS436C03
Report group: OS/400 Configuration Component Reports
Source: OS400_CONFIG (described on page 44)
Attributes: OS400, Configuration, HW, Hardware, Storage, Overview
Variables: Date

<table>
<thead>
<tr>
<th>OS/400 system ID</th>
<th>Resource Name</th>
<th>Resource Type</th>
<th>Storage (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S4R6067</td>
<td>MS01</td>
<td></td>
<td>815</td>
</tr>
<tr>
<td>S4R6067</td>
<td>MS02</td>
<td></td>
<td>815</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
<td>1630</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>1630</td>
</tr>
</tbody>
</table>

Figure 32. Example of OS/400 Config Main Storage, Overview

The report contains the following information:

OS/400 system ID          The system identification.
Resource Name             The resource name.
Resource Type             The resource type.
Storage (MB)              The number of megabytes of main storage.
### OS/400 Config Device Count Type/Model, Overview

For each OS/400 system in the network, this report (see Figure 33) provides overview information about their resource types (resource models and number of hardware devices). Detailed information about each resource type is provided in the report OS/400 Config Device for Specific Type, Overview, which contains an example of resource type 2619).

The following information identifies the report:

- **Report ID**: OS436C04
- **Report group**: OS/400 Configuration Component Reports
- **Source**: OS400_CONFIG (described on page 44)
- **Attributes**: OS400, Configuration, HW, Hardware, Device, Overview
- **Variables**: Date

---

<table>
<thead>
<tr>
<th>OS/400 system ID</th>
<th>Resource Type</th>
<th>Resource Model</th>
<th>Device (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44R6067</td>
<td>2110</td>
<td>000</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2468</td>
<td>001</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2609</td>
<td>001</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2617</td>
<td>001</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2619</td>
<td>001</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2661</td>
<td>001</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5292</td>
<td>001</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>605A</td>
<td>001</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6055</td>
<td>001</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6320</td>
<td>002</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6390</td>
<td>001</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6606</td>
<td>030</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>9188</td>
<td>001</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>9402</td>
<td>405</td>
<td>1</td>
</tr>
</tbody>
</table>

**Figure 33. Example of OS/400 Config Device Count Type/Model, Overview**

The report contains the following information:

- **OS/400 system ID**: The system identification.
- **Resource Type**: The resource type.
- **Resource Model**: The resource model
- **Device (count)**: The number of devices.
OS/400 Config Device for Specific Type, Overview

For a specific OS/400 system in the network, this report (see Figure 34) provides overview information about the hardware resources that are contained within a resource type.

The following information identifies the report:

Report ID: OS436C05
Report group: OS/400 Configuration Component Reports
Source: OS400_CONFIG (described on page 44)
Attributes: OS400, Configuration, HW, Hardware, Device, Overview
Variables: Date, OS400 system ID, Resource type

The report contains the following information:

**Resource Name**
- The resource name.

**Version Release Modification**
- The version, release, and modification of the OS/400 system.

**Resource Level**
- The resource level.

**Previous Resource Level**
- The system-defined previous level resource name.

**System Serial Number**
- The serial number of the system.

**Configuration Object Name**
- The configuration object name.

**Previous Level Configuration**
- The previous level configuration object name.
Reports in the job statistics component

This section describes the following job statistics component reports:

- “OS/400 Job Statistics by User, Monthly Overview” on page 79.
- “OS/400 Job CPU Usage by User, Monthly Overview” on page 80.
- “OS/400 Job Statistics All Systems, Daily Trend” on page 81.
- “OS/400 Job Statistics all Systems, Monthly Trend” on page 82.
- “OS/400 Job Statistics for a User, Monthly Overview” on page 83.
- “OS/400 Job Type Statistics, Monthly Overview” on page 84.
- “OS/400 Job Acct from History Log, Monthly Overview” on page 85.

The data flow for the job statistics component (including the names of OS/400 logs, Tivoli Decision Support for z/OS records and tables) is given in “SP400 feature job statistics component data flow” on page 32.

If the SP400 feature accounting component is not installed, these reports could also guide you in deciding how much to charge users for the resources they have used.
OS/400 Job Statistics by User, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 35) provides monthly overview information about how much of the resources each user has used. The report is summarized by user name and produced by period name (for example, PRIME or NIGHT). A graphical representation of this report’s “user name” and “CPU time” information is provided in “OS/400 Job CPU Usage by User, Monthly Overview” on page 80.

This information identifies the report:

<table>
<thead>
<tr>
<th>Report ID</th>
<th>OS400J01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report group</td>
<td>OS/400 Job Statistics Reports</td>
</tr>
<tr>
<td>Source</td>
<td>OS400_JOB_STAT_M (described on page 46)</td>
</tr>
<tr>
<td>Attributes</td>
<td>OS400, Job, User, Monthly, Overview</td>
</tr>
<tr>
<td>Variables</td>
<td>Month, Period name, OS400 system id,</td>
</tr>
</tbody>
</table>

```
<table>
<thead>
<tr>
<th>User name</th>
<th>Jobs (count)</th>
<th>Elapsed time (hour)</th>
<th>CPU time (hours)</th>
<th>I/O (1000s)</th>
<th>Trans (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AURELL</td>
<td>9</td>
<td>77.3</td>
<td>0.33</td>
<td>99</td>
<td>2836</td>
</tr>
<tr>
<td>LENNART</td>
<td>2</td>
<td>1.9</td>
<td>0.00</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>QPGMR</td>
<td>6</td>
<td>0.2</td>
<td>0.03</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>QSECOFR</td>
<td>1</td>
<td>8.5</td>
<td>0.11</td>
<td>39</td>
<td>723</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>87.8</td>
<td>0.48</td>
<td>150</td>
<td>3559</td>
</tr>
</tbody>
</table>
```

Figure 35. Example of OS/400 Job Statistics by User, Monthly Overview

The report contains this information:

**User name**
- The user name.

**Jobs (count)**
- The number of jobs.

**Elapsed time (hour)**
- The total elapsed time. This is calculated as SUM(ELAPSED SECONDS)/3600.

**CPU time (hours)**
- The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

**I/O (1000s)**
- The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.

**Trans (count)**
- The number of transactions.
OS/400 Job CPU Usage by User, Monthly Overview

For a specific OS/400 system in the network, this graphical display (see Figure 36) shows the processor utilization by a user, during a given month. The display is produced by period name (for example, PRIME or NIGHT). The information used in this display is also included in the report “OS/400 Job Statistics by User, Monthly Overview” on page 79.

This information identifies the report:

- **Report ID**: OS400J02
- **Report group**: OS/400 Job Statistics Reports
- **Source**: OS400_JOB_STAT_M (described on page 46)
- **Chart format**: DRLG4J02
- **Attributes**: OS400, Job, User, CPU, Monthly, Overview
- **Variables**: Month, Period name, OS400 system ID

![Diagram](image)

*Figure 36. Example of OS/400 Job CPU Usage by User, Monthly Overview*

The report contains this information:

- **User name**: The user name.
- **CPU Time (hours)**: The processor time, in hours. This is calculated as \( \text{SUM(CPU SECONDS)} / 3600 \).
OS/400 Job Statistics All Systems, Daily Trend

For each OS/400 system in the network, this report (see Figure 37) provides daily trend information about how much of the system resources are being used. The report is produced by period name (for example, PRIME or NIGHT). You might use the report (for example) to determine when batch jobs can be scheduled. The same information over a monthly trend period, is provided in "OS/400 Job Statistics all Systems, Monthly Trend" on page 82.

This information identifies the report:

Report ID    OS400J03
Report group OS/400 Job Statistics Reports
Source       OS400_JOB_STAT_D (described on page 46)
Attributes   OS400, Job, Daily, Trend
Variables    From date, To date, Period name

<table>
<thead>
<tr>
<th>OS/400 system ID</th>
<th>Date</th>
<th>Jobs (count)</th>
<th>Elapsed time (hours)</th>
<th>CPU time (hours)</th>
<th>I/O (1000s)</th>
<th>Trans (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44A0001</td>
<td>2000-03-10</td>
<td>11</td>
<td>85.8</td>
<td>0.45</td>
<td>139</td>
<td>3559</td>
</tr>
<tr>
<td>S44A0002</td>
<td>2000-03-10</td>
<td>19</td>
<td>162.9</td>
<td>3.42</td>
<td>1020</td>
<td>29029</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>248.7</td>
<td>3.87</td>
<td>1159</td>
<td>32588</td>
</tr>
</tbody>
</table>

Figure 37. Example of OS/400 Job Statistics all Systems, Daily Trend

The report contains this information:

Date
Jobs (count)
Elapsed time (hour)
CPU time (hours)
I/O (1000s)
Trans (count)
**OS/400 Job Statistics all Systems, Monthly Trend**

For each OS/400 system in the network, this report (see Figure 38) provides monthly trend information about how much of the system resources are being used. The report is summarized by OS/400 system and is produced by period name (for example, PRIME or NIGHT). You might use the report to anticipate potential resource constraints (for example, if processor usage is increasing over the time-period). The same information over a daily trend period is provided in “OS/400 Job Statistics All Systems, Daily Trend” on page 81.

This information identifies the report:

- **Report ID**: OS400J04
- **Report group**: OS/400 Job Statistics Reports
- **Source**: OS400_JOB_STAT_M (described on page 46)
- **Attributes**: OS400, Job, Monthly, Trend
- **Variables**: From month, To month, Period name

The report contains this information:

- **OS/400 system ID**: The system identification.
- **Month**: The month.
- **Jobs (count)**: The number of jobs.
- **Elapsed time (hour)**: The elapsed time, in hours. This is calculated as SUM(ELAPSED_SECONDS)/3600.
- **CPU time (hours)**: The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.
- **I/O (1000s)**: The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.

![Table](image)

**Figure 38. Example of OS/400 Job Statistics all Systems, Monthly Trend**

The report contains this information:

- **OS/400 system ID**: The system identification.
- **Month**: The month.
- **Jobs (count)**: The number of jobs.
- **Elapsed time (hour)**: The elapsed time, in hours. This is calculated as SUM(ELAPSED_SECONDS)/3600.
- **CPU time (hours)**: The processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.
- **I/O (1000s)**: The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.
OS/400 Job Statistics for a User, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 39) provides monthly overview information about how much of the system resources a specific user has used. The report is produced by period name (for example, PRIME or NIGHT).

This information identifies the report:

- **Report ID**: OS400J05
- **Report group**: OS/400 Job Statistics Reports
- **Source**: OS400_JOB_STAT_M (described on page 46)
- **Attributes**: OS400, Job, User, Type, Monthly, Overview
- **Variables**: Month, Period name, OS400 system id, User name

The report contains this information:

- **Job Type**: The job type.
- **Jobs (count)**: The number of jobs.
- **Elapsed time (hour)**: The elapsed time, in hours. This is calculated as SUM(ELAPSED.SECONDS)/3600.
- **CPU time (hours)**: The processor time, in hours. This is calculated as SUM(CPU.SECONDS)/3600.
- **I/O (1000s)**: The total number of auxiliary I/Os, in thousands. This is calculated as SUM(IO_COUNT)/1000.
- **Trans (count)**: The number of transactions.
- **Total resp (seconds)**: The total response time, in seconds.
- **Average resp (seconds)**: The average response time, in seconds. This is calculated as SUM(RESPONSE.SECONDS)/SUM(TRANSACTIONS).

Figure 39. Example of OS/400 Jobs Statistics for a User, Monthly Overview
OS/400 Job Type Statistics, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 40) provides monthly overview information about how much resources have been used. The report is produced by period name (for example, PRIME or NIGHT). You might use this report to determine if resources should be re-allocated between processing types batch and online (by increasing or decreasing the main storage pool for a processing type).

This information identifies the report:

- **Report ID**: OS400J06
- **Report group**: OS/400 Job Statistics Reports
- **Source**: OS400_JOB_STAT_M (described on page 46)
- **Attributes**: OS400, Job, Type, Monthly, Overview
- **Variables**: Month, Period name, OS400 system ID

The report contains this information:

- **Job Type**: The job type.
- **Jobs (count)**: The number of jobs.
- **Elapsed time (hours)**: The elapsed time, in hours. This is calculated as \( \text{SUM(ELAPSED SECONDS)} / 3600 \).
- **CPU time (hours)**: The processor time, in hours. This is calculated as \( \text{SUM(CPU SECONDS)} / 3600 \).
- **I/O (1000s)**: The total number of auxiliary I/Os, in thousands. This is calculated as \( \text{SUM(IO_COUNT)} / 1000 \).
- **Trans (count)**: The number of transactions.

![Table](image)

**Figure 40. Example of OS/400 Job Type Statistics, Monthly Overview**
OS/400 Job Acct from History Log, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 41) provides monthly overview information about how much resources have been used by each account code. The report is produced by period name (for example, PRIME or NIGHT).

This information identifies the report:

**Report ID**  
OS400J07

**Report group**  
OS/400 Job Statistics Reports

**Source**  
OS400_JOB_STAT_M (described on page 46)

**Attributes**  
OS400, Acct, Accounting, Job, Monthly, Overview

**Variables**  
Month, Period name, OS400 system ID

---

<table>
<thead>
<tr>
<th>Account code name</th>
<th>Jobs (count)</th>
<th>CPU time (hours)</th>
<th>I/O (1000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AURELL</td>
<td>51</td>
<td>0.22</td>
<td>19</td>
</tr>
<tr>
<td>LENNART</td>
<td>19</td>
<td>0.01</td>
<td>8</td>
</tr>
<tr>
<td>QPGMR</td>
<td>67</td>
<td>0.35</td>
<td>11</td>
</tr>
<tr>
<td>QSECOFR</td>
<td>10</td>
<td>0.11</td>
<td>39</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>147</td>
<td>0.69</td>
<td>77</td>
</tr>
</tbody>
</table>

---

**Figure 41. Example of OS/400 Job Acct from History Log, Monthly Overview**

The report contains this information:

- **Account code**  
The accounting code, taken from the account code lookup table.

- **User name**  
The user name.

- **Jobs (count)**  
The number of jobs.

- **CPU time (hours)**  
The total processor time, in hours. This is calculated as SUM(CPU_SECONDS)/3600.

- **I/O (count)**  
The total number of auxiliary I/O, in thousands. This is calculated as SUM(IO_COUNT)/1000.
Reports in the messages component

This section describes the following messages component reports:

- “OS/400 Messages All Systems, Monthly Overview” on page 87.
- “OS/400 Messages Most Frequent, Daily Overview” on page 88.
- “OS/400 Messages Most Frequent, Monthly Overview” on page 89.
- “OS/400 Messages by Sev. Codes, Monthly Overview” on page 90.
- “OS/400 Messages for a User, Monthly Overview” on page 91.
- “OS/400 Messages by Type, Monthly Overview” on page 92.
- “OS/400 Messages by User Name, Monthly Overview” on page 93.

The data flow for the messages component (including the names of OS/400 logs, Tivoli Decision Support for z/OS records and tables) is given in “SP400 feature messages component data flow” on page 34.
OS/400 Messages All Systems, Monthly Overview

For each OS/400 system in the network, this report (see Figure 42) provides monthly overview information about the messages generated. The report is produced by period name (for example, PRIME or NIGHT). Although mainly reference information is given here, you could also use the report to check the amount of data being generated into the OS/400 history log.

This information identifies the report:

Report ID       OS400M01
Report group    OS/400 Messages Component Reports
Source          OS400_MSG_STAT_M (described on page 46)
Attributes      OS400, Message, Monthly, Overview
Variables       From month, To month, Period name

<table>
<thead>
<tr>
<th>OS/400 system ID</th>
<th>Month</th>
<th>Messages (count)</th>
<th>Lines (/message)</th>
<th>Text bytes (/message)</th>
<th>Data bytes (/message)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S44A0001</td>
<td>2000-03-01</td>
<td>77</td>
<td>2.79</td>
<td>94.01</td>
<td>81.29</td>
</tr>
<tr>
<td>Total/average</td>
<td></td>
<td>77</td>
<td>2.79</td>
<td>94.01</td>
<td>81.29</td>
</tr>
<tr>
<td>S44A0002</td>
<td>2000-03-01</td>
<td>77</td>
<td>2.87</td>
<td>98.61</td>
<td>92.49</td>
</tr>
<tr>
<td>2000-05-01</td>
<td>68</td>
<td>2.72</td>
<td>94.19</td>
<td>71.51</td>
<td></td>
</tr>
<tr>
<td>Total/average</td>
<td>145</td>
<td>2.80</td>
<td>96.40</td>
<td>82.00</td>
<td></td>
</tr>
<tr>
<td>Total/average</td>
<td>222</td>
<td>2.79</td>
<td>95.60</td>
<td>81.76</td>
<td></td>
</tr>
</tbody>
</table>

Figure 42. Example of OS/400 Messages All Systems, Monthly Overview

The report contains this information:

OS/400 system ID
The system identification.

Month
The month.

Messages (count)
The number of messages.

Lines (/message)
The number of print lines per message. This is calculated as
SUM(LINE_COUNT)/SUM(MESSAGE_COUNT).

Text bytes (/message)
The number of bytes of text per message. This is calculated as
SUM(TEXT_BYTE_COUNT)/SUM(MESSAGE_COUNT).

Data bytes (/message)
The number of bytes of data per message. This is calculated as
SUM(DATA_BYTE_COUNT)/SUM(MESSAGE_COUNT).
OS/400 Messages Most Frequent, Daily Overview

For a specific OS/400 system in the network, this report (see Figure 43) provides daily overview information about the messages generated. The report is produced by period name (for example, PRIME or NIGHT). You could use this report to identify potential problems within an application, since the message ID allows you to differentiate between errors caused by software applications, operational errors, and so on. A monthly summary of the information in this report is provided in "OS/400 Messages Most Frequent, Monthly Overview" on page 89.

This information identifies the report:

**Report ID**  OS400M02

**Report group**  OS/400 Messages Component Reports

**Source**  OS400_MSG_STAT_D (described on page 47)

**Attributes**  OS400, Message, Daily, Overview

**Variables**  Date, Period name, OS400 system id, Maxrows

<table>
<thead>
<tr>
<th>Message file</th>
<th>Message ID</th>
<th>Messages (count)</th>
<th>Messages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMOMSGF</td>
<td>AMO8001</td>
<td>24</td>
<td>31.17</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF1164</td>
<td>11</td>
<td>14.29</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF590A</td>
<td>5</td>
<td>6.49</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF4058</td>
<td>4</td>
<td>5.19</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF4067</td>
<td>3</td>
<td>3.90</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPC3722</td>
<td>3</td>
<td>3.90</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF1124</td>
<td>2</td>
<td>2.60</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF2758</td>
<td>2</td>
<td>2.60</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF1269</td>
<td>2</td>
<td>2.60</td>
</tr>
</tbody>
</table>

Figure 43. Example of OS/400 Messages Most Frequent, Daily Overview

The report contains this information:

**Date**  The date.

**Message file**  The name of the message file.

**Message ID**  The message identification.

**Messages (count)**  The number of messages.

**Messages (%)**  The percentage occurrence of a message.
OS/400 Messages Most Frequent, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 44) provides monthly overview information about the messages generated. The report is produced by period name (for example, PRIME or NIGHT). You could use this report to identify potential problems within an application since the message ID allows you to differentiate between errors caused by software applications, operational errors, and so on. For a daily summary of some of the information in this report, see "OS/400 Messages Most Frequent, Daily Overview" on page 88.

This information identifies the report:

- **Report ID**: OS400M03
- **Report group**: OS/400 Messages Component Reports
- **Source**: OS400_MSG_STAT_M (described on page 47)
- **Attributes**: OS400, Message, Monthly, Overview
- **Variables**: Month, Period name, OS400 system id, Maxrows

![Table of Message Data](image)

**Figure 44. Example of OS/400 Messages Most Frequent, Monthly Overview**

The report contains this information:

- **Message file**: The name of the message file.
- **Message ID**: The message identification.
- **Messages (count)**: The number of messages.
- **Messages (%)**: The percentage occurrence of a message.
- **Text bytes (/message)**: The number of bytes of text per message. This is calculated as \( \frac{\text{SUM(TEXT_BYTE_COUNT)}}{\text{SUM(MESSAGE_COUNT)}} \).
- **Data bytes (/message)**: The number of bytes of data per message. This is calculated as \( \frac{\text{SUM(DATA_BYTE_COUNT)}}{\text{SUM(MESSAGE_COUNT)}} \).
OS/400 Messages by Sev. Codes, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 45) provides monthly overview information about the severity codes of messages generated. The report is produced by period name (for example, PRIME or NIGHT). You could use this report change the message filter to reduce the numbers of low severity messages that are sent to users.

This information identifies the report:

Report ID OS400M04
Report group OS/400 Messages Component Reports
Source OS400_MSG_STAT_M (described on page 37)
Attributes OS400, Message, Code, Monthly, Overview
Variables Month, Period name, OS400 system ID

<table>
<thead>
<tr>
<th>Messages severity code</th>
<th>Messages (count)</th>
<th>Messages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>68</td>
<td>88.31</td>
</tr>
<tr>
<td>40</td>
<td>5</td>
<td>6.49</td>
</tr>
<tr>
<td>99</td>
<td>3</td>
<td>3.90</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Figure 45. Example of OS/400 Messages by Sev. Codes, Monthly Overview

The report contains this information:

Messages severity code: The message severity code.
Messages (count): The number of messages.
Messages (%): The percentage occurrence of a message.
OS/400 Messages for a User, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 46) provides monthly overview information about the messages generated for a system user. The report is produced by period name (for example, PRIME or NIGHT). You could use this report to identify problems caused by a user. The message ID allows you to differentiate between errors caused by software applications, operational errors, and so on.

This information identifies the report:

- **Report ID**: OS400M05
- **Report group**: OS/400 Messages Component Reports
- **Source**: OS400_MSG_STAT_M, OS400_MSG_STAT_MV (View) (described on pages 47 and 48 respectively)
- **Attributes**: OS400, Message, User, Monthly, Overview
- **Variables**: Month, Period name, OS400 system id, User, Maxrows

<table>
<thead>
<tr>
<th>Message file</th>
<th>Message ID</th>
<th>Messages (count)</th>
<th>Messages (%)</th>
<th>Message lines (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCPFMSG</td>
<td>CPF1164</td>
<td>9</td>
<td>11.69</td>
<td>36</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF2240</td>
<td>1</td>
<td>1.30</td>
<td>3</td>
</tr>
<tr>
<td>QCPFMSG</td>
<td>CPF4058</td>
<td>1</td>
<td>1.30</td>
<td>2</td>
</tr>
</tbody>
</table>

**Figure 46. Example of OS/400 Messages for a User, Monthly Overview**

The report contains this information:

- **Message file**: The name of the message file.
- **Message ID**: The message identification.
- **Messages (count)**: The number of messages with the message ID.
- **Messages (%)**: The percentage of messages in the message file with the message ID.
- **Message lines (count)**: The number of message lines.
OS/400 Messages by Type, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 47) provides monthly overview information about the message types generated. The report is produced by period name (for example, PRIME or NIGHT). You could use this report for example, to check if the system operator is spending too much time replying to inquiry messages.

This information identifies the report:

- **Report ID**: OS400M06
- **Report group**: OS/400 Messages Component Reports
- **Source**: OS400_MSG_STAT_M (described on page 47)
- **Attributes**: OS400, Message, Type, Monthly, Overview
- **Variables**: Month, Period name, OS400 system ID

```
OS/400 Messages by Type, Monthly Overview
  System: 'S44A0001'
  Month: '2000-03-01'  Period: 'PRIME'

<table>
<thead>
<tr>
<th>Type</th>
<th>Messages (count)</th>
<th>Messages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>04</td>
<td>63</td>
<td>81.82</td>
</tr>
<tr>
<td>01</td>
<td>14</td>
<td>18.18</td>
</tr>
</tbody>
</table>
```

Figure 47. Example of OS/400 Messages by Type, Monthly Overview

The report contains this information:

- **Message type**: The message type.
- **Messages (count)**: The number of messages.
- **Messages (%)**: The percentage of messages with the message type.
OS/400 Messages by User Name, Monthly Overview

For a specific OS/400 system in the network, this report (see Figure 48) provides monthly overview information about the messages generated by the system users. The report is produced by period name (for example, PRIME or NIGHT). You could use this report to identify problems caused by certain users (together with the information from “OS/400 Messages for a User, Monthly Overview” on page 91).

This information identifies the report:

Report ID OS400M07
Report group OS/400 Messages Component Reports
Source OS400_MSG_STAT_M (described on page 47)
Attributes OS400, Message, User, Monthly, Overview
Variables Month, Period name, OS400 system id, Maxrows

![OS/400 Messages by User Name, Monthly Overview](image)

**Figure 48. Example of OS/400 Messages by User Name, Monthly Overview**

The report contains this information:

**User name**
The user name.

**Messages (count)**
The number of messages.

**Messages (%)**
The percentage occurrence of the message type.

**Message lines (count)**
The number of message lines for this user.
Reports in the performance component

This section describes the following performance component reports:

- “OS/400 Perf CPU and RTM Statistics, Hourly Trend” on page 95.
- “OS/400 Perf Exception and Lock Stat, Hourly Trend” on page 97.
- “OS/400 Perf Disk I/O Statistics, Hourly Trend” on page 98.
- “OS/400 Perf Disk Capacity Statistics, Hourly Trend” on page 100.
- “OS/400 Perf Disk Arm Movements, Hourly Trend” on page 102.
- “OS/400 Perf CPU and Trans by Job Group, Hourly Trend” on page 104.
- “OS/400 Perf CPU by Job Group, Hourly Trend” on page 106.
- “OS/400 Perf Storage Pool & Act Level, Hourly Trend” on page 110.
- “OS/400 Perf Transition Statistics, Hourly Trend” on page 112.
- “OS/400 Perf Max & Avg CPU Usage, Hourly Trend” on page 114.
- “OS/400 Perf CPU Usage all Systems, Daily Overview” on page 115.
- “OS/400 Perf Summary all Systems, Daily Overview” on page 116.
- “OS/400 Perf Summary for a System, Daily Trend” on page 118.
- “OS/400 Perf Summary for a System, Hourly Trend” on page 120.

The data flow for the performance component (including the names of OS/400 logs, Tivoli Decision Support for z/OS records and tables) is given in “SP400 feature performance component data flow” on page 36.
OS/400 Perf CPU and RTM Statistics, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 49) provides hourly trend information about the average and maximum percentage processor time used, and the percentage of transactions falling within five response time (RTM) brackets. You can use the report to determine the times of peak processor load, and (for interactive processing) how response time varies during the hourly periods, and how many users have bad response times.

This information identifies the report:

Report ID OS400P01
Report group OS/400 Performance Component Reports
Source OS400_PM_SYS_H (described on page 54)
Attributes OS400, Performance, CPU, Utilization, Usage, Hourly, Trend
Variables Date, OS400 system ID

The report contains this information:

<table>
<thead>
<tr>
<th>Hour</th>
<th>CPU1 avg (%)</th>
<th>CPU1 max (%)</th>
<th>CPU2 avg (%)</th>
<th>CPU2 max (%)</th>
<th>CPUH avg (%)</th>
<th>CPUH max (%)</th>
<th>Trans 1st RTM (%)</th>
<th>Trans 2nd RTM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>25.5</td>
<td>59.2</td>
<td>0.0</td>
<td>0.8</td>
<td>3.3</td>
<td>5.8</td>
<td>78.1</td>
<td>9.5</td>
</tr>
<tr>
<td>10</td>
<td>29.1</td>
<td>42.5</td>
<td>0.0</td>
<td>0.8</td>
<td>5.1</td>
<td>8.2</td>
<td>72.7</td>
<td>6.7</td>
</tr>
<tr>
<td>11</td>
<td>22.8</td>
<td>40.2</td>
<td>0.0</td>
<td>0.8</td>
<td>5.3</td>
<td>10.2</td>
<td>66.5</td>
<td>2.7</td>
</tr>
<tr>
<td>12</td>
<td>14.0</td>
<td>31.8</td>
<td>0.0</td>
<td>0.8</td>
<td>2.0</td>
<td>4.2</td>
<td>69.6</td>
<td>4.5</td>
</tr>
<tr>
<td>13</td>
<td>6.8</td>
<td>12.4</td>
<td>0.0</td>
<td>0.8</td>
<td>1.5</td>
<td>3.7</td>
<td>8.0</td>
<td>0.0</td>
</tr>
<tr>
<td>14</td>
<td>9.6</td>
<td>22.1</td>
<td>0.0</td>
<td>0.8</td>
<td>2.3</td>
<td>9.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>15</td>
<td>27.1</td>
<td>58.9</td>
<td>0.0</td>
<td>0.8</td>
<td>4.6</td>
<td>12.2</td>
<td>57.1</td>
<td>21.4</td>
</tr>
</tbody>
</table>

Figure 49. Example of OS/400 Perf CPU and RTM Statistics, Hourly Trend
(TRAN_RTM1_CNT + TRAN_RTM2_CNT +
TRAN_RTM3_CNT + TRAN_RTM4_CNT +
TRAN_RTM5_CNT).

**Trans 3rd RTM (%)**
The percentage of transactions in the third RTM bracket. This is calculated as
TRAN_RTM3_CNT*100/
(TRAN_RTM1_CNT + TRAN_RTM2_CNT +
TRAN_RTM3_CNT + TRAN_RTM4_CNT +
TRAN_RTM5_CNT).

**Trans 4th RTM (%)**
The percentage of transactions in the fourth RTM bracket. This is calculated as
TRAN_RTM4_CNT*100/
(TRAN_RTM1_CNT + TRAN_RTM2_CNT +
TRAN_RTM3_CNT + TRAN_RTM4_CNT +
TRAN_RTM5_CNT).

**Trans 5th RTM (%)**
The percentage of transactions in the fifth RTM bracket. This is calculated as
TRAN_RTM5_CNT*100/
(TRAN_RTM1_CNT + TRAN_RTM2_CNT +
TRAN_RTM3_CNT + TRAN_RTM4_CNT +
TRAN_RTM5_CNT).
OS/400 Perf Exception and Lock Stat, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 50) provides hourly trend information about exceptions and locks on the system.

This information identifies the report:

- **Report ID**: OS400P02
- **Report group**: OS/400 Performance Component Reports
- **Source**: OS400_PM_SYS_H (described on page 54)
- **Attributes**: OS400, Performance, Exception, Lock, Hourly, Trend
- **Variables**: Date, OS400 system ID

<table>
<thead>
<tr>
<th>Hour</th>
<th>EXPNR (/sec)</th>
<th>EAOLR (/sec)</th>
<th>EAOTR (/sec)</th>
<th>BSYCR (/sec)</th>
<th>SEZCR (/sec)</th>
<th>SIZCR (/sec)</th>
<th>ASYLR (/sec)</th>
<th>SYNLR (/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>0.58</td>
<td>0.02</td>
<td>0.07</td>
<td>0.35</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>17</td>
<td>0.58</td>
<td>0.03</td>
<td>0.16</td>
<td>0.08</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>18</td>
<td>0.38</td>
<td>0.04</td>
<td>0.20</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*Tivoli Decision Support for z/OS Report: OS400P02

Figure 50. Example of OS/400 Perf Exception and Lock Stat, Hourly Trend

The report contains this information:

- **Hour**: The hour.
- **EXPNR (/second)**: The number of exceptions, per second. This is calculated as EXCEPTION_CNT/MEASURED_SEC.
- **EAOLR (/second)**: The number of effective address length overflow exceptions, per second. This is calculated as EADDR_LOFL_EXC_CNT/MEASURED_SEC.
- **EAOTR (/second)**: The number of effective address overflow exceptions, per second. This is calculated as EADDR_OFL_EXC_CNT/MEASURED_SEC.
- **BSYCR (/second)**: The number of busy exceptions, per second. This is calculated as BUSY_EXC_CNT/MEASURED_SEC.
- **SEZCR (/second)**: The number of seize wait exceptions, per second. This is calculated as SEIZE_WAIT_EXC_CNT/MEASURED_SEC.
- **SIZCR (/second)**: The number of size exceptions, per second. This is calculated as SIZE_EXC_CNT/MEASURED_SEC.
- **ASYLR (/second)**: The number of asynchronous lock conflicts, per second. This is calculated as ASYNCH_LOCK_CNT/MEASURED_SEC.
- **SYNLR (/second)**: The number of synchronous lock conflicts, per second. This is calculated as SYNCH_LOCK_CNT/MEASURED_SEC.
OS/400 Perf Disk I/O Statistics, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 51) provides hourly trend information about disk arm utilization. For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide.

This information identifies the report:

**Report ID** OS400P03  
**Report group** OS/400 Performance Component Reports  
**Source** OS400_PM_DISK_H (described on page 49)  
**Attributes** OS400, Performance, Disk, Dasd, I/O, Hourly, Trend  
**Variables** Date, OS400 system ID

![Table of OS/400 Perf Disk I/O Statistics, Hourly Trend](image)

**Figure 51. Example of OS/400 Perf Disk I/O Statistics, Hourly Trend**

The report contains this information:

**Hour** The hour.  
**IOP address** The IOP address.  
**Disk arm number** The disk arm number.  
**Average access (/second)** The average access time, per second. This is calculated as (READ_DATA_CMD_CNT+WRITE_DATA_CMD_CNT)/MEASURED_SEC.  
**Maximum access (/second)** The maximum access time, in seconds.
**Average service time (seconds)**

The average service time, in seconds. This is calculated as 
\[
\frac{(\text{SAMPLES}_2\text{PERSEC} - \text{ARM\_NOTBUSY\_CNT})}{\text{SAMPLES}_2\text{PERSEC}} \div \frac{(\text{READ\_DATA\_CMD\_CNT} + \text{WRITE\_DATA\_CMD\_CNT})}{\text{MEASURED\_SEC}}.
\]

**Maximum service time (seconds)**

The maximum service time, in seconds.

**Average diskarm util (%)**

The average percentage disk arm utilization. This is calculated as 
\[
100\times\frac{(\text{SAMPLES}_2\text{PERSEC} - \text{ARM\_NOTBUSY\_CNT})}{\text{SAMPLES}_2\text{PERSEC}}.
\]

**Maximum diskarm util (%)**

The maximum percentage disk arm utilization.

**Average queue length (count)**

The average queue length. This is calculated as 
\[
\frac{\text{QUEUE\_ELEMENT\_CNT}}{\text{SAMPLES}_2\text{PERSEC}}.
\]

**Maximum queue length (count)**

The maximum queue length.

**Average IOP util (%)**

The average percentage IOP utilization. This is calculated as 
\[
100\times\frac{(\text{MEASURED\_SEC} - (\text{PROC\_IDLELOOP\_CNT} / \text{SAMPLES} \times \text{PROC\_IDLELOOP\_HMS}) / 10000000)}{\text{MEASURED\_SEC}}.
\]

**Maximum IOP util (%)**

The maximum percentage IOP utilization.
OS/400 Perf Disk Capacity Statistics, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 52) provides hourly trend information about the amount of data on each disk. Disk drive capacity should not vary (since disks are not normally added or removed during the day). However the available space will change as the result of files being restored or deleted.

This information identifies the report:

Report ID OS400P04
Report group OS/400 Performance Component Reports
Source OS400_PM_DISK_H (described on page 49)
Attributes OS400, Performance, Disk, Dasd, Usage, Hourly, Trend
Variables Date, OS400 system ID

The report contains this information:

- **Hour**
- **IOP address**
- **Disk arm number**
- **Disk drive type**
- **Available space (MB)**

The available space will change as the result of files being restored or deleted.
<table>
<thead>
<tr>
<th><strong>Drive capacity (MB)</strong></th>
<th>The drive capacity, in megabytes. This is calculated as DRIVE_CAPACITY_MB/SAMPLES.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Permanent availspace (MB)</strong></td>
<td>The permanent storage available, in megabytes. This is calculated as PERM_STOR_AVAIL_MB/SAMPLES.</td>
</tr>
<tr>
<td><strong>Permanent drivecap (MB)</strong></td>
<td>The permanent storage capacity, in megabytes. This is calculated as PERM_STOR_CAP_MB/SAMPLES.</td>
</tr>
</tbody>
</table>
OS/400 Perf Disk Arm Movements, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 53) provides hourly trend information about the seek (disk arm) movements, total seeks, and the average seek service time. The disk arm movements are broken down into six category of seek movements: from zero seek movement, to seek movements greater than two-thirds of the disk space. For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide.

This information identifies the report:

Report ID OS400P05
Report group OS/400 Performance Component Reports
Source OS400_PM_DISK_H (described on page 49)
Attributes OS400, Performance, Disk, Dasd, Hourly, Trend
Variables Date, OS400 system ID

The report contains this information:

Hour  The hour.

Disk arm number  The disk arm number.

Disk drive type  The disk drive type.

Zero seeks (%)  The percentage of zero seeks. This is calculated as SEEK_EQ_0_CNT*100/
(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+SEEK_GT_1_6_CNT+SEEK_GT_1_12_CNT+SEEK_LT_1_12_CNT+SEEK_EQ_0_CNT).

Seeks <1/12 (%)  The percentage of seeks less than 1/12. This is calculated as
SEEK_LT_1_12_CNT*100/(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+
SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+
SEEK_LT_1_12_CNT+SEEK_EQ_0_CNT).

**Seeks < 1/6 (%)**
The percentage of seeks less than 1/6. This is calculated as
SEEK_LT_1_6_CNT*100/(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+
SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+SEEK_LT_1_12_CNT+
SEEK_EQ_0_CNT).

**Seeks < 1/3 (%)**
The percentage of seeks less than 1/3. This is calculated as
SEEK_LT_1_3_CNT*100/(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+
SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+SEEK_LT_1_12_CNT+
SEEK_EQ_0_CNT).

**Seeks < 2/3 (%)**
The percentage of seeks less than 2/3. This is calculated as
SEEK_LT_2_3_CNT*100/(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+
SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+SEEK_LT_1_12_CNT+
SEEK_EQ_0_CNT).

**Seeks > 2/3 (%)**
The percentage of seeks greater than 2/3. This is calculated as
SEEK_GT_2_3_CNT*100/(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+
SEEK_GT_1_6_CNT + SEEK_GT_1_12_CNT+SEEK_LT_1_12_CNT+
SEEK_EQ_0_CNT).

**Seeks (count)**
The total number of seeks.
(SEEK_GT_2_3_CNT+SEEK_GT_1_3_CNT+SEEK_GT_1_6_CNT+
SEEK_GT_1_12_CNT +
SEEK_LT_1_12_CNT+SEEK_EQ_0_CNT).
OS/400 Perf CPU and Trans by Job Group, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 54) provides the following hourly trend information about job groups on the OS/400 system:

- Processor utilization
- Average and maximum response times
- Average and maximum transaction rates
- Total number of transactions

The information shows how the system is being used, and what type of jobs are being run over a specified time period. A graphical representation of the processor utilization for job groups, together with an explanation of job group types, are given in [OS/400 Perf CPU by Job Group, Hourly Trend] on page 106.

This information identifies the report:

Report ID  OS400P06
Report group  OS/400 Performance Component Reports
Source  OS400_PM_SYS_JGR_H, OS400_JOBGROUP (described on pages 50 and 52 respectively)
Attributes  OS400, Performance, CPU, Transaction, Hourly, Trend
Variables  Date, OS400 system ID

<table>
<thead>
<tr>
<th>Hour group</th>
<th>CPU Avg (%)</th>
<th>Resp time Avg (seconds)</th>
<th>Resp time Max (seconds)</th>
<th>Trans rate Avg (/second)</th>
<th>Trans rate Max (/second)</th>
<th>Trans (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-PCS</td>
<td>1.3</td>
<td>5.1</td>
<td>1.6</td>
<td>3.7</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>B-AUTO</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-BTCH</td>
<td>2.6</td>
<td>2.6</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-COMM</td>
<td>0.4</td>
<td>0.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-CCPF</td>
<td>0.2</td>
<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>A-PCS</td>
<td>2.9</td>
<td>13.1</td>
<td>1.2</td>
<td>4.7</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>B-AUTO</td>
<td>0.1</td>
<td>1.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-BTCH</td>
<td>3.1</td>
<td>6.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-COMM</td>
<td>0.3</td>
<td>1.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-CCPF</td>
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<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>A-PCS</td>
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<td>13.9</td>
<td>2.8</td>
<td>6.6</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>B-BTCH</td>
<td>2.6</td>
<td>3.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-COMM</td>
<td>0.1</td>
<td>1.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>B-CCPF</td>
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<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 54. Example of OS/400 Perf CPU and Trans by Job Group, Hourly Trend

The report contains this information:

Hour  The hour.
Job group  The job group.
CPU Avg (%)  The average processor time used, as a percentage.
This is calculated as
CPU.MILLISEC/MEASURED.SEC/10.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Max (%)</td>
<td>The maximum processor time used, as a percentage.</td>
</tr>
<tr>
<td>Resp time Avg (seconds)</td>
<td>The average response time, in seconds. This is calculated as TRAN.MILLISEC/TRANSACTIONS.</td>
</tr>
<tr>
<td>Resp time Max (seconds)</td>
<td>The maximum response time, in seconds.</td>
</tr>
<tr>
<td>Trans rate Avg (/second)</td>
<td>The average transaction rate, in seconds. This is calculated as TRANSACTIONS/MEASURED.SEC.</td>
</tr>
<tr>
<td>Trans rate Max (/second)</td>
<td>The maximum number of transaction per seconds.</td>
</tr>
<tr>
<td>Trans (count)</td>
<td>The number of transactions.</td>
</tr>
</tbody>
</table>
OS/400 Perf CPU by Job Group, Hourly Trend

For a specific OS/400 system in the network, this graphical display (see Figure 55) shows the processor utilization by job group, over a specified time period. The information used in this display is also included in the report “OS/400 Perf CPU and Trans by Job Group, Hourly Trend” on page 104.

This information identifies the report:

- **Report ID**: OS400P07
- **Report group**: OS/400 Performance Component Reports
- **Source**: OS400_PM_SYS_JGR_H, OS400_JOBGROUP (described on pages 60 and 66 respectively)
- **Chart format**: DRLG4P07
- **Attributes**: OS400, Performance, CPU, Utilization, Hourly, Trend
- **Variables**: Date, OS400 system ID

![Graph showing CPU utilization by job group over time](image)

**Figure 55. Example of OS/400 Perf CPU by Job Group, Hourly Trend**

The report contains this information:

- **Hour**: The hour.
- **CPU Avg (%)**: The average percentage processor time used. This is calculated as (CPU.MILLISEC/MEASURED.SEC/10).
- **Job group**: The job group.

**Explanation of job group types**

Jobs are assigned to one of the job groups under the following circumstances:

- **B-S/36**: A System/36™ job runs on the AS/400.
- **B-MRT**: A multiple terminal request job is run.
- **B-CPP**: A control program facility job (one that is “owned” by the OS/400 system) is run.
- **B-COMM**: A session is started between a workstation and an AS/400.
- **B-BTCH**: An OS/400 batch job is submitted.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-AUTO</td>
<td>A job is automatically started by a action on the system (for example, an IPL).</td>
</tr>
<tr>
<td>A-PCS</td>
<td>A workstation supported function is started (for example, terminal emulation, shared folder, or virtual printer).</td>
</tr>
<tr>
<td>A-INT</td>
<td>An interactive session is started.</td>
</tr>
<tr>
<td>A-DDM</td>
<td>A distributed data management job is started.</td>
</tr>
<tr>
<td>A-PTT</td>
<td>A passthrough target job is started.</td>
</tr>
</tbody>
</table>
OS/400 Perf Paging Statistics, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 56) provides hourly trend information about the system paging. For each of the five main storage pools (operating system, base, interactive, batch, and spool), information is given about:

- Total number of faults
- Database and non-database fault rates (maximum and average)
- Database and non-database paging rates (maximum and average)

For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide.

This information identifies the report:

**Report ID**  OS400P08

**Report group**  OS/400 Performance Component Reports

**Source**  OS400_PM_POOL_H (described on page 52)

**Attributes**  OS400, Performance, Page, Paging, Hourly, Trend

**Variables**  Date, OS400 system ID

![Table of OS/400 Perf Paging Statistics, Hourly Trend](image)

*Figure 56. Example of OS/400 Perf Paging Statistics, Hourly Trend*

The report contains this information:

**Hour**  The hour.

**Pool nbr**  The pool number.

**Faults (/second)**  The number of database faults, per second. This is calculated as DB_FAULT_SUM+NDB_FAULT_SUM/MEASURED_SEC.
Maximum db faults (/second)
The maximum number of database faults, per second.

Average db faults (/second)
The average number of database faults, per second. This is calculated as DB_FAULT_SUM/MEASURED_SEC.

Maximum nondb faults (/second)
The maximum number of non-database faults, per second.

Average nondb faults (/second)
The average number of non-data base faults, per second. This is calculated as NDB_FAULT_SUM/MEASURED_SEC.

Maximum db pg reads (/second)
The maximum database page read rate, per second.

Average db pg reads (/second)
The average database page read rate, per second. This is calculated as DBPG_READ_SUM/MEASURED_SEC.

Maximum nondb pg reads (/second)
The maximum non-database page read rate, per second.

Average nondb pg reads (/second)
The average non-database page read rate, per second. This is calculated as NDBPG_READ_SUM/MEASURED_SEC.
**OS/400 Perf Storage Pool & Act Level, Hourly Trend**

For a specific OS/400 system in the network, this report (see Figure 57) provides hourly trend information about the OS/400 storage pools. For each of the five main storage pools (operating system, base, interactive, batch, and spool), information is given about:

- Activity levels (maximum, average, minimum)
- Pool sizes (maximum, average, minimum)
- Reserved pool sizes (maximum, average, minimum)

For guidelines on how to interpret this information, refer to the *AS/400 Performance Tools/400 Guide*.

This information identifies the report:

- **Report ID**: OS400P09
- **Report group**: OS/400 Performance Component Reports
- **Source**: OS400_PM_POOL_H (described on page 52)
- **Attributes**: OS400, Performance, Storage, Hourly, Trend
- **Variables**: Date, OS400 system ID

<table>
<thead>
<tr>
<th>Hour</th>
<th>Pool nbr</th>
<th>Maximum activity level (count)</th>
<th>Average activity level (count)</th>
<th>Minimum activity level (count)</th>
<th>Maximum poolsize (KB)</th>
<th>Average poolsize (KB)</th>
<th>Minimum poolsize (KB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>01</td>
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<td>0</td>
<td>3500</td>
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<tr>
<td></td>
<td>02</td>
<td>4</td>
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</tr>
<tr>
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<td>0</td>
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<td>0</td>
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</tr>
<tr>
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</tr>
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<td>5</td>
<td>5</td>
<td>5</td>
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<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

*Figure 57. Example of OS/400 Perf Storage Pool & Act Level, Hourly Trend*

The report contains this information:

- **Hour**: The hour.
- **Pool nbr**: The pool number.
- **Maximum activity level (count)**: The number of maximum activity levels.
- **Average activity level (count)**: The average number of maximum activity levels.
This is calculated as
ACT_LVL_SET_SUM/SAMPLES.

**Minimum activity level (count)**
The number of minimum activity levels.

**Maximum poolsize (KB)**
The maximum pool size, in kilobytes.

**Average poolsize (KB)**
The average pool size, in kilobytes. This is calculated as POOL_SIZE_SUM/SAMPLES.

**Minimum poolsize (KB)**
The minimum pool size, in kilobytes.

**Maximum reserved poolsize (KB)**
The maximum reserved pool size, in kilobytes.

**Average reserved poolsize (KB)**
The average reserved pool size, in kilobytes. This is calculated as POOL_SIZE_RSV_SUM/SAMPLES.

**Minimum reserved poolsize (KB)**
The minimum reserved pool size, in kilobytes.
OS/400 Perf Transition Statistics, Hourly Trend

For a specific OS/400 system in the network, this report (see Figure 58) provides hourly trend information about the activity that is taking place within each OS/400 storage pool. For each of the five main storage pools (operating system, base, interactive, batch, and spool), information is given about:

- Active-to-Wait (maximum and average)
- Wait-to-Ineligible (maximum and average)
- Active-to-Ineligible (maximum and average)

For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide.

This information identifies the report:

Report ID: OS400P10
Report group: OS/400 Performance Component Reports
Source: OS400_PM_POOL_H (described on page 52)
Attributes: OS400, Performance, Transition, Hourly, Trend
Variables: Date, OS400 system ID

The report contains this information:

<table>
<thead>
<tr>
<th>Hour</th>
<th>Pool nbr</th>
<th>Maximum A to W (/second)</th>
<th>Average A to W (/second)</th>
<th>Maximum W to I (/second)</th>
<th>Average W to I (/second)</th>
<th>Maximum A to I (/second)</th>
<th>Average A to I (/second)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>01</td>
<td>0.1</td>
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</tr>
<tr>
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<td>3.4</td>
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<td>0.1</td>
</tr>
<tr>
<td></td>
<td>03</td>
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</tr>
<tr>
<td></td>
<td>05</td>
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<td>1.0</td>
<td>0.2</td>
<td>0.1</td>
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</tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>17</td>
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<tr>
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<td>0.0</td>
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</tr>
<tr>
<td></td>
<td>04</td>
<td>0.1</td>
<td>0.0</td>
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<td>0.0</td>
</tr>
<tr>
<td></td>
<td>05</td>
<td>1.0</td>
<td>0.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Figure 58. Example of OS/400 Perf Transition Statistics, Hourly Trend

The report contains this information:

- **Hour**: The hour.
- **Pool nbr**: The pool number.
- **Maximum A to W (/second)**: The maximum active-to-wait transitions rate, in seconds.
- **Average A to W (/second)**: The average active-to-wait transitions rate, in seconds.
seconds. This is calculated as ACT_WAIT_SUM/MEASURED_SEC.

**Maximum W to I (/second)** The maximum wait-to-ineligible transitions rate, in seconds.

**Average W to I (/second)** The average wait-to-ineligible transitions rate, in seconds. This is calculated as WAIT_INEL_SUM/MEASURED_SEC.

**Maximum A to I (/second)** The maximum active-to-ineligible transition rate, in seconds.

**Average A to I (/second)** The average active-to-ineligible transition rate, in seconds. This is calculated as ACT_INEL_SUM/MEASURED_SEC.
OS/400 Perf Max & Avg CPU Usage, Hourly Trend

For a specific OS/400 system in the network, this graphical representation (see Figure 59) shows the hourly trend of processor utilization, over a specified time period. A graphical display of average processor usage for all OS/400 systems in the network, is given in “OS/400 Perf CPU Usage all Systems, Daily Overview” on page 115.

This information identifies the report:

- **Report ID**: OS400P11
- **Report group**: OS/400 Performance Component Reports
- **Source**: OS400_PERF_SUM_H (described on page [22])
- **Chart format**: DRLG4P11
- **Attributes**: OS400, Performance, CPU, Utilization, Hourly, Trend
- **Variables**: Date, OS400 system ID

![Graphical representation of OS/400 Perf Max & Avg CPU Usage, Hourly Trend](image)

*Figure 59. Example of OS/400 Perf Max & Avg CPU Usage, Hourly Trend*

The report contains this information:

- **Hour**: The hour.
- **CPU Avg (%)**: The average percentage processor usage. This is calculated as \(100 \times \text{CPU.SECONDS}/\text{MEASURED_SEC}\).
- **CPU Max (%)**: The maximum percentage processor usage. This is calculated as \(100 \times \text{SAMPLES} \times \text{CPU.SECONDS.MAX}/\text{MEASURED_SEC}\).
OS/400 Perf CPU Usage all Systems, Daily Overview

For all OS/400 systems in the network, this graphical representation shows a daily overview of average processor utilization. Such information is useful as an entry point when investigating system performance. The display is produced by period name (for example, PRIME or NIGHT). If you require an hourly graphical display of the processor utilization for a specific OS/400 system, you can proceed to the report "OS/400 Perf Max & Avg CPU Usage, Hourly Trend" on page 114.

This information identifies the report:

- **Report ID**: OS400P12
- **Report group**: OS/400 Performance Component Reports
- **Source**: OS400_PERF_SUM_D (described on page 62)
- **Chart format**: DRLG4P12
- **Attributes**: OS400, Performance, CPU, Utilization, Daily, Overview
- **Variables**: Date, Period name

![OS/400 Perf CPU Usage all Systems, Daily Overview](chart)

*Figure 60. Example of OS/400 Perf CPU Usage all Systems, Daily Overview*

The report contains this information:

- **OS/400 system ID**: The system identification.
- **CPU Avg (%)**: The average percentage processor usage. This is calculated as $100 \times \frac{CPU \_ SECONDS}{MEASURED \_ SEC}$. 

Chapter 5. Reports  115
OS/400 Perf Summary all Systems, Daily Overview

For each OS/400 system in the network, this report provides daily overview information about:

- Processor usage (average and maximum)
- The number of I/Os (average and maximum)
- The amount of paging per second (average and maximum)
- The average number of jobs
- The total auxiliary storage used
- The percentage of auxiliary storage used

The report is produced by period name (for example, PRIME or NIGHT). For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide. If you require more detail about a specific OS/400 system, you can proceed to the report “OS/400 Perf Summary for a System, Daily Trend” on page 118.

This information identifies the report:

- Report ID: OS400P13
- Report group: OS/400 Performance Component Reports
- Source: OS400_PERF_SUM_D (described on page 62)
- Attributes: OS400, Performance, Summary, Daily, Overview
- Variables: Date, Period name

![Table]

<table>
<thead>
<tr>
<th>OS/400 system ID</th>
<th>CPU Avg (%)</th>
<th>CPU Max (%)</th>
<th>I/O Avg (per second)</th>
<th>I/O Max (per second)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S4460001</td>
<td>9.4</td>
<td>32.9</td>
<td>6.3</td>
<td>15.8</td>
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<tr>
<td></td>
<td>15.2</td>
<td>45.8</td>
<td>12.1</td>
<td>28.0</td>
</tr>
</tbody>
</table>

Figure 61. Example of OS/400 Perf Summary all Systems, Daily Overview

The report contains this information:

- OS/400 system ID
- The system identification.
- CPU Avg (%) The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.
- CPU Max (%) The maximum percentage processor usage. This is calculated as 100*SAMPLES*CPU_SECONDS_MAX/MEASURED_SEC.
- I/O Avg (per second) The average number of I/O, per second. This is calculated as IO_COUNT/MEASURED_SEC.
- I/O Max (per second) The maximum number of I/O, per second. This is calculated as SAMPLES*IO_COUNT_MAX/MEASURED_SEC.
Paging Avg (/second)
The average number of pages per second. This is calculated as PAGE_COUNT/MEASURED_SEC.

Paging Max (/second)
The maximum number of pages per second. This is calculated as SAMPLES*PAGE_COUNT_MAX/MEASURED_SEC.

Avg Jobs (count)
The average number of jobs. This is calculated as JOB_COUNT/SAMPLES.

Total AIX® storage (MB)
The total auxiliary storage, in megabytes. This is calculated as AUX_STOR_MB/SAMPLES.

Used AIX storage (%)
The total used auxiliary storage, in megabytes. This is calculated as (100*(AUX_STOR_MB-AUX_STOR_AVAIL_MB)/SAMPLES)/(AUX_STOR_MB/SAMPLES).
For a specific OS/400 system in the network, this report (see Figure 62) provides daily trend information about:

- Processor usage (average and maximum)
- The number of I/Os (average and maximum)
- The amount of paging per second (average and maximum)
- The average number of jobs
- The total auxiliary storage used
- The percentage of auxiliary storage used

The report is produced by period name (for example, PRIME or NIGHT). For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide. If you require hourly trend information about a specific OS/400 system, you can proceed to the report "OS/400 Perf Summary for a System, Hourly Trend" on page 120.

This information identifies the report:

**Report ID** OS400P14  
**Report group** OS/400 Performance Component Reports  
**Source** OS400_PERF_SUM_D (described on page 62)  
**Attributes** OS400, Performance, Summary, Daily, Trend  
**Variables** From date, To date, Period name, OS400 system ID

<table>
<thead>
<tr>
<th>Date</th>
<th>CPU Avg (%)</th>
<th>CPU Max (%)</th>
<th>I/O Avg (/sec)</th>
<th>I/O Max (sec)</th>
<th>Paging Avg</th>
<th>Paging Max</th>
<th>Avg Jobs</th>
<th>Aux Storage Avg</th>
<th>Aux Storage Max</th>
<th>Total Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-03-10</td>
<td>9.4</td>
<td>32.9</td>
<td>6.0</td>
<td>15.0</td>
<td>25.3</td>
<td>71.8</td>
<td>1221</td>
<td>66.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000-05-10</td>
<td>9.4</td>
<td>32.9</td>
<td>6.0</td>
<td>15.0</td>
<td>25.3</td>
<td>71.8</td>
<td>1221</td>
<td>66.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 62. Example of OS/400 Perf Summary for a System, Daily Trend

The report contains this information:

**CPU Avg (%)** The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

**CPU Max (%)** The maximum percentage processor usage. This is calculated as 100*SAMPLES*CPU_SECONDS_MAX/MEASURED_SEC.

**I/O Avg (/sec)** The average number of I/O, per second. This is calculated as IO_COUNT/MEASURED_SEC.

**I/O Max (/sec)** The maximum number of I/O, per second. This is calculated as SAMPLES*IO_COUNT_MAX/MEASURED_SEC.
Paging Avg (/second)
The average number of pages per second. This is calculated as PAGE_COUNT/MEASURED_SEC.

Paging Max (/second)
The maximum number of pages per second. This is calculated as SAMPLES*PAGE_COUNT_MAX/MEASURED_SEC.

Avg Jobs (count)
The average number of jobs. This is calculated as JOB_COUNT/SAMPLES.

Total Aux storage (MB)
The total auxiliary storage, in megabytes. This is calculated as AUX_STOR_MB/SAMPLES.

Used Aux storage (%)
The total used auxiliary storage, in megabytes. This is calculated as (100*(AUX_STOR_MB-AUX_STOR_AVAIL_MB)/SAMPLES)/(AUX_STOR_MB/SAMPLES).
For a specific OS/400 system in the network, this report (see Figure 63) provides hourly trend information about:

- Processor usage (average and maximum)
- The number of I/Os (average and maximum)
- The amount of paging per second (average and maximum)
- The average number of jobs
- The total auxiliary storage used
- The percentage of auxiliary storage used

The report is produced by period name (for example, PRIME or NIGHT). For guidelines on how to interpret this information, refer to the AS/400 Performance Tools/400 Guide.

This information identifies the report:

**Report ID**  OS400P15

**Report group**  OS/400 Performance Component Reports

**Source**  OS400_PERF_SUM_H (described on page 62)

**Attributes**  OS400, Performance, Summary, Hourly, Trend

**Variables**  Date, OS400 system ID

### OS/400 Perf Summary for a System, Hourly Trend

**System:** 'S44A0001'  **Date:** '2000-03-10'

<table>
<thead>
<tr>
<th>Hour</th>
<th>CPU Avg (%)</th>
<th>CPU Max (%)</th>
<th>I/O Avg (sec)</th>
<th>I/O Max (sec)</th>
<th>Paging Avg (sec)</th>
<th>Paging Max (sec)</th>
<th>Jobs</th>
<th>Storage Used (MB)</th>
<th>Storage Total (MB)</th>
</tr>
</thead>
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<td>15.0</td>
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<td>72.4</td>
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<td>3.2</td>
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<td>66.4</td>
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<td>0.5</td>
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<td>64.0</td>
<td>1221</td>
<td>66.4</td>
</tr>
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<td>0.1</td>
<td>0.5</td>
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<td>64.0</td>
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<td>1.0</td>
<td>0.1</td>
<td>0.5</td>
<td>0.4</td>
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</tr>
<tr>
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<td>5.2</td>
<td>25.6</td>
<td>20.2</td>
<td>98.3</td>
<td>64.1</td>
<td>1221</td>
<td>66.7</td>
</tr>
</tbody>
</table>

Tivoli Decision Support for z/OS Report: OS400P15

---

Figure 63. Example of OS/400 Perf Summary for a System, Hourly Trend

The report contains this information:

**Hour**  The hour.

**CPU Avg (%)**  The average percentage processor usage. This is calculated as 100*CPU_SECONDS/MEASURED_SEC.

**CPU Max (%)**  The maximum percentage processor usage. This is calculated as 100*SAMPLES*CPU_SECONDS_MAX/MEASURED_SEC.
I/O Avg (/second)
The average number of I/O, per second. This is calculated as IO_COUNT/MEASURED_SEC.

I/O Max (/second)
The maximum number of I/O, per second. This is calculated as SAMPLES*IO_COUNT_MAX/MEASURED_SEC.

Paging Avg (/second)
The average number of pages per second. This is calculated as PAGE_COUNT/MEASURED_SEC.

Paging Max (/second)
The maximum number of pages per second. This is calculated as SAMPLES*PAGE_COUNT_MAX/MEASURED_SEC.

Avg Jobs (count)
The average number of jobs. This is calculated as JOB_COUNT/SAMPLES.

Total Aux storage (MB)
The total auxiliary storage, in megabytes. This is calculated as AUX_STOR_MB/SAMPLES.

Used Aux storage (%)
The total used auxiliary storage, in megabytes. This is calculated as (100*(AUX_STOR_MB-AUX_STOR_AVAIL_MB)/SAMPLES)/(AUX_STOR_MB/SAMPLES).
Appendix A. AS/400 system performance commands

This Appendix describes the AS/400 System Performance Feature (SP400) commands. You can use this information as a reference to request functions from the SP400 feature.

How to read syntax diagrams

This chapter uses syntax diagrams to illustrate the required syntax of commands and statements. This section describes how to use these diagrams.

Reading syntax diagrams

The syntax diagrams start with double arrowheads on the left (►►) and move along the main line until you end with two arrowheads facing each other (►►). To use a syntax diagram, follow any path from left to right. When you reach the end of a line, go to the beginning of the next line, if there is one. For whatever path you choose, code every item that appears on the path. All spaces, commas, and other characters are significant.

Abbreviating keywords

In a syntax diagram, keywords are all or partly in uppercase. Where an abbreviation is possible, the abbreviation is shown in uppercase and the rest of the keyword is shown in lowercase. Variable values that you provide are shown in italics.

The previous diagram shows that you can code the SEND command in either of the following ways:

SE 'message text'
SEND 'message text'

Parameters

The following are types of parameters used in syntax diagrams:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>Required parameters are displayed on the main path.</td>
</tr>
<tr>
<td>Optional</td>
<td>Optional parameters are displayed below the main path.</td>
</tr>
<tr>
<td>Default</td>
<td>Default parameters are displayed above the main path.</td>
</tr>
</tbody>
</table>

Parameters are classified as keywords or variables. Keywords are displayed in uppercase letters and can be typed in uppercase or lowercase. For example, a command is a keyword.

Variables are italicized, appear in lowercase letters, and represent names or values you supply. For example, a file name is a variable.

In the following example, NSASOLCT is a command, the variable parameter is *ncp_name*, the keyword is CLOCK, and CLOCK’s variable is *time*. You replace the variables with your own values.
Required parameters
A stack of parameters with the first parameter on the main path means that you must choose only one from the stack.

In the following example, the required parameters are LU, GROUP, CDRM, or APPL.

Default and optional parameters
Items shown above the main line are defaults. Items shown below the main line are optional.

The previous diagram shows that if you do not specify a host, HOST=LOCAL is used. To send a message to a different host, for example NYC, code the SEND command as follows:
SEND 'message text',HOST=NYC

Repeating parameters
Items that can be repeated are shown as follows:

The previous diagram shows that the following are all valid ways of coding the CRITERIA statement:

CRITERIA
CRITERIA 'expression'
CRITERIA 'expression1','expression2'
CRITERIA 'expression1','expression2','expression3'
CRITERIA 'expression1','expression2','expression3','expression4'

and so on.

Reading fragments
Syntax diagrams can contain fragments. A fragment is indicated by vertical bars with the name of the fragment between the bars. The fragment appears after the main diagram, as shown in the following example.
The previous diagram shows that the following are all valid ways of coding the SEND command:

SE 'message text'
SE 'message text',ROUTE=GLOBAL
SE 'message text',ROUTE=ALL
SE 'message text',ROUTE=CONSOLE
SE 'message text',ROUTE=EXTERNAL

Long syntax diagrams

When more than one row is needed for a syntax diagram, the continued line ends with a single arrowhead (▲) and following line begins with a single arrowhead (▼), as shown in the following example.

Commands for Tivoli Decision Support for z/OS

The following are commands you can use with Tivoli Decision Support for z/OS. You can find a description of the commands, the parameters you can specify and some examples on the use the commands.
STRPSRV (Start SP400 Server) command

Note: You can specify all the parameters in positional form.

Purpose
The Start SP400 Server (STRPSRV) command is used to start the SP400 monitoring job. The SP400 job sends the DRL8003 message to the system history log. The DRL8003 message includes performance information on the system, such as CPU utilization, auxiliary storage available, I/O, and paging.

Optional Parameters
INTERVAL Specifies the time interval, in minutes, between two consecutive retrievals of performance data and, therefore, two consecutive sendings of the message DRL8003. Performance data is computed as the average values for the specified time interval.

5 A time interval of 5 minutes is assumed by default.

time-interval Specify an integer between 1 to 3600.

JOBQ Specifies the job queue to which the SP400 server job is submitted. The name of the job queue can be qualified by one of the following library values:

*LIBL All libraries in the job’s library list are searched until the first match is found.

*CURLIB The current library for the job is searched.

library-name Specify the name of the library to be searched.

QCTL The job queue to which the SP400 job is submitted by default.

job-queue Specify the name of the job queue to which you want the SP400 job to be submitted.

Example
STRPSRV INTERVAL(10) JOBQ(*LIBL/QCTL)

This command starts the SP400 monitoring job in the QCTL job queue of the first matching library in the job’s library list. The SP400 job retrieves performance data from the system and computes average values for the time interval of 10 minutes. The DRL8003 message is sent every 10 minutes to the system history log.
**STRSP400 (Start SP400 data capturing) command**

Note: All parameters preceding INTV can be specified in positional form.

**Purpose**
The Start SP400 Data Capturing (STRSP400) command starts the data capturing process. The way in which the STRSP400 command works depends on the value selected for FILE parameter. See the FILE parameter for an explanation.

**Optional Parameters**

**FILE**
- Specifies the qualified name of the physical file that will contain the data being captured (except for FILE(DRLQPFR)). The physical files need to be already existing. Note that if you select the default library DRLDTA, you will have those physical files delivered with the product.

The name of the file can be qualified by one of the following library values:

**DRLDTA**
The DRLDTA library, delivered with the product, is searched.

**DRLQHST**
Leave the default value DRLQHST, to capture data from the system history log. DRLQHST file is cleaned up and filled in with the output of capturing.

**DRLQACG**
Select DRLQACG to capture data from the Job Accounting journal receivers. DRLQACG file is cleaned up and filled in with the output of capturing.

**DRLQHDW**
Select DRLQHDW to capture System Resource data. The DRLQHDW file is cleaned up and filled in with the output of capturing.
capturing. Note that when selecting the DRLQHDW value you are not prompted to select any other parameter values.

**DRLQPFR**

Select DRLQPFR to start the performance monitoring job and capture performance data into system-supplied database files (such as QAPMSYS, QAPMDISK, QAPMPOOL) in the library specified with the LIB parameter. Note that STRSP400 FILE(DRLQPFR) only starts the performance monitoring job and produces system-supplied database files. Later you are allowed to capture such performance data into the physical files DRLQSYS, DRLQDSK, DRLQPOL by using the Save SP400 Data (SAVSPDTA) command. Unlike the other choices, no physical file DRLQPFR is produced.

**PERIOD**

This parameter is only prompted for DRLQHST and DRLQACG values of the FILE parameter. It specifies the time period covered by the logged message data, if FILE(DRLQHST), or by the Job Accounting data, if FILE(DRLQACG), being captured. The values that can be coded for this parameter are specified as a list of three elements, the last of which is a list of two elements. If PERIOD is not specified, the following values are assumed:

PERIOD((+AVAIL +BEGIN (+AVAIL +CURRENT)))

Note that if the defaults are used, the command will go back to the last time it was run and start there to capture data to the present. The first time the command is executed with the defaults, data will be collected from the beginning of all of the history files if FILE(DRLQHST), or from the beginning of all of the Job Accounting journal receivers if FILE(DRLQACG).

**Element 1: Starting Time**

One of the following is used to specify the starting time at which or after which the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled before the specified time and date are not captured.

The logged or journaled data that is available starting from the specified starting date and since the last time this command was run is captured. The first time this command is run the data that is available since the specified starting date is captured.

*starting-time*

Specify the starting time on the specified starting date that indicates the logged or journaled data to start to be captured. The time is specified in 24-hour format with or without a time separator as follows:

- With a time separator, specify a string of 5 or 8 digits where the time separator separates the hours, minutes and seconds. If this command is entered from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command fails.
- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes and ss
Element 2: Starting Date
One of the following is used to specify the starting date on which or after which the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled before the specified date are not captured.

**BEGIN**
The logged or journaled data that is available since the last date this command was ran is captured. The first time the capture is run the data that is available since the beginning of all of the history files, if FILE(DRLQHST), or the beginning of all of the Job Accounting journal receivers, if FILE(DRLQACG), is captured.

**CURRENT**
The logged or journaled data for the current day and between the specified starting and ending times is captured.

*start-date*
Specify the date that indicates the logged or journaled data to start to be captured. The date must be entered in the format specified by the system values QDATFMT and, if separators are used, QDATSEP.

Element 3: Ending Time
One of the following is used to specify the ending time before which, or at which, the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled after the specified time and date are not captured.

**AVAIL**
The logged or journaled data that is available until the specified ending date is captured.

*ending-time*
Specify the ending time for the specified ending date that determines the time by which the data has to be captured. See “starting-time” of Element 1 for the time format.

Element 4: Ending Date
One of the following is used to specify the ending date before which or on which the history data must have been logged or the accounting data must have been journaled. Entries logged or journaled after the specified date are not captured.

**CURRENT**
The current day is the last day for which the data is captured.

*ending-date*
Specify the ending date by which logged or journaled data has to be captured. See “starting-date” of Element 2 for the date format.

**INTV**
This parameter is only prompted for the DRLQPFRT value of the FILE parameter. It specifies the time interval, in minutes, between each collection of system performance data.

15 Performance data is collected every 15 minutes by default.
**number-of-minutes**

Specify a collection interval value between 5 and 60 minutes. This value must be a multiple of 5.

**MGTC**

This parameter is only prompted for the DRLQPFR value of the FILE parameter. It specifies the management collect objects to be processed into database files.

*ALL* All the available management objects are processed.

*ACTIVE* Only the active management object is processed.

**FROMDT**

This parameter is only prompted for the DRLQPFR value of the FILE parameter. It specifies the starting date and time of the performance data in the management collection object that will be used to create the performance database files. This time, combined with the interval value, determines the date and time for each database interval.

**Element 1 Starting Date**

**FROMMGTCOL**

The starting date and time is the date and time when the management collection object was created.

starting-date

Specify the starting date for which collection data is generated. The date must be entered in the format specified by the system QDATFMT and, if separators are used, QDATSEP.

**Element 2: Starting Time**

starting-time

Specify the starting time on the specified starting date for generating the database intervals.

If the starting date is specified and the starting time is not, the starting time defaults as follows:
- If the starting date specifies the first day of the collection, the starting time is set to the start time of the collection.
- If the starting date does not specify the first day of the collection, the starting time is set to midnight (00:00:00).

**TODT**

Specifies the starting date and time of the last performance data in the management collection object that will be used to create the performance database files.

**Element 1 Ending Date**

**FROMMGTCOL**

The ending date and time is the date and time when the management collection object was created.

ending-date

Specify the starting date for which collection data is generated. The date must be entered in the format specified by the system QDATFMT and, if separators are used, QDATSEP.

**Element 2: Ending Time**

ending-time

Specify the ending time on the specified starting time for generating the database intervals.
If the ending date is specified and the ending time is not, the ending time defaults as follows:
- If the ending date specifies the first day of the collection, the ending time is set to the start time of the collection.
- If the ending date does not specify the first day of the collection, the ending time is set to 23:59:59).

Examples
STRSP400 PERIOD((000000 990101))

This command captures data from the history logged data available from the midnight of 1999 January 1st until the current date and time. The data is captured into the DRLQHST physical file of the DRLDTA library.
STRSP400 FILE(DRLQPFR) LIB(MYLIB) HOUR(0) MIN(30)

This command starts the Performance Monitor job. It will run for 30 minutes and will produce database files with system-supplied names, such as QAPMSYS, QAPMDISK, and QAPMPOOL, into the MYLIB library. Members with names Qyyddhhmm will be created into the above files every 15 minutes.
STRCSSRV (Start Collections Services) command

```
  STRCSSRV
  TYPE  (*START, *END)  
  INTERVAL (15, num-of-minutes)  
  RETENTION (0, retention-hours)  
```

Purpose
The Start Collection Services (STRCSSRV) command starts and ends Collection Services to create collections of performance data.

Optional Parameters
- **TYPE** Determines the action to perform. Possible values are:
  - *START* Runs QYPSCSCA and QYPSSTRC APIs to change the *PFR* system collector attribute and Start *PFR* collector by using information from the INTERVAL and RETENTION parameters.
  - *END* Runs QYPSENDAC API and ends *PFR* collector.
- **INTERVAL** This parameter is only prompted for the *START* value of the TYPE parameter. It is specified in minutes and can be 1, 5, 15, 30, or 60. The default value is 15 minutes.
- **RETENTION** This parameter is only prompted for the *START* value of the TYPE parameter. The retention period is used to determine how long the collection data is to exist. Collection data older than the retention period is deleted. The retention period is specified in hours. You can specify a value from 1 to 720, or the following special value:
  - 0 Permanent.
SAVSPDTA (Save SP400 Data) command

Note: All parameters preceding MBR can be specified in positional form.

**Purpose**
The Save SP400 Data (SAVSPDTA) command saves the data captured with the Start SP400 Data Capturing (STRSP400) command and provides the file transfer of this data from the AS/400 system to the OS/390 host system, where the data collecting will take place.

**Optional Parameters**

**FILE**
Specifies the data to be saved and transferred.

*ALL* The following database files in the library specified in the LIB parameter will be saved and will be candidates for the file transfer: DRLQHST, DRLQACG, DRLQHDW, DRLQSYS, DRLQDSK, and DRLQPOL.

**DRLQHST** The DRLQHST database file, filled in with history logged data captured with the STRSP400 FILE(DRLQHST) command, is selected for the file transfer.

**DRLQACG** The DRLQACG database file, filled in with job accounting data captured with the STRSP400 FILE(DRLQACG) command, is selected for the file transfer.

**DRLQHDW** The DRLQHDW database file, filled in with system resource data captured with the STRSP400 FILE(DRLQHDW) command, is selected for the file transfer.

**DRLQPFR** The DRLQSYS, DRLQDSK, and DRLQPOL database files are saved with the contents of the QAPMSYS, QAPMDISK, and QAPMPool system-supplied database files captured with the STRSP400 FILE(DRLQPFR) command, and are candidates for the file transfer.

**DLTF** DRLQPFR has an additional parameter, DLTF (delete performance files). The default value is *NO*, which means that the unused performance...
files are not deleted from the data library. If you specify a value of *YES, the unused performance files are deleted from the data library.

**LIB**

Specifies the library containing the files being saved and transferred. It has to be the same library where the files have been captured with the STRSP400 command.

**DRLDTA**

The DRLDTA library, delivered with the product, is searched for the files being saved and transferred.

***LIBL**

All libraries in the job’s library list are searched until the first match is found.

**CURLIB**

The current library for the job is searched.

library-name

Specify the name of the library to be searched.

**TYPE**

Specifies the file transfer method to transfer the saved files to the OS/390 host side.

**TAPE**

The saved files are transferred to tape.

**NJE**

The saved files are transferred through Network Job Entry. The selected database files will be sent to the TSO user at the host site specified in the TOUSRID parameter.

**USER**

The saved files are sent with a file transfer method other than *TAPE or *NJE. When you use the *USER value, you must have created a user exit program and a data area. The user exit program must reside in a library of the library list. It must define two parameters: LIBRARY and FILE, since it will be called from the SP400 feature with the different qualified file names selected for transferring. The user data area must have the name DRLDTA/USERDTAARA and the program name must reside in the first 10 characters of the user data area. However, executing the SAVSPDTA command the first time with *USER will create the DRLDTA/USERDTAARA. Since it is blank, the program name must be added.

**TOUSRID**

This parameter is only prompted when *NJE is selected for TYPE parameter. Specify the Userid and Address of the TSO user to which The data is being sent.

**Examples**

```
SAVSPDTA FILE(DRLQPF) TYPE(*NJE) TOUSRID(TRAMO ROMEPPC)
```

This command saves the performance files captured with the STRSP400 FILE(DRLQPF) command into the database files DRLQSYS, DRLQDSK, and DRLQPOL in the DRLDTA library delivered with the product. The command then sends them through the network to the TSO user TRAMO at ROMEPPC.

```
SAVSPDTA FILE(DRLQHST) LIB(MYLIB) DEV(TAP01)
```

This command transfers the DRLQHST database file of the MYLIB library, captured with the STRSP400 FILE(DRLQHST) command, to the tape TAP01. The database file can later be transferred from tape to the host OS/390 system, where the collecting will take place.
INZTAP (Initialize Tape) command

This command is for all users of Tivoli Decision Support for z/OS Version 1.6.0 and of previous versions of Performance Reporter.
Note: All parameters preceding DENSITY can be specified in positional form.

Purpose

The Initialize Tape (INZTAP) command prepares magnetic tapes for later use of saving captured data, by means of the Save Collection Services Data (SAVSPDTA) command. This command is used to write volume labels on standard-labeled magnetic tapes so the tape device support can do standard-label processing. Unlabeled tapes must also be initialized by this command or by a similar process on another system before these tapes can be used on the AS/400 system.
Required parameter

DEV  Specifies the name of the device in which the volume being initialized is placed. TAP01 has been set as default value.

Optional Parameters

NEWVOL  Specifies the volume identifier for a tape being initialized for use as a standard labeled tape.

SP400  This is the default value.

*NONE  The tape is initialized for use as an unlabeled tape. Only tape marks are used to indicate the beginning and the end of the volume itself.

*CTGID  The tape is initialized as a standard labeled tape. The new logical volume identifier is the same as the external identifier of the tape cartridge. Each tape within a library device must have a unique external identifier.

\textit{new-volume-identifier}  Specify no more than 6 characters to identify the new volume. The identifier must contain only alphanumeric characters (A through Z, $, @, and 0 through 9), and cannot have a prefix or contain blanks.

DENSITY  Specifies the recording format in which to write the data on the tape.

*DEVTYPE  The data that is written on the tape volume is based on the type of tape unit being used.

Tape Device Default Density

<table>
<thead>
<tr>
<th>Tape Device</th>
<th>Default Density</th>
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<tr>
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<td>FMT3480</td>
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<tr>
<td>3570-BXX</td>
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</tr>
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<td>QIC26GB</td>
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<td>QIC5010</td>
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1600 The data density on this tape volume is 1,600 bits per inch. This density is used for 1/2 inch reel tapes.

3200 The data density on this tape volume is 3,200 bits per inch. This density is used for 1/2 inch reel tapes on devices that support this density.

6250 The data density on this tape volume is 6,250 bits per inch. This density is used for 1/2 inch reel tapes on devices that support this density.

*FMT3480 The format of this tape is FMT3480. The data density on this tape volume is formatted to support a 3480 device. This density is used for 1/2 inch cartridge tapes.

*FMT3490E The format of this tape is FMT3490E. The data density on this tape volume is formatted to support a 3490E device. This density is used for 1/2 inch cartridge tapes.

*FMT3570 The format of this tape is FMT3570. The data format is written on the tape volume with a 3570-BXX device.

*FMT3570E The format of this tape is FMT3570E. The data format is written on the tape volume with a 3570-CXX device.

*FMT3590 The format of this tape is FMT3590. The data format is written on the tape volume with a 3590 device. This density is used for 1/2 inch cartridge tapes.

*QIC120 The format of this tape is QIC120. This density is used for 1/4 inch cartridge tapes that can hold 120 megabytes of data.

*QIC525 The format of this tape is QIC525. This density is used for 1/4 inch cartridge tapes that can hold 525 megabytes of data.

*QIC1000 The format of this tape is QIC1000. This density is used for 1/4 inch cartridge tapes that can hold 1200 megabytes of data.

*QIC2GB The format of this tape is QIC2GB, which is used for 1/4 inch cartridge tapes that can hold 2.5 gigabytes of data.

*QIC3040 The format of this tape is QIC3040, which is used for 1/4 inch cartridge tapes that can hold 840 megabytes of data.

*QIC5010 The format of this tape is QIC5010, which is used for 1/4 inch cartridge tapes that can hold 13.5 gigabytes of data.

*FMT2GB The format of this tape is FMT2GB, which is used for 8 millimeter cartridge tapes that can hold 2 gigabytes of data.

*FMT5GB The format of this tape is FMT5GB, which is used for 8 millimeter cartridge tapes that can hold 5 gigabytes of data.

*FMT7GB The format of this tape is FMT7GB, which is used for 8 millimeter cartridge tapes that can hold 7 gigabytes of data.
**Example**

INZTAP DEV(TAP01) NEWVOL(SP400) DENSITY(*DEVTYPE)

This command initializes the volume on the tape device named TAP01 with new volume identifier SP400 with a density based on the device type.
Appendix B. List of abbreviations

These abbreviations appear in this book:

- **ACB**: application control block
- **CCU**: central control unit
- **CDRM**: cross-domain resource manager
- **CSA**: common service area
- **CTC**: channel to channel
- **CICS**: Customer Information and Control System
- **CMF**: CICS monitoring facility
- **CPU**: central processing unit
- **DB2**: DATABASE 2
- **DDR**: dynamic definite response
- **FTP**: File Transfer Protocol
- **JCL**: job control language
- **IMS**: Information Management System
- **I/O**: input/output
- **ISPF**: Interactive System Productivity Facility
- **LAN**: local area network
- **LU**: logical unit
- **NCP**: network control program
- **NEO**: network extension option
- **NJE**: Network Job Entry
- **NPM**: NetView Performance Monitor
- **NTRI**: NCP/Token-Ring interconnection
- **NVAS**: NetView Access Service
- **NV/SM**: NetView session monitor
- **ODCL**: outboard data link control
- **PU**: physical unit
- **QMF™**: Query Management Facility
- **RJE**: Remote Job Entry
- **RMF™**: Resource Management Facility
- **RTM**: response time monitor
- **SDLC**: synchronous data link control
- **SMF**: System Management Facilities
- **SMP/E**: System Modification Program/Extended
SNA  system network architecture
SNMP  Simple Network Management Protocol
SP400  AS/400 System Performance feature
SQL   Structured Query Language
SRB   service control block
SSCP  system services control program
STATMON  Status Monitor
TCAS  terminal control address space
TCB   task control block
TCP/IP  Transmission Control Protocol/Internet Protocol
TSO   time-sharing option
UDP   User Datagram Protocol
VPD   vital product data
VTAM®  Virtual Telecommunication Access Method
Glossary

A

administration. A Tivoli Decision Support for z/OS task that includes maintaining the database, updating environment information, and ensuring the accuracy of data collected.

administration dialog. The set of host windows used to administer Tivoli Decision Support for z/OS.

C

COLLECT. A process used by Tivoli Decision Support for z/OS to read data from input log data sets, interpret records in the data set, and store the data in DB2 tables in the Tivoli Decision Support for z/OS database.

component. An optionally installable part of a Tivoli Decision Support for z/OS feature.

control table. A predefined Tivoli Decision Support for z/OS table that controls results returned by some log collector functions.

D


data table. A Tivoli Decision Support for z/OS table that contains performance data used to create reports.

distributed transaction processing. The distribution of processing among transactions that communicate synchronously with each other over intersystem or interregion links.

E

environment information. All of the information that is added to the log data to create reports. This information can include data such as performance groups, shift periods, installation definitions, and so on.

H

help topics. An online table of contents for the Tivoli Decision Support for z/OS online help information.

K

key columns. The columns of a DB2 table that together constitute the key.

key value. Value used to sort records into groups.

L

log. Any sequential data set used as input to Tivoli Decision Support for z/OS.

log collector. A Tivoli Decision Support for z/OS program that processes log data sets and provides other Tivoli Decision Support for z/OS services.

log collector language. Tivoli Decision Support for z/OS statements used to supply definitions to and invoke services of the log collector.

log data set. Any sequential data set used as input to Tivoli Decision Support for z/OS.

log definition. The description of a log data set processed by the log collector.

log procedure. A program module that is used to process all record types in certain log data sets.

logical unit (LU). A port through which a user gains access to the services of a network.

lookup expression. An expression that specifies how a value is obtained from a lookup table.

lookup table. A Tivoli Decision Support for z/OS DB2 table that contains grouping, translation, or substitution information.

O

object. An integral part of a feature component needed for data collection (for example, record definitions, record procedures, and update definitions).

P

Tivoli Decision Support for z/OS database. A set of DB2 tables that includes data tables, lookup tables, system tables, and control tables.

purge condition. Instruction for purging unneeded data from the Tivoli Decision Support for z/OS database.
record definition. The description of a record type contained in the log data sets used by Tivoli Decision Support for z/OS, including detailed record layout and data formats.

record procedure. A program module that is called to process some types of log records.

record type. The classification of records in a log data set.

region. A section of the dynamic area that is allocated to a job step or system task.

report definition language. Tivoli Decision Support for z/OS statements used to define reports and report groups.

report group. A collection of Tivoli Decision Support for z/OS reports that can be referred to by a single name.

reporting dialog. A set of host or workstation windows used to request reports.

resource. Any facility of the computing system or operating system required by a job or task, including central storage, input/output devices, the processing unit, data sets, and control or processing programs.

resource group. A collection of resources identified as belonging to a particular department or division. Resources are organized into groups to reflect the structure of an organization.

resource information. Environment information that describes the elements in a system (for example, a network).

section. A structure within a record that contains one or more fields and may contain other sections.

source. In an update definition, the record or DB2 table that contains the data used to update a Tivoli Decision Support for z/OS DB2 table.

subcomponent. An optionally installable part of a Tivoli Decision Support for z/OS feature component.

system table. A DB2 table that stores information for controlling log collector processing, Tivoli Decision Support for z/OS dialogs, and reporting.

target. In an update definition, the DB2 table in which Tivoli Decision Support for z/OS stores data from the source record or table.

threshold. The maximum or minimum acceptable level of usage. Usage measurements are compared with threshold levels.

Transmission Control Protocol/Internet Protocol (TCP/IP). A non-proprietary communications protocol for linking workstations to host computers and to other hardware.

update definition. Instructions for entering data into DB2 tables from records of different types or from other DB2 tables.

updates. Instructions in Tivoli Decision Support for z/OS on how to process data from log data sets to DB2 tables.

view. An alternative representation of data from one or more tables. A view can include all or some of the columns contained in the table on which it is defined.
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Index

A
abbreviations used in this book, list of 141
accounting component
data flow 28
reports 69
tables 41
accounting component data tables 41
OS400_ACCT_JOB_D 41
OS400_ACCT_JOB_M 41
OS400_ACCT_PRINT_D 43
OS400_ACCT_PRINT_M 43
accounting component reports 69
OS/400 Acct Job Accounting, Monthly Overview 70
OS/400 Acct Print Accounting, Monthly Overview 71
active to ineligible, on system 112
active to wait, on system 112
activity levels 110, 112
arm movements 102
AS/400 system performance commands
INZTAP 135
SAVSPDTA 133
STRSP400 127
STRSPSRV 126, 132
attributes, report 68
audience for this book, intended xi
auxiliary storage, used 116, 118, 120

B
books
feedback xii
online xii
ordering xii

C
Capturing data on the AS/400 12
collecting performance data, summary 3
commands
INZTAP 135
SAVSPDTA 133
STRSP400 127
STRSPSRV 126, 132
communication between AS/400 and OS/390 7
component installation 17
configuration component
data flow 30
reports 72
tables 44
configuration component reports 72
OS/400 Config all Devices, Overview 73
OS/400 Config DASD Capacity Overview 74
OS/400 Config Main Storage Overview 75
OS/400OS/400 Config Device Count Type/Model, Overview 76
OS/400OS/400 Config Device for Specific Type, Overview 77
control tables 26
CPU utilization 70, 79, 80, 81, 82, 84, 85, 95, 104, 106, 114, 115, 116, 118, 120
customer support xv

daily reports
OS/400 Job Statistics all Systems, Daily Trend (OS400J03) 81
OS/400 Messages Most Frequent, Daily Overview (OS400M02) 88
OS/400 Perf CPU Usage all Systems, Daily Overview (OS400P12) 115
OS/400 Perf Summary all Systems, Daily Overview (OS400P13) 116
OS/400 Perf Summary for a System, Daily Trend (OS400P14) 118
data
sources of performance 12
Data capturing 12
data flow from AS/400 to Tivoli Decision Support for z/OS accounting component 28
configuration component 30
job statistics component 32
messages component 34
overview 25
performance component 36
data tables
in the accounting component 41
OS400_ACCT_JOB_D 41
OS400_ACCT_JOB_M 41
OS400_ACCT_PRINT_D 43
OS400_ACCT_PRINT_M 43
in the job statistics component 46
OS400_JOB_STAT_D 46
OS400_JOB_STAT_M 46
in the messages component 47
OS400_MSG_STAT_D 47
OS400_MSG_STAT_DV (View) 48
OS400_MSG_STAT_M 47
OS400_MSG_STAT_MV (View) 48
in the performance component 49
OS400_PERF_SUM_D 62
OS400_PERF_SUM_H 62
OS400_PM_DISK_D 49
OS400_PM_DISK_H 49
OS400_PM_POOL_D 52
OS400_PM_POOL_H 52
OS400_PM_SYS_D 54
OS400_PM_SYS_H 54
OS400_PM_SYS_JGR_D 60
OS400_PM_SYS_JGR_H 60
naming standard 39
summarization-level suffixes 39
disk
arm movements 98, 102
capacity 100
disk capacity 100
disk space requirements 7
F
format, Tivoli Decision Support for z/OS report 67

G
glossary 143
groups, report 4

H
hourly reports
OS/400 Perf CPU and RTM Statistics, Hourly Trend (OS400P01) 95
OS/400 Perf CPU and Trans by Job Group, Hourly Trend (OS400P06) 104
OS/400 Perf CPU by Job Group, Hourly Trend (OS400P07) 106
OS/400 Perf Disk Arm Movements, Hourly Trend (OS400P05) 102
OS/400 Perf Disk Capacity Statistics, Hourly Trend (OS400P04) 100
OS/400 Perf Disk I/O Statistics, Hourly Trend (OS400P03) 98
OS/400 Perf Exception and Lock Stat, Hourly Trend (OS400P02) 97
OS/400 Perf Max & Avg CPU Usage, Hourly Trend (OS400P11) 114
OS/400 Perf Paging Statistics, Hourly Trend (OS400P08) 108
OS/400 Perf Storage Pool & Act Level, Hourly Trend (OS400P09) 110
OS/400 Perf Summary for a System, Hourly Trend (OS400P15) 120
OS/400 Perf Transition Statistics, Hourly Trend (OS400P10) 112
how to use this book xii

I
I/Os
number 70, 79, 81, 82, 83, 84, 85, 116
trend 98, 118, 120
identifiers, report 67
implementing SP400 feature
considering components to install 6
installing SP400 feature on AS/400 7
installing SP400 feature on the OS/390 system 17
planning the process 5
putting SP400 feature into production 21
testing SP400 feature installation 21
updating lookup tables 19
installing SP400 feature on AS/400 7
intended audience for this book xi
INZTAP command 135

J
job statistics component
data flow 32
reports 78
tables 46
job statistics component data tables 46
OS400_JOB_STAT_D 46
OS400_JOB_STAT_M 46
job statistics component reports 78
OS/400 Job Acct from History Log, Monthly Overview 85
OS/400 Job CPU Usage by User, Monthly Overview 80
OS/400 Job Statistics all Systems, Daily Trend 81
OS/400 Job Statistics all Systems, Monthly Trend 82
OS/400 Job Statistics by User, Monthly Overview 79
OS/400 Job Type Statistics, Monthly Overview 84
OS/400 Jobs Statistics for a User, Monthly Overview 83
jobs, number per system 81, 82, 83, 84, 116, 118
jobs, number per user 70, 71, 79
jobs, number per user 85

L
list of abbreviations used in this book 141
list of terms used in this book 143
logs, on system 97
log files on OS/400 11
logs, description 27
LookAt message retrieval tool xiv
lookup tables, description 63
OS400_DASDTYPE 43, 64
OS400_DATE_FORMAT 65
OS400JOB_ACCTCODE 63
OS400_JOBGROUP 66
lookup tables, updating 19
OS400_DASDTYPE 20
OS400_DATE_FORMAT 20
OS400JOB_ACCTCODE 20
OS400_JOBGROUP 20

M
manuals
feedback xii
online xii
ordering xii
measuring response time 83, 95, 104
message retrieval tool, LookAt xiv
messages
message lines 87, 91, 93
number 87, 88, 89, 90, 91, 92, 93
percentage occurrence 88, 89, 90, 91, 92, 93
text bytes per 87, 89
messages component
data flow 34
reports 86
tables 47
messages component data tables 47
OS400_MSG_STAT_D 47
OS400_MSG_STAT_DV (View) 48
OS400_MSG_STAT_M 47
OS400_MSG_STAT_MV (View) 48
messages component reports 86
OS/400 Messages All Systems, Monthly Overview 87
OS/400 Messages by Sev. Codes, Monthly Overview 90
OS/400 Messages by Type, Monthly Overview 92
OS/400 Messages by User Name, Monthly Overview 93
messages component reports (continued)
 OS/400 Messages for a User, Monthly Overview  91
 OS/400 Messages Most Frequent, Daily Overview  88
 OS/400 Messages Most Frequent, Monthly Overview  89

monthly reports
 OS/400 Acct Job Accounting, Monthly Overview
(OS400A01) 70
 OS/400 Acct Print Accounting, Monthly Overview
(OS400A02)  71
 OS/400 Job Acct from History Log, Monthly Overview
(OS400J07)  84, 85
 OS/400 Job CPU Usage by User, Monthly Overview
(OS400J02)  79
 OS/400 Job Statistics all Systems, Monthly Trend
(OS400J04)  80
 OS/400 Job Type Statistics, Monthly Overview
(OS400J06)  83
 OS/400 Jobs Statistics for a User, Monthly Overview
(OS400J05)  82
 OS/400 Messages All Systems, Monthly Overview
(OS400M01)  87
 OS/400 Messages by Sev. Codes, Monthly Overview
(OS400M04)  90
 OS/400 Messages by Type, Monthly Overview
(OS400M06)  92
 OS/400 Messages by User Name, Monthly Overview
(OS400M07)  93
 OS/400 Messages for a User, Monthly Overview
(OS400M05)  91
 OS/400 Messages Most Frequent, Monthly Overview
(OS400M03)  89

N
naming standards for tables  39

O
online publications  xiv
ordering publications  xiv
OS/400 log files  11

P
pacing
per second  116, 118, 120
trend  108

performance component
data flow  36
reports  94
tables  49

performance component data tables  49
 OS400_PERF_SUM_D  62
 OS400_PERF_SUM_H  62
 OS400_PM_DISK_D  49
 OS400_PM_DISK_H  49
 OS400_PM_POOL_D  52
 OS400_PM_POOL_H  52
 OS400_PM_SYS_D  54
 OS400_PM_SYS_H  54
 OS400_PM_SYS_JGR_D  60
 OS400_PM_SYS_JGR_H  60

performance component reports  94
 OS/400 Perf CPU and RTM Statistics, Hourly Trend  95
 OS/400 Perf CPU and Trans by Job Group, Hourly Trend  104

performance component reports (continued)
 OS/400 Perf CPU by Job Group, Hourly Trend  106
 OS/400 Perf CPU Usage all Systems, Daily Overview  115
 OS/400 Perf Disk Arm Movements, Hourly Trend  102
 OS/400 Perf Disk Capacity Statistics, Hourly Trend  100
 OS/400 Perf Disk I/O Statistics, Hourly Trend  98
 OS/400 Perf Exception and Lock Stat, Hourly Trend  97
 OS/400 Perf Max & Avg CPU Usage, Hourly Trend  114
 OS/400 Perf Paging Statistics, Hourly Trend  108
 OS/400 Perf Storage Pool & Act Level, Hourly Trend  110
 OS/400 Perf Summary all Systems, Daily Overview  116
 OS/400 Perf Summary for a System, Daily Trend  118
 OS/400 Perf Summary for a System, Hourly Trend  120
 OS/400 Perf Transition Statistics, Hourly Trend  112

performance management
collecting data  3
printed pages
number  71
publications
feedback  xii
online  xii
ordering  xii

R
record definitions, description  27
report groups  4
report IDs  67
 OS400A01 (OS/400 Acct Job Accounting, Monthly Overview)  70
 OS400A02 (OS/400 Acct Print Accounting, Monthly Overview)  71
 OS400J01 (OS/400 Job Statistics by User, Monthly Overview)  79
 OS400J02 (OS/400 Job CPU Usage by User, Monthly Overview)  80
 OS400J03 (OS/400 Job Statistics all Systems, Daily Trend)  81
 OS400J04 (OS/400 Job Statistics all Systems, Monthly Trend)  82
 OS400J05 (OS/400 Jobs Statistics for a User, Monthly Overview)  83
 OS400J06 (OS/400 Job Type Statistics, Monthly Overview)  84
 OS400J07 (OS/400 Job Acct from History Log, Monthly Overview)  85
 OS400M01 (OS/400 Messages All Systems, Monthly Overview)  87
 OS400M02 (OS/400 Messages Most Frequent, Daily Overview)  88
 OS400M03 (OS/400 Messages Most Frequent, Monthly Overview)  89
 OS400M04 (OS/400 Messages by Sev. Codes, Monthly Overview)  90
 OS400M05 (OS/400 Messages for a User, Monthly Overview)  91
 OS400M06 (OS/400 Messages by Type, Monthly Overview)  92
 OS400M07 (OS/400 Messages by User Name, Monthly Overview)  93

Index  151
<table>
<thead>
<tr>
<th>report IDs (continued)</th>
<th>reports (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS400P04 (OS/400 Perf Disk Capacity Statistics, Hourly Trend) 100</td>
<td>in the messages component (continued)</td>
</tr>
<tr>
<td>OS400P05 (OS/400 Perf Disk Arm Movements, Hourly Trend) 102</td>
<td>OS/400 Messages for a User, Monthly Overview  91</td>
</tr>
<tr>
<td>OS400P06 (OS/400 Perf CPU and Trans by Job Group, Hourly Trend) 104</td>
<td>OS/400 Messages Most Frequent, Daily Overview  88</td>
</tr>
<tr>
<td>OS400P07 (OS/400 Perf CPU by Job Group, Hourly Trend) 106</td>
<td>OS/400 Messages Most Frequent, Monthly Overview  89</td>
</tr>
<tr>
<td>OS400P08 (OS/400 Perf Paging Statistics, Hourly Trend) 108</td>
<td>in the performance component  94</td>
</tr>
<tr>
<td>OS400P09 (OS/400 Perf Storage Pool &amp; Act Level, Hourly Trend) 110</td>
<td>OS/400 Perf CPU and RTM Statistics, Hourly Trend  95</td>
</tr>
<tr>
<td>OS400P10 (OS/400 Perf Transition Statistics, Hourly Trend) 112</td>
<td>OS/400 Perf CPU by Job Group, Hourly Trend  104</td>
</tr>
<tr>
<td>OS400P11 (OS/400 Perf Max &amp; Avg CPU Usage, Hourly Trend) 114</td>
<td>OS/400 Perf CPU Usage all Systems, Daily Overview  115</td>
</tr>
<tr>
<td>OS400P12 (OS/400 Perf CPU Usage all Systems, Daily Overview) 115</td>
<td>OS/400 Perf Capacity Statistics, Hourly Trend  100</td>
</tr>
<tr>
<td>OS400P13 (OS/400 Perf Summary all Systems, Daily Overview) 116</td>
<td>OS/400 Perf Exception and Lock Stat, Hourly Trend  97</td>
</tr>
<tr>
<td>OS400P14 (OS/400 Perf Summary for a System, Daily Trend) 118</td>
<td>OS/400 Perf Max &amp; Avg CPU Usage, Hourly Trend  114</td>
</tr>
<tr>
<td>OS400P15 (OS/400 Perf Summary for a System, Hourly Trend) 120</td>
<td>OS/400 Perf Paging Statistics, Hourly Trend  108</td>
</tr>
<tr>
<td>OS436C01 (OS/400 Config all Devices, Overview) 73</td>
<td>OS/400 Perf Storage Pool &amp; Act Level, Hourly Trend  110</td>
</tr>
<tr>
<td>OS436C02 (OS/400 Config DASD Capacity Overview) 74</td>
<td>OS/400 Perf Summary all Systems, Daily Overview  116</td>
</tr>
<tr>
<td>OS436C03 (OS/400 Config Main Storage Overview) 75</td>
<td>OS/400 Perf Summary for a System, Daily Trend  118</td>
</tr>
<tr>
<td>OS436C04 (OS/400 Config Device Count Type/Model, Overview) 76</td>
<td>OS/400 Perf Summary for a System, Hourly Trend  120</td>
</tr>
<tr>
<td>OS436C05 (OS/400 Config Device for Specific Type, Overview) 77</td>
<td>OS/400 Perf Transition Statistics, Hourly Trend  112</td>
</tr>
<tr>
<td>reports</td>
<td>source tables  68</td>
</tr>
<tr>
<td>attributes  68</td>
<td>variables  68</td>
</tr>
<tr>
<td>format and general description  67</td>
<td>requirements on OS/400 software  7</td>
</tr>
<tr>
<td>in the accounting component  69</td>
<td>response time  83, 95, 104</td>
</tr>
<tr>
<td>OS/400 Acct Job Accounting, Monthly Overview  70</td>
<td><strong>S</strong></td>
</tr>
<tr>
<td>OS/400 Acct Print Accounting, Monthly Overview  71</td>
<td>SAVSPDTA command  133</td>
</tr>
<tr>
<td>in the configuration component  72</td>
<td>software support  xv</td>
</tr>
<tr>
<td>OS/400 Config all Devices, Overview  73</td>
<td>source tables  68</td>
</tr>
<tr>
<td>OS/400 Config DASD Capacity Overview  74</td>
<td>storage pools  108, 110</td>
</tr>
<tr>
<td>OS/400 Config Device Count Type/Mode  76</td>
<td>STRSP400 command  127</td>
</tr>
<tr>
<td>OS/400 Config Device for Specific Type, Overview  77</td>
<td>STRSPSRV command  126, 132</td>
</tr>
<tr>
<td>OS/400 Config Main Storage Overview  75</td>
<td>suffixes, data-table  39</td>
</tr>
<tr>
<td>OS/400OS/400 Config Device Count Type/Model, Overview  76</td>
<td>syntax diagrams, how to use  123</td>
</tr>
<tr>
<td>OS/400OS/400 Config Device for Specific Type, Overview  77</td>
<td>system performance commands</td>
</tr>
<tr>
<td>in the job statistics component  78</td>
<td>INZTAP  135</td>
</tr>
<tr>
<td>OS/400 Job Acct from History Log, Monthly Overview  85</td>
<td>SAVSPDTA  133</td>
</tr>
<tr>
<td>OS/400 Job CPU Usage by User, Monthly Overview  80</td>
<td>STRSP400  127</td>
</tr>
<tr>
<td>OS/400 Job Statistics all Systems, Daily Trend  81</td>
<td>STRSPSRV  126, 132</td>
</tr>
<tr>
<td>OS/400 Job Statistics all Systems, Monthly Trend  82</td>
<td><strong>T</strong></td>
</tr>
<tr>
<td>OS/400 Job Statistics by User, Monthly Overview  79</td>
<td>tables lookup  63</td>
</tr>
<tr>
<td>OS/400 Job Type Statistics, Monthly Overview  84</td>
<td>OS400_ACCT_JOB_D  41</td>
</tr>
<tr>
<td>OS/400 Jobs Statistics for a User, Monthly Overview  83</td>
<td>OS400_ACCT_JOB_M  41</td>
</tr>
<tr>
<td>in the messages component  86</td>
<td>OS400_ACCT_PRINT_D  43</td>
</tr>
<tr>
<td>OS/400 Messages All Systems, Monthly Overview  87</td>
<td>OS400_ACCT_PRINT_M  43</td>
</tr>
<tr>
<td>OS/400 Messages by Serv. Codes, Monthly Overview  90</td>
<td>OS400_DASDTYPE  64</td>
</tr>
<tr>
<td>OS/400 Messages by Type, Monthly Overview  92</td>
<td>OS400_DATE_FORMAT  65</td>
</tr>
<tr>
<td>OS/400 Messages by User Name, Monthly Overview  93</td>
<td>OS400_JOB_ACCTCODE  65</td>
</tr>
<tr>
<td>OS400_MSG_STAT_D  47</td>
<td>OS400_JOB_STAT_D  46</td>
</tr>
<tr>
<td>OS400_JOBSTAT_M  46</td>
<td>OS400_JOBGROUP  66</td>
</tr>
</tbody>
</table>
tables (continued)
  OS400_MSG_STAT_DV (View)  48
  OS400_MSG_STAT_M  47
  OS400_MSG_STAT_MV (View)  48
  OS400_PERF_SUM_D  62
  OS400_PERF_SUM_H  62
  OS400_PM_DISK_D  49
  OS400_PM_DISK_H  49
  OS400_PM_POOL_D  52
  OS400_PM_POOL_H  52
  OS400_PM_SYS_D  54
  OS400_PM_SYS_H  54
  OS400_PM_SYS_JGR_D  60
  OS400_PM_SYS_JGR_H  60
terms used in this book  143
testing the installation  21
Tivoli Decision Support for z/OS, structure of  3
transactions
  number  79, 81, 82, 83, 84, 104
  rate  104
transfer of files to OS/390  3, 15
trend reports
  OS/400 Job Statistics all Systems, Daily Trend  79, 81
  OS/400 Job Statistics all Systems, Monthly Trend  80, 82
  OS/400 Perf CPU and RTM Statistics, Hourly Trend  95
  OS/400 Perf CPU and Trans by Job Group, Hourly Trend  104
  OS/400 Perf CPU by Job Group, Hourly Trend  106
  OS/400 Perf Disk Arm Movements, Hourly Trend  102
  OS/400 Perf Disk Capacity Statistics, Hourly Trend  100, 108
  OS/400 Perf Disk I/O Statistics, Hourly Trend  98, 106
  OS/400 Perf Exception and Lock Stat, Hourly Trend  97
  OS/400 Perf Max & Avg CPU Usage, Hourly Trend  114
  OS/400 Perf Paging Statistics, Hourly Trend  108
  OS/400 Perf Storage Pool & Act Level, Hourly Trend  110
  OS/400 Perf Summary for a System, Daily Trend  118
  OS/400 Perf Summary for a System, Hourly Trend  120
  OS/400 Perf Transition Statistics, Hourly Trend  112

U
  updating lookup tables  19
  use of this book, intended  xi

V
  variables, report  68
  view tables for message component  48

W
  wait to ineligible, on system  112
  who should use this book  xi
Program Number: 5698-A07

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