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IMS Performance Solution Pack – What's New and What's Next
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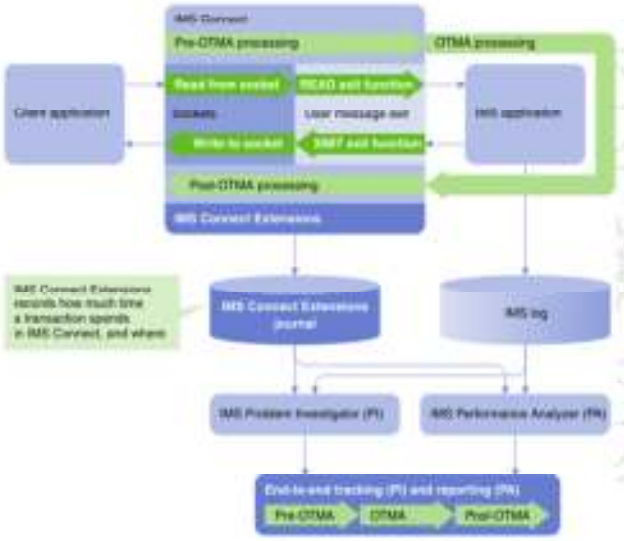
IMS Performance Solution Pack: A suite of cooperating products…

- IMS Connect Extensions (CEX)
- IMS Problem Investigator (IMS PI)
- IMS Performance Analyzer (IMS PA)



Performance Solution Pack (PSP): Key benefits

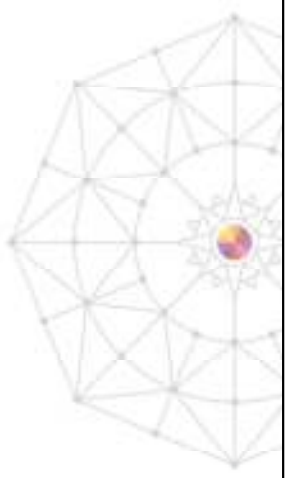
- Improve availability, reliability, and performance of IMS Connect.
- Obtain information about IMS transaction performance to enable tuning, service level management, trend analysis, and capacity planning.
- Monitor significant system events that can adversely affect system performance and availability.
- Exploit the wealth of information collected by IMS and related subsystems;
  - *Identify potential performance problems before they impact your business.*
- Increase productivity of problem analysts; efficient fault finding and reduced down-time.
- Avoid missed service level agreements by ensuring your IMS systems are always running at peak performance.

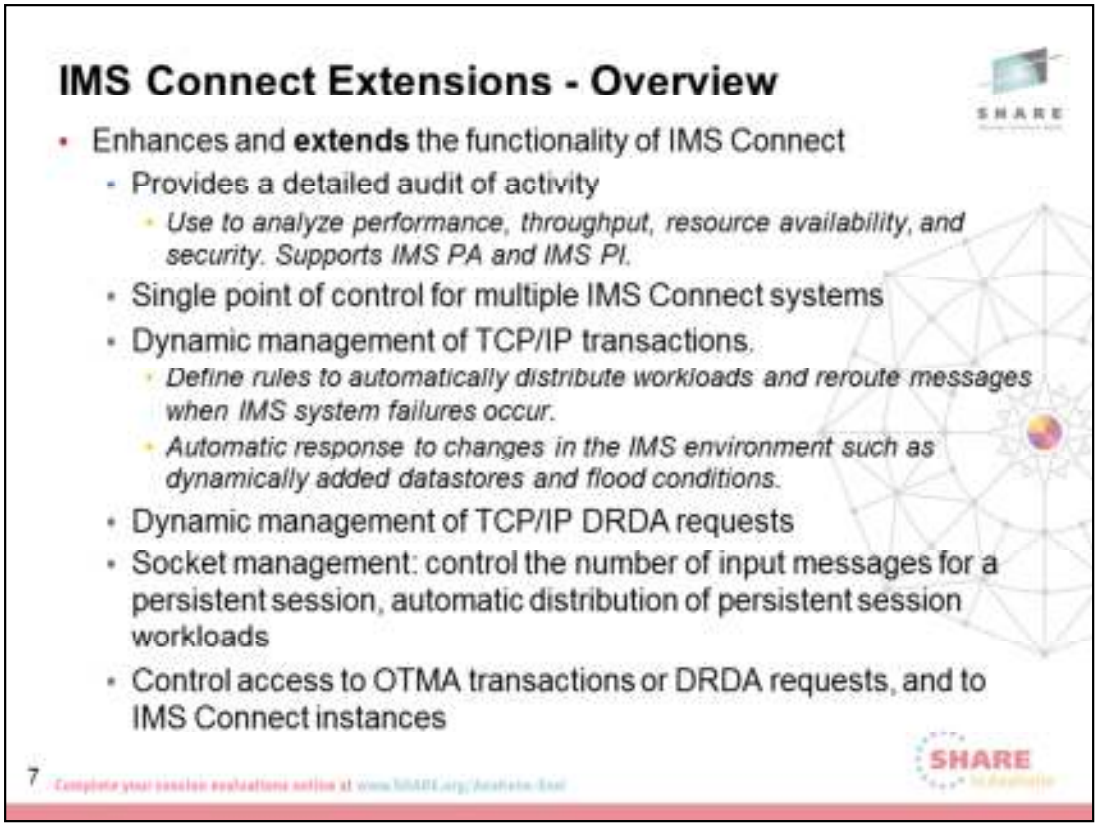
Usage scenarios

- Interactive problem determination; monitor transaction response time with simplified log analysis.
- End to end replay of IMS transactions including DB2 and MQ events. Track the transaction lifecycle through IMS Connect and into IMS.
- Quickly identify the source of performance problems and determine whether the problem is in IMS Connect, OTMA, MQ, DB2, shared queues or other subsystems.
- Measure usage and availability of important resources, including databases, programs, regions, buffers and queues.

Part 1

- IMS Connect Extensions V2.3





Overview

IBM® IMS™ Connect Extensions for z/OS® (referred to as IMS Connect Extensions) is a tool that enhances the operation of IMS Connect. IMS Connect, a function of IMS, is the premier pathway for accessing IMS applications and databases via TCP/IP.

IMS Connect Extensions extends IMS Connect by providing the following features:

Monitoring and recording of IMS Connect activity

IMS Connect Extensions provides a detailed audit of activity, giving you the information you need to analyze performance, throughput, resource availability, and security. You can also use this information to debug clients and new applications.

Single point of control for multiple IMS Connect systems

Centralized management of all your IMS Connect systems, including monitoring and control of OTMA and Open Database workloads, MSC physical links, and remote IMS Connect systems, from an ISPF Operations dialog or Operations Console GUI client.

Enhanced transaction management

Dynamic management of TCP/IP transactions, allowing you to define rules to automatically distribute workloads and reroute messages when IMS system failures occur. Automatic response to changes in the IMS environment such as dynamically added datastores and flood conditions.

Enhanced Open Database management

Dynamic management of TCP/IP DRDA® requests, allowing you to define rules to redistribute workload based on capacity or by relative machine running costs .

Socket management

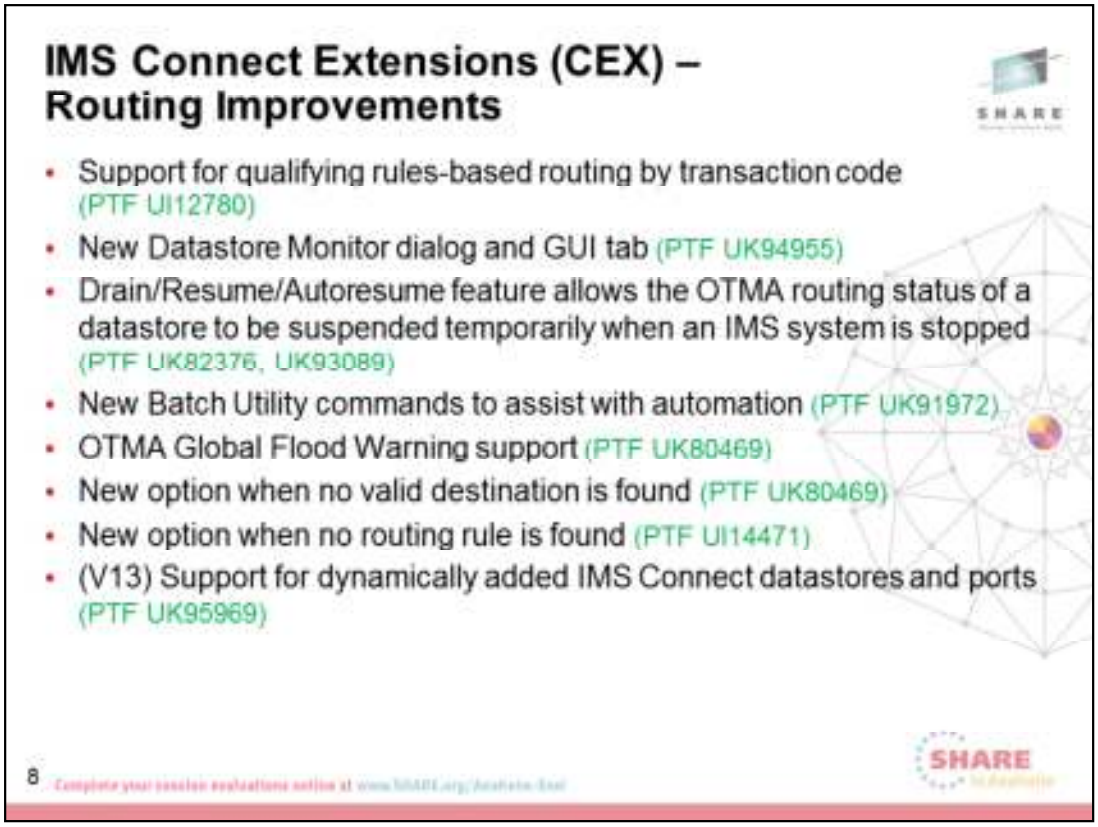
Controls the number of input messages for a persistent session, allowing automatic distribution of persistent session workloads in a sysplex environment.

Enhanced security

Control access to OTMA transactions or DRDA requests based on the client IP address and IMS Connect port number, and to IMS Connect instances, via a system authorization facility (SAF) security class. Improved client services Additional features for IMS Connect clients such as enhanced information in error messages, password change facility, and extended message translation.

These features enable you to:

- Improve the availability, reliability, and performance of IMS Connect
- Speed and simplify problem determination
- Make your systems more transparent so that they are easier to audit and manage



Support for qualifying rules-based routing by transaction code (PTF UI12780)

IMS Connect Extensions has been enhanced to allow additional qualifiers when defining OTMA routing rules. OTMA routing rules can now optionally specify a transaction list. This allows messages to be routed based on the transaction code of the incoming IRM message (See detail slide below).

New Datastore Monitor dialog and GUI tab (PTF UK94955)

This new monitor provides a datastore centric view across multiple systems that allows you to monitor and control datastores (See detail slide below).

Drain/Resume/Autoresume feature (PTF UK82376, UK93089)

The new ROUTE command allows a user to logically suspend and resume activity for a datastore (See detail slide below).

New Batch Utility commands (PTF UK91972)

Drain/Resume/Autoresume commands are also available in the Batch Command utility. In addition to this the QUERY command reports the number of outstanding responses for a datastore or list of datastores (See detail slide below).

OTMA Global Flood Warning support (PTF UK80469)

A new Option has been added to the CEXROUTE command that allows the ability to treat the Global Warn condition as if it was a Global Fail condition. If this option is chosen, CEX Routing will not route to a datastore that is in Global Warn status (See detail slide below).

New option when no valid destination is found (PTF UK80469)

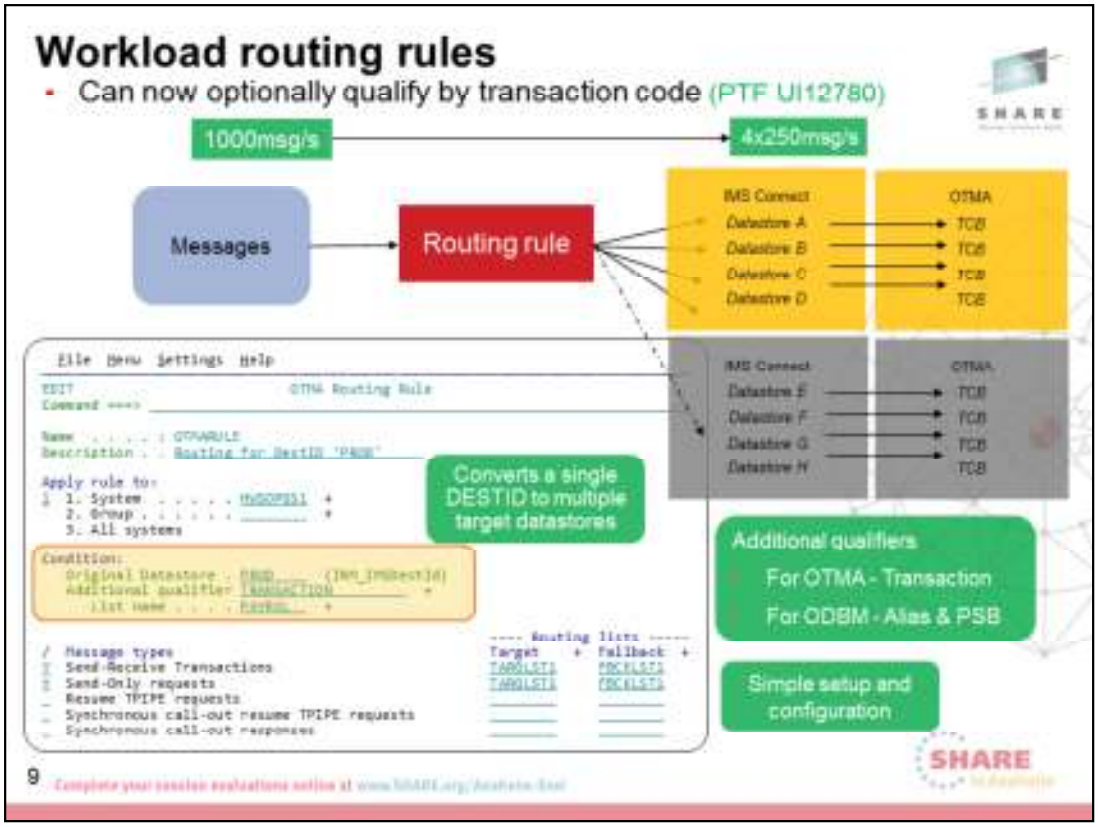
A new option of the CEXROUTE command has been provided that provides the ability to have IMS Connect Extensions return an RSM to the client and prevent the HWSS0742W ‘DEST not found’ message occurring (See detail slide below).

New option when no routing rule is found (PTF UI14471)

Default RBR rules can now be defined using two new options on the CEXROUTE CEXCTLIN command. If the datastore or alias in the inbound message is not matched to an RBR rule, the appropriate default RBR rule is used (See detail slide below).

Support for dynamically added IMS Connect datastores and ports (V13) (PTF UK95969)

Added support for IMS V13 dynamic Datastore Add and dynamic Port Add provided by IMS Connect APAR PM82055. Dynamically added datastores can now be added to routing lists and become candidates for routing without the need to restart IMS Connect. This allows systems to add capacity during unexpected increases in demand (no slide).



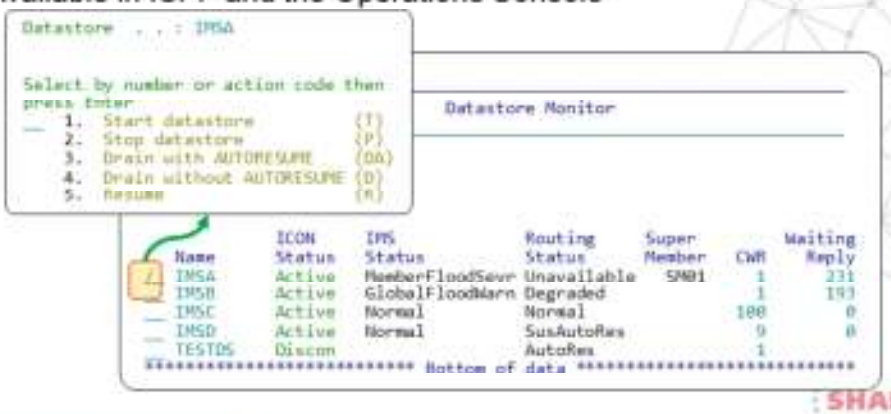
Rules Based Routing Improvements

Prior to , rules based routing was not sensitive to any transaction codes in terms of how a routing rule was selected. Routing was accomplished based only upon the original DESTID for the message. This new feature allows you to create a routing rule that can be ***'qualified'*** on a transaction code or list of transaction codes. The transaction codes can be fully qualified or generic such as PAR* which would qualify any transaction codes beginning with PAR. You can create both the new qualified rule and the current unqualified (i.e. old style rules) rule for the same DESTID. IMS Connect Extensions first looks to see if a qualified rule (i.e. matches both the DESTID and the Transaction code) is present. If no qualified rule is found, IMS Connect Extensions checks to see if there is an unqualified rule (i.e. based only on DESTID).

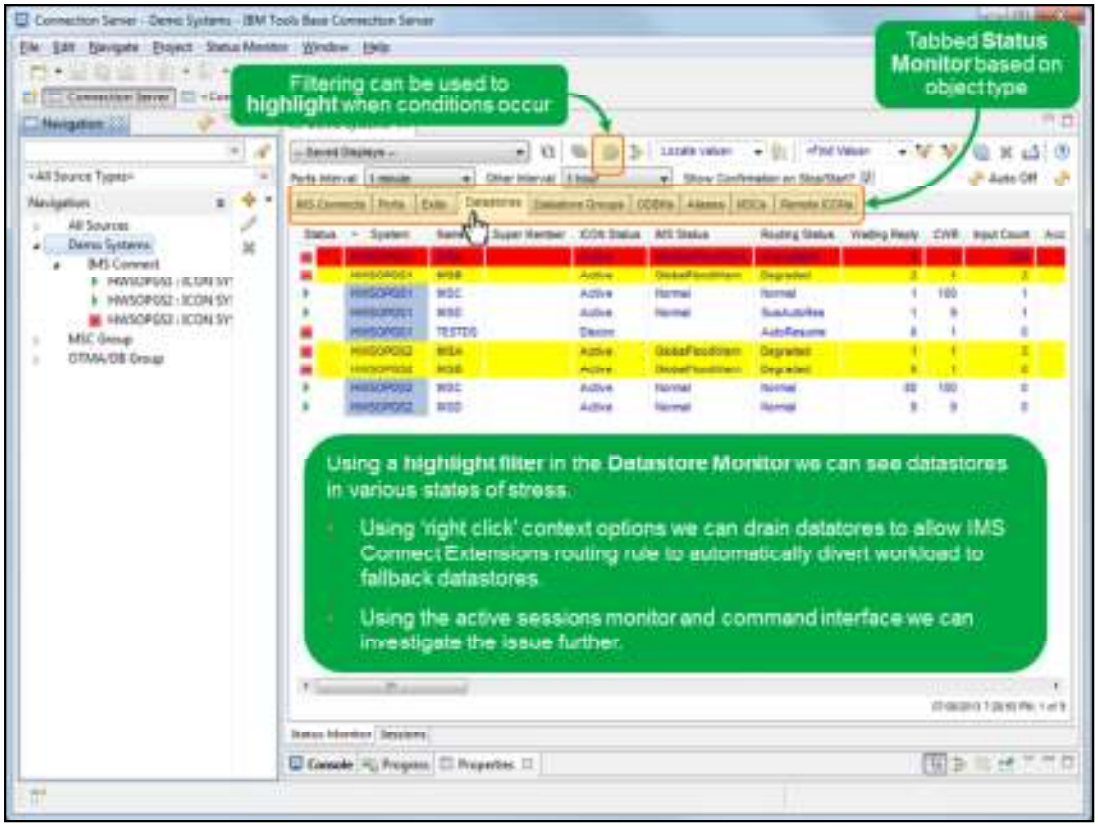
If a matching rule is found, routing is performed using the datastore lists associated with the rule. If no matching rule is found, processing continues the same as it did before this support was added.

Datastore Monitor

- Datastore specific view that includes:
  - IMS Connect status, IMS/OTMA status and IMS Connect Extensions routing status
- Monitor datastore usage (Messages waiting reply)
- Highlight datastores under stress
- Control datastores - Stop/Start/Drain/Resume
- Available in ISPF and the Operations Console



In the IMS Connect Extensions ISPF dialog the Datastore Monitor can be accessed via the Command Menu or via the Status Monitor. In the Operations Console the Datastore monitor is a tab within the status monitor.



New tabbed view of the Status Monitor allows various windows into your systems (Datastores, Exits, ODBM's etc).

In this view we see the Datastore tab

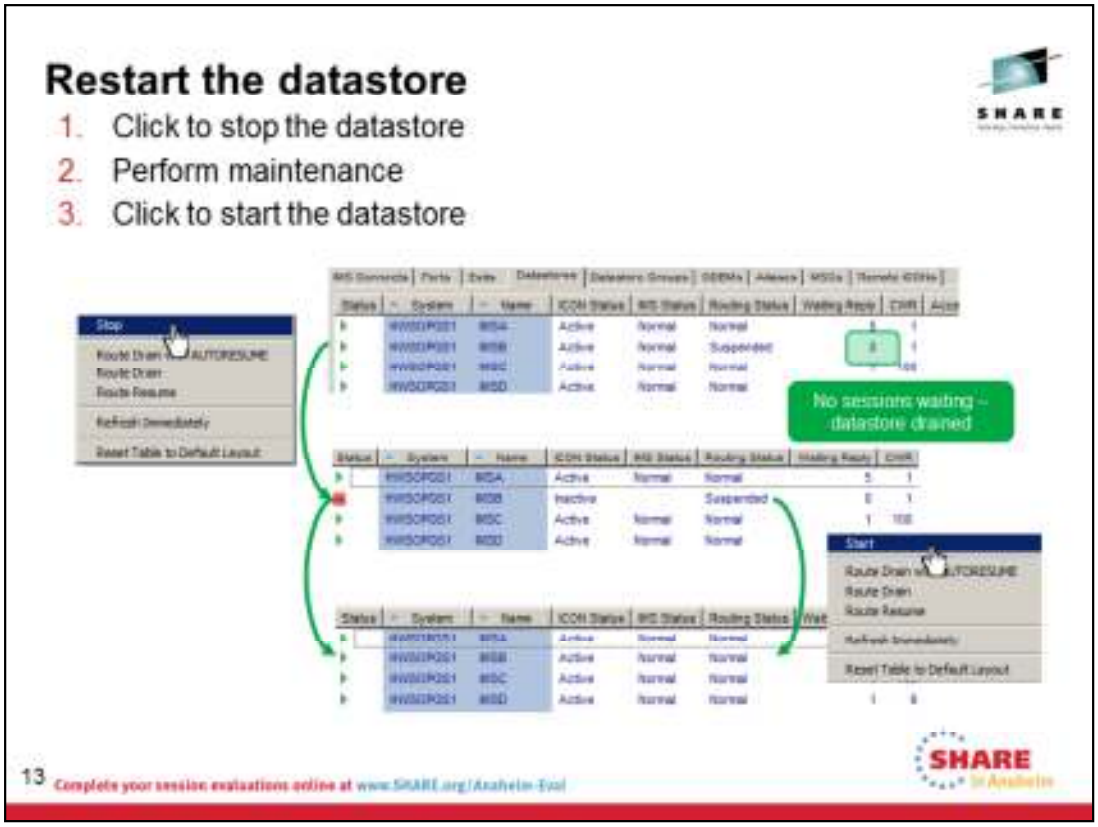
- We can see datastores across three systems.
- We can see the IMS Connect Status, the IMS/OTMA status and the IMS Connect Extensions routing status for each datastore.
- We can see the number of outstanding replies for each datastore.
- Using filters and the summarize wizard we can highlight conditions and drill down on specific combinations.

Datastore Drain

- Gives users ability to take datastores offline without potentially disrupting clients with active sessions
  - Mark the datastore as requiring a drain
  - Status changed to suspended:
    - No new requests will be routed to this system
    - Responses to Outstanding transactions still returned to the client
    - Option to auto-resume when datastore is detected as available or manually resume.

This demonstrates how to issue a command in the Operations Console to drain a datastore.

- This command could also be issued in the ISPF dialog and the Batch Command utility.
- You can see that after the drain command is issued there are 2 messages waiting on reply.



Now the Waiting on reply count has reached zero. As no new messages can arrive on this Datastore it is now safe to issue a command to stop the datastore and shut down the IMS system.

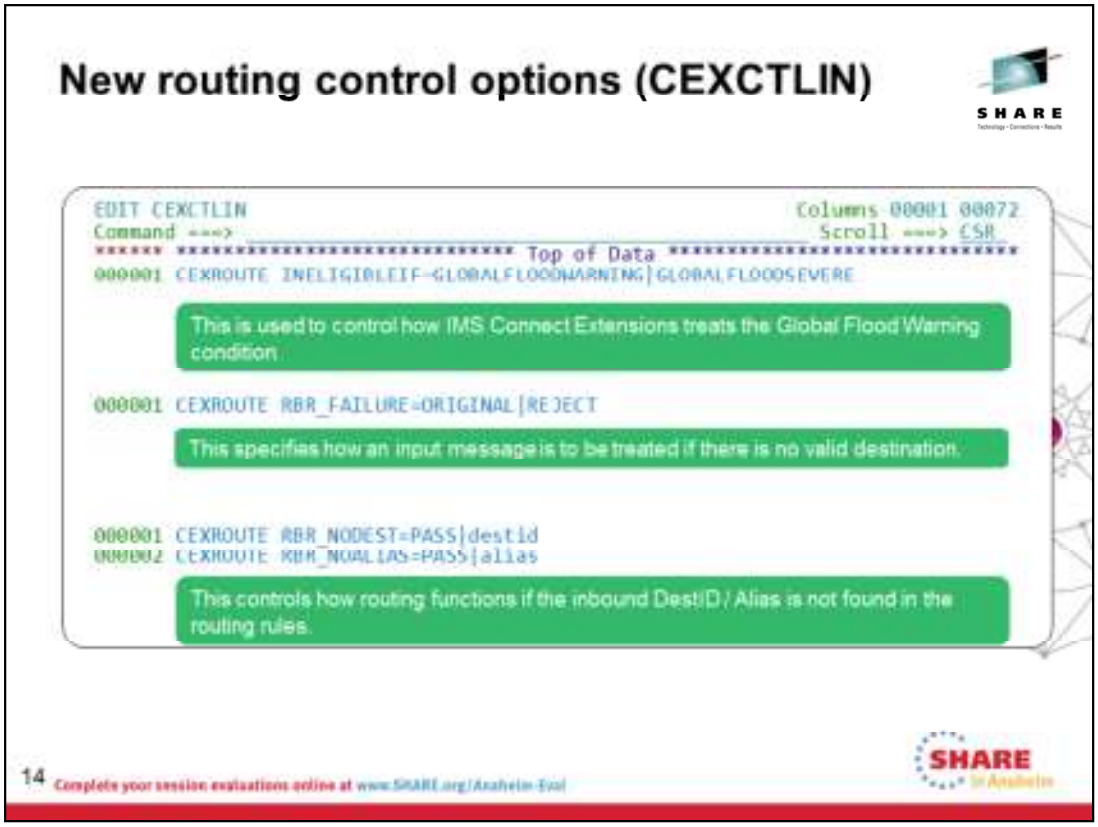
- The stop, start and resume datastore commands can be issued via the Operations Console, the ISPF dialog and the Batch Command utility.
- A query command has been added to the Batch Command utility to provide the 'Waiting for Reply' count via a batch command.

Special processing for Resume Tpipe's

If a datastore is drained while a Resume Tpipe is active with the Auto option, the datastore may not completely drain if the Rtpipe time-out value is very long.

IMS Connect Extentions detects Resume Tpipe requests for a drained datastore and reduces the time-out value for an acknowledge to the lowest possible value. This causes the Resume Tpipe to time-out. A well

behaved ICON client will re-issue the Resume Tpipe which will then be routed to an active datastore if one exists.



`INELIGIBLEIF option -` Global Warn:

Reporting of degraded service for OTMA was introduced in IMS V11. This new type of reporting is called *global* reporting because it is triggered by the total number of unprocessed messages across all OTMA transaction members (tmembers) for an IMS system.

For member reporting, it is permissible to send messages to a datastore that is in Member Flood Warning condition. IMS Connect Extensions will send messages to a datastore in Flood Warning status if that is the only option available. If the datastore changes to the Member Flood Severe condition, IMS Connect Extensions will not send messages to the datastore.

Since the condition of Global Flood Severe is never obtained, IMS Connect Extensions may continue to send messages to a datastore that has a Global Flood Warning condition. To do so may subject the IMS system to abends due to out of storage conditions.

The INELIGIBLEIF option allows you to treat a Global Warning status as if a Global Severe condition has been reached.

RBR_FAILURE=ORIGINAL|REJECT (PTF UK80469)

This new option of the CEXROUTE command has been provided to provide the ability to have IMS Connect Extensions return an RSM to the client and prevent the HWSS0742W ‘DEST not found’ message occurring.

RBR_NODEST and RBR_NOALIAS (PTF UI14471)

Default RBR rules can now be defined using two new options on the CEXROUTE CEXCTLIN command. If the datastore or alias in the inbound message is not matched to an RBR rule, the appropriate default RBR rule is used.

New routing Batch Utility Commands

```
EDIT SYSIN                                                  Columns 00001 00072
Command ===> _____________________________________________ Scroll ===> CSR
****** ***************************** Top of Data ********************************
000001 QUERY TYPE=PENDING_RESPONSES,DATASTORE=datastore
000002 QUERY TYPE=PENDING_RESPONSES,DSLIST=routinglist
```

Query a datastore or a collection (list). List can represent all datastores associated with a given IMS

```
CEX5133I QUERY DS(DS01): Routing Status is NORMAL with 0 responses pending.
CEX5133I QUERY DS(DS02): Routing Status is SUSPENDED with 0 responses pending.
CEX5133I QUERY DS(DS03): Routing Status is SUSPENDED with 2 responses pending.
CEX5133I QUERY DS(DS04): Routing Status is DEGRADED with 5 responses pending.
CEX5133I QUERY DS(DS05): Routing Status is UNAVAILABLE with 14 responses pending.
```

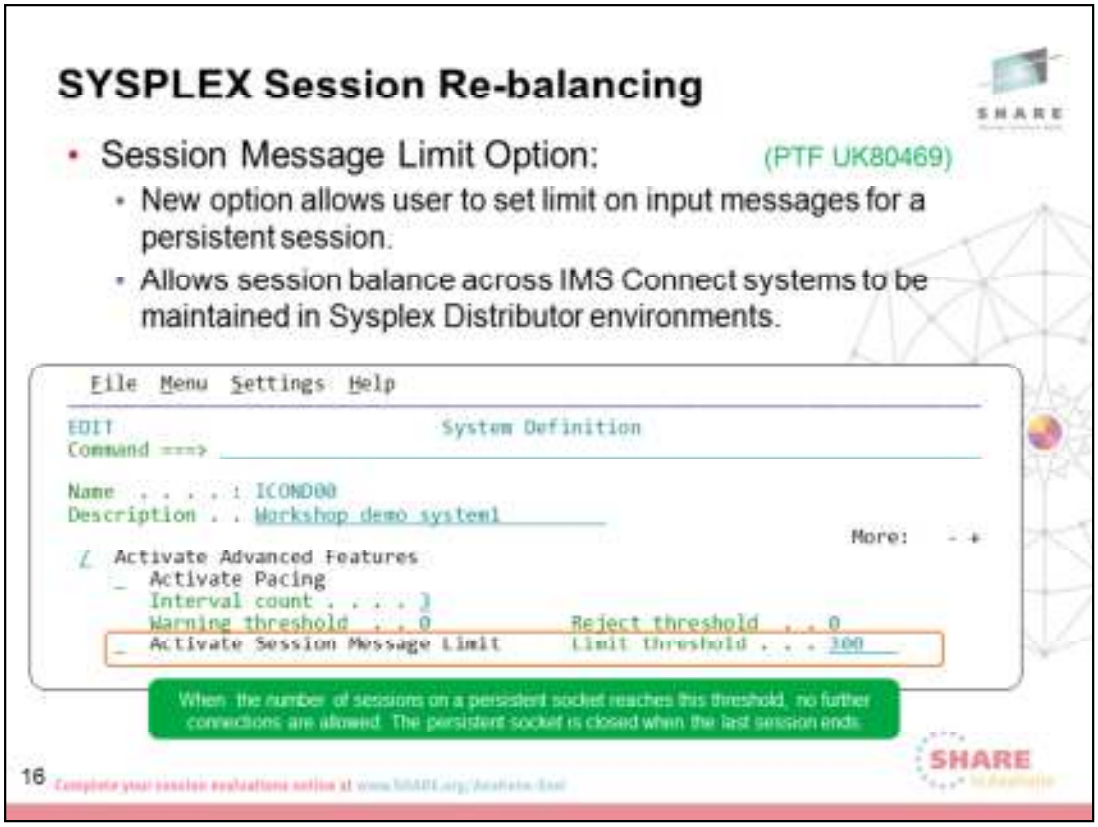
Response provides status and number of pending responses

```
000001 ROUTE ACTION DRAIN DATASTORE=datastore,AUTORESUME
000002 ROUTE ACTION DRAIN DSLIST=routinglist,AUTORESUME
```

Mark all datastores referenced by this command as Drained so the datastore is no longer considered a routing candidate.

```
000001 ROUTE ACTION RESUME DATASTORE=datastore,AUTORESUME
000002 ROUTE ACTION RESUME DSLIST=routinglist,AUTORESUME
```

Reverse of Drain action that allows datastores to resume being candidates for routing



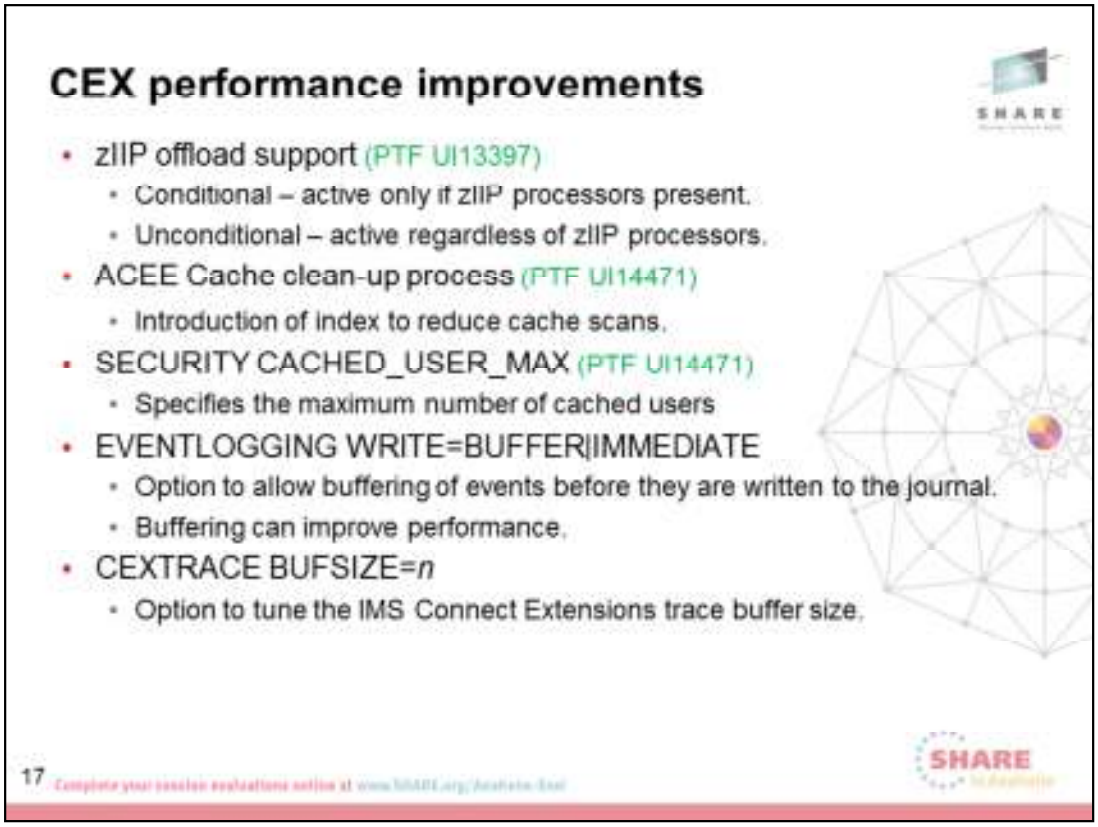
Session Re-Balancing: PTF UK80469

IMS Connect failures can result in unbalanced Persistent sessions.

When a new IMS Connect is bought online it can take extended periods of time for persistent sessions to be redistributed to the new system.

The Session Message Limit option allows you to specify the maximum

number of input messages for a persistent session. When that number of input messages is reached, the session is closed by IMS Connect Extensions with the expectation that the remote client will create a new session. Session balance is gradually restored as the existing session expires and new sessions are routed to the IMS Connect with the lowest session totals.



zIIP offload support

This new feature allows selected IMS Connect Extensions processing to be off loaded to a zIIP capable processor. This feature is support for any currently supported level of IMS Connect. It works in conjunction with IMS Connect zIIP

offload processing provided by IMS Connect V13. It is not dependent upon IMS Connect zIIP support being active. This feature is requested via a control card in the CEXCTLIN input dataset. It can be requested using one of the following options.

1. Conditional activation – zIIP off load is activated only if the LPAR contains an available specialty processor that supports zIIP processing.
2. Unconditional activation – zIIP off load is activated regardless of the presence of a specialty processor that supports zIIP processing. If there are no specialty processors available, the requested zIIP processing is performed by z/OS according to the rules in effect at

the time the zIIP SRB is scheduled.

Limited testing has been done in an attempt to determine the extent of the benefit in terms of billable CPU reductions. In our very limited testing the reduction has been from 8 to 18%. It should be understood that your experience could be outside of our measured ranges. The IMS Connect Extensions event record type decimal 130 x'82' has new fields added that contain the results of zIIP off load processing for the entire life of IMS Connect.

ACEE Cache clean-up

Problem: If ACEE caching active,

aging process uses excessive CPU

- All cache entries scanned during aging cycle

Solution: Cache indexed by creation time

- Allows scanning of ACEE's by create time and only if there are ACEE's that meet deletion age criteria
- Scan will stop if ACEE found with create time higher than aging target

Significant CPU savings in cleanup process

EVENTLOGGING option

New CEXCTLIN control option allows buffering of events before they are written to the active journal.

EVENTLOGGING WRITE=BUFFER

Or:

EVENTLOGGING WRITE=IMMEDIATE

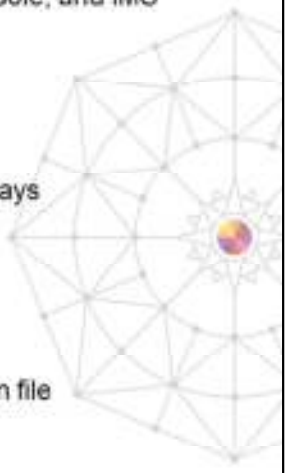
EVENTLOGGING WRITE=BUFFER

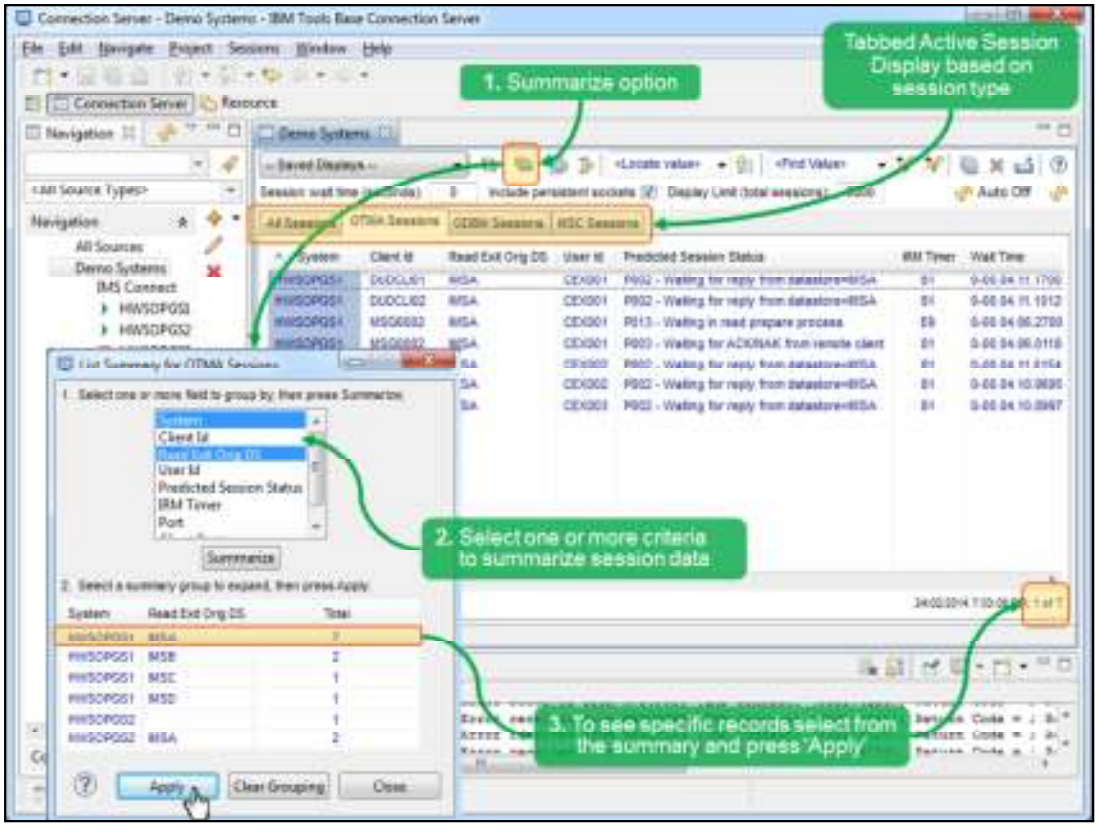
provides better performance with a slight risk of not logging a small number of records in the event that ICON is cancelled.

EVENTLOGGING WRITE=IMMEDIATE guarantees logging all records at the cost of slower processing.

IMS Connect Extensions Operations Console

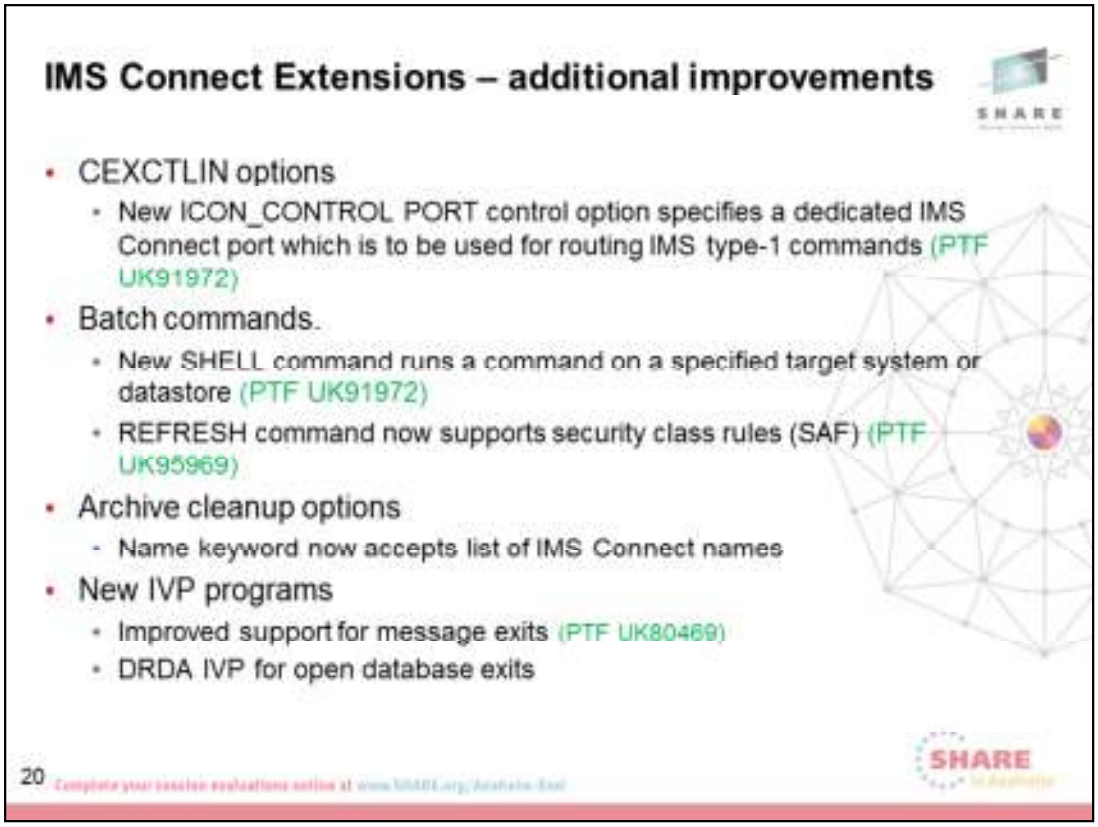
- Eclipse plug-in for IBM Tools Base Connection Server (PTF UK94955)
  - Can be installed alongside other supported IBM Tools Eclipse plug-ins like IMS Explorer for Development, IMS Tools operation console, and IMS Configuration Manager.
  - Improved connection management.
  - Allows integration with other tools.
- Improved editor function
  - Tabbed Status monitor and tabbed Active sessions displays
  - Highlight filters
  - Summarize/Group options
  - Saved displays and Comparator wizard
- Import/export facility
  - Simplifies GUI setup by export of 'Standard' configuration file
- IMS Command Support
  - Issue IMS type-1 commands
  - Issue new IMS Connect commands





Active sessions summary allows users to select one or more active sessions fields in order to define a group. Example: TRANSACTION CODE + DATASTORE

Once a grouping has been selected then the active sessions are accumulated into distinct instances of the fields selected. The user can then drill down to the bits they are interested in.



ICON_CONTROL PORT (PTF UK91972)

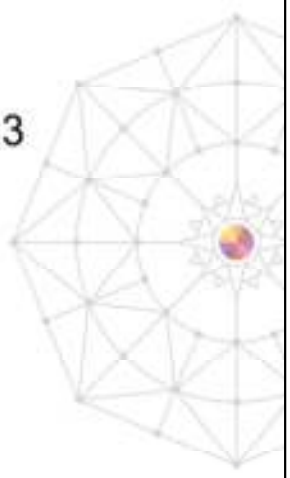
IMS Connect Extensions allows you to specify a control port in which all IMS commands are sent. This may be used to prevent inadvertent routing of commands by workload management systems like Sysplex Distributor.

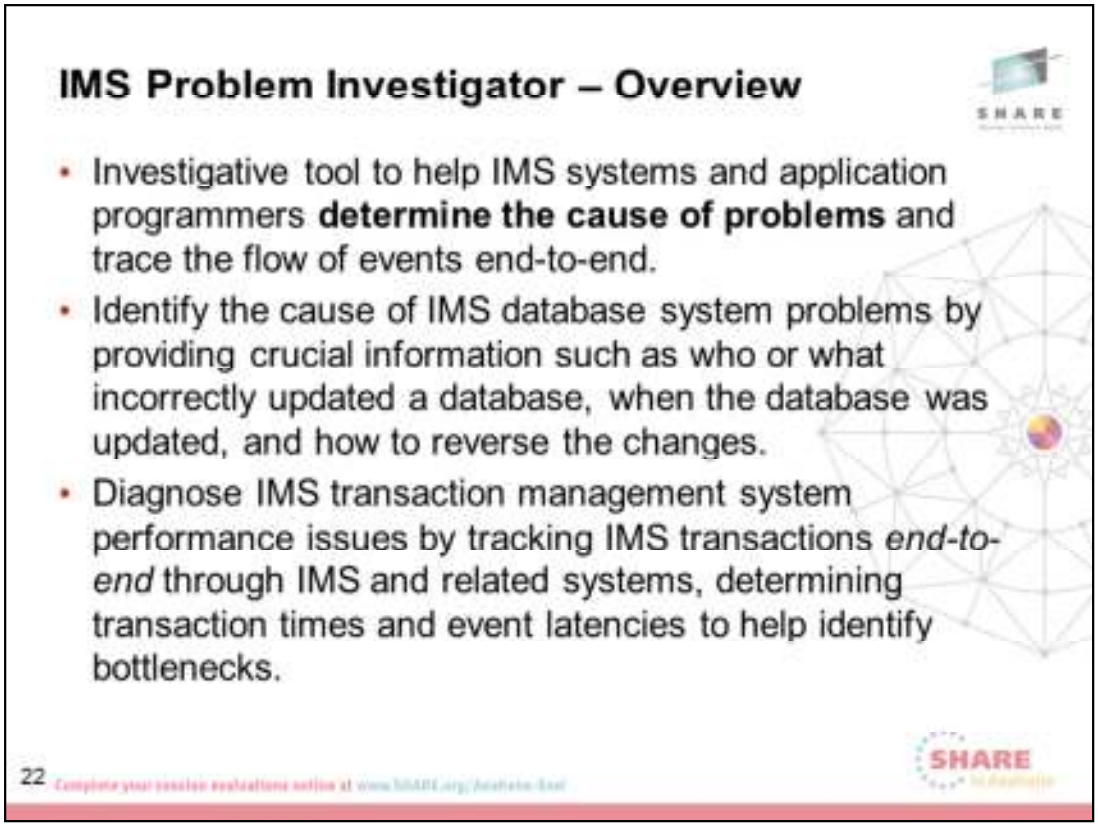
SHELL command

In the Batch command this allows IMS Connect and IMS commands to be scheduled along side IMS Connect Extensions commands within the Batch Command Utility.

Part 2

- IMS Problem Investigator for z/OS V2.3





IMS™ Problem Investigator allows interrogation of log files from a variety of sources to assist in the analysis of performance problems associated with your IMS system environment.

IMS Problem Investigator enables IMS administrators and programmers to interactively explore formatted, interpreted, and easily customizable views of log records; identifying and analyzing problems quickly, without requiring an expert understanding of log data structures and the relationships between log records.

IMS Problem Investigator supports the following types of log record:

- IMS log
- IMS Transaction Index created by IMS Performance Analyzer
- IMS TM and IMS DB monitor data sets
- Common Queue Server (CQS) log stream and extracts
- IMS Connect event data collected by IMS Connect Extensions

- IMS Connect Transaction Index created by IMS Performance Analyzer
- OMEGAMON® Transaction Reporting Facility (TRF) log and extract
- OMEGAMON Application Trace Facility (ATF) journal
- DB2® log
- WebSphere® MQ log extract
- SMF - IRLM Long Lock records
- IMS trace table records (67FA, 67FF) in the IMS log
- IMS Repository Audit log stream and extracts (introduced in IMS V12)

You can analyze these records through an ISPF dialog, batch reports, and REXX programming services, and you can create filtered extracts and CSV files to aid problem investigation. Smaller extract files are easier to analyze, but similar efficiencies can be obtained with the original large log files by using time slicing.

You can submit batch requests to format CQS and FRP log streams or create extracts and CSV files. The dialog can format extract files, but not the CQS and FRP log streams directly.

Through the IMS Problem Investigator ISPF dialog, you can:

- View formatted logs with detailed field descriptions.
- Navigate to an exact point in time within a log file.
- Investigate specific problem areas. For example, transaction, database, security, or checkpoint processing.
- Merge log files to combine different aspects of IMS processing into a single view.
- Track the flow of a transaction in a single system or across a sysplex.
- Track entire transactions, including program switches, and drill down to isolate an individual unit of recovery.
- Determine response times and latencies.
- Extract the current result set (of log records from filtering and tracking) into a data set for later analysis.

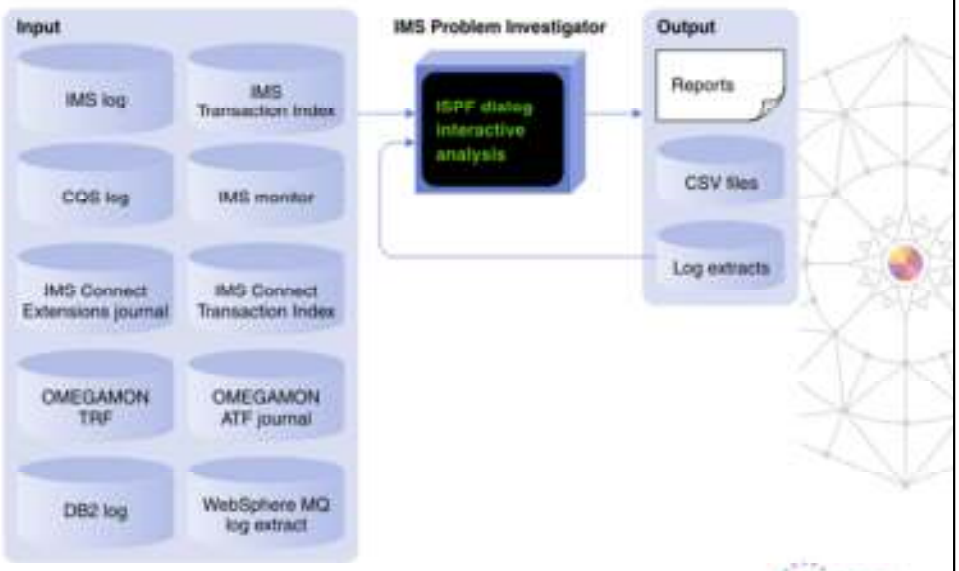
The IMS logs are a rich source of information about your IMS environment, providing essential data for many business functions. While the logs supply data for business functions, they were not primarily designed for such

purposes. Without IMS Problem Investigator, much of the valuable information in the logs is hard to access and understand.

Utility programs such as DFSERA10 can assist in the examination and display of log records. However, such utilities require an intimate knowledge of IMS logs and the relationship between the records in them. Even expert users find the process of log analysis with such utilities difficult and time consuming.

In contrast, through its emphasis on interactive analysis and easy customization, IMS Problem Investigator speeds and simplifies log analysis, allowing you to efficiently use IMS and related logs for tasks such as debugging, performance tuning, tracing, and creating audit trails.

IMS Problem Investigator - process overview



What's new in IMS PI...

- IMS 13 support (PTF UI13673)
  - Knowledge module support for New and Updated log record types.
  - Support for New 2-Byte IMS Connect event records via ***IMS Connect Extensions*** archive journals (including records above 255).
  - Old format:

```
/  ---- ------------------------------------------------------ ----------------
__ A03C Prepare READ Socket                                     02.31.59.606092
       Port=7901 LogToken=C455607B921ACF61
   ---------------------------------------------------------------------------
```

  - New format:

```
/  ---- ------------------------------------------------------ ----------------
__ 003C Prepare READ Socket                                     02.31.59.606092
       Port=7901 LogToken=C455607B921ACF61
   ---------------------------------------------------------------------------
```

What's new in IMS PI – IMS Trace

- IMS Trace Table records are now interpreted, and can be tracked against the problem transaction:

- DLI Trace events in IMS log:
  - 67FF SNAP Trace when transaction abends
  - 67FA /TRACE SET ON TABLE DLI , LOCK etc

Transaction Index

See every DLI call, then associate with the database updates (50's)

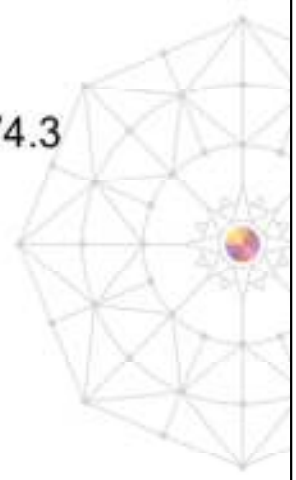
What's new in IMS PI – IMS Trace

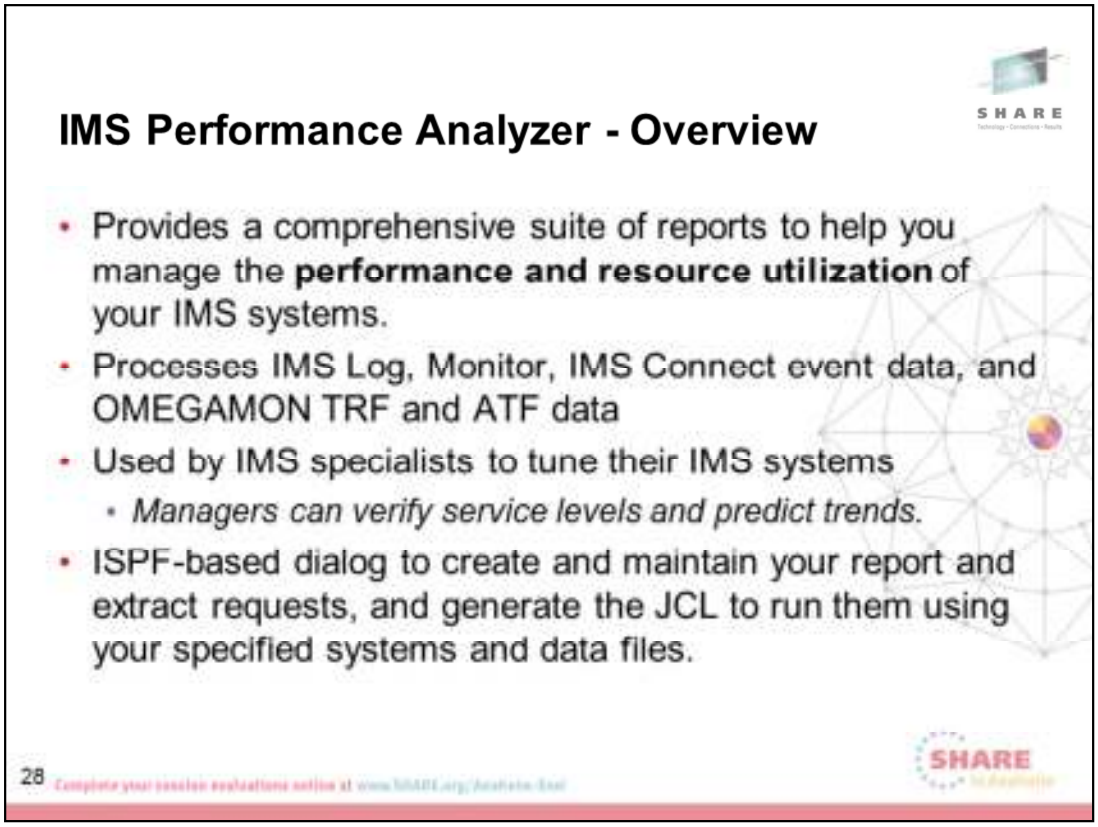
- /TRACE SET ON TABLE LOCK

- Dispatcher
- DLI and Lock
- Log Router
- Scheduler
- Queue Manager
- DASD log
- External Subsystem
- OTMA
- Storage Manager
- Latch
- LU 6.2 (APPC)
- Fast Path
- RRS

Part 3

- IMS Performance Analyzer for z/OS V4.3





From IMS Log data, IMS PA provides comprehensive information about transit times (actual system performance time), and IMS resource usage and availability. IMS PA can process logs from a single IMS system, or from multiple IMS subsystems running in a sysplex and using shared queues. You can specify log files explicitly or let IMS PA use DBRC Log Selection and the IMS RECONs data sets to automatically locate the files for your required reporting interval. User-defined performance thresholds allow you to set goals and report exceptions. A history of transaction performance can be maintained in Transaction History Files.

Extracts of transit time by time interval data can be created from log files then graphed or exported (with transfer to PC) using IMS PA facilities. Extracts of total transaction traffic or exception transactions (MSGQ or Fast Path), CPU usage and database update activity can also be created for direct import by external programs such as DB2® or PC-based reporting tools.

Report Forms can be used to tailor transit summary and list reports to include only the data fields of interest. Form-based extracts can be

created then directly loaded into DB2 tables.

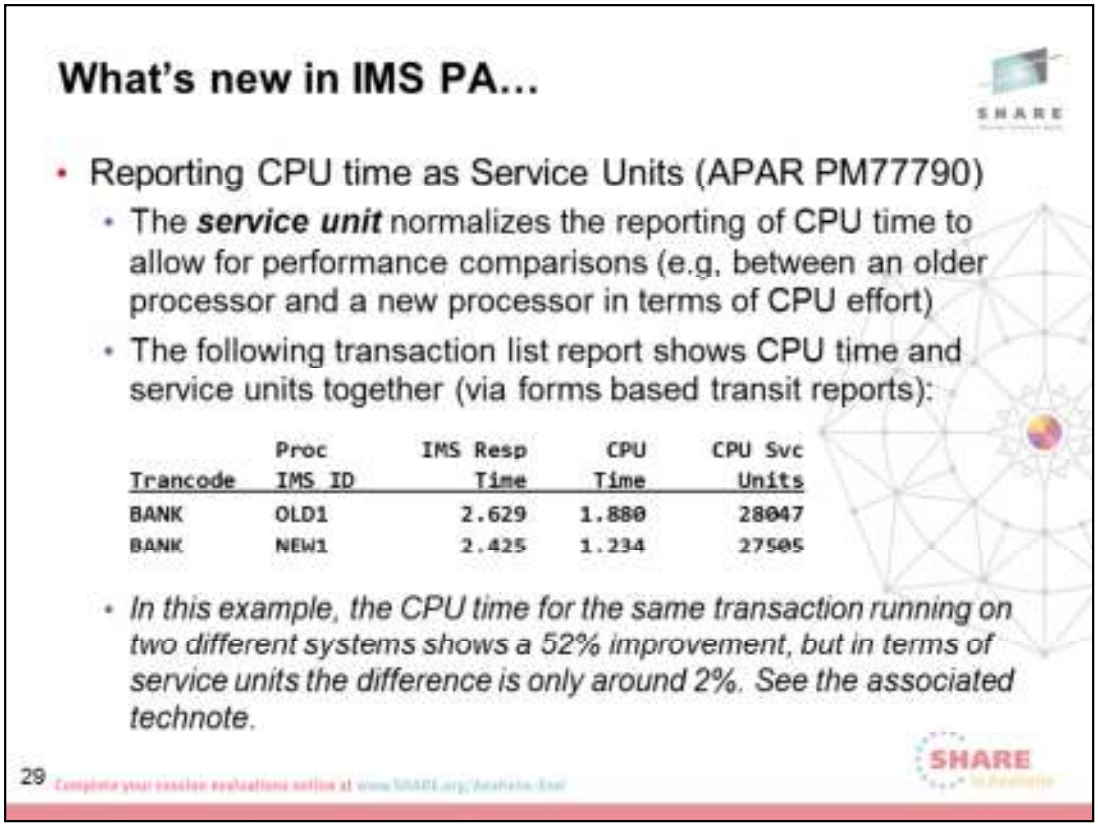
From Monitor[1] data, IMS PA creates summary and analysis reports for regions, resources, programs, transactions, databases, and the total system, to analyze your IMS system environment. IMS PA provides comprehensive reporting for the IMS Fast Path Monitor, including DEDB, BALG/EMH, FP Buffer, OTHREAD and VSO. External Subsystem call activity can be incorporated in applicable reports. Alternative sequencing of reports by Occupancy, Calls or Delay can be requested to highlight bad performance.

IMS PA provides comprehensive reporting from the IMS Connect performance and accounting data collected by IMS Connect Extensions for z/OS® (5655-S56). You can specify Connect data sets explicitly or let IMS PA use Connect Journal File Selection and the IMS Connect Extensions Definitions Data Set to locate the Journal data sets for your required reporting interval. Summary and detailed reports analyze IMS Connect transaction internal and external transit times and latencies, highlighting critical events for message processing. They also provide information about significant processing events with the potential to impact performance, including resource availability and session errors.

You can obtain a complete end-to-end picture of transaction transit performance by using Form-based reporting and combined IMS and Connect data.

IMS PA provides comprehensive reporting of IMS transaction performance and resource utilization statistics collected by the Transaction Reporting Facility (TRF) for OMEGAMON XE for IMS (5698-A34). The TRF data includes transaction response time breakdown, CPU time, and other resource usage statistics, Full Function and Fast Path database DL/I call count and elapsed time, and DB2 database call count and elapsed time.

OMEGAMON XE for IMS Application Trace Facility (ATF) complements TRF reporting.



TECHNOTE: http://www-01.ibm.com/support/docview.wss?uid=swg21643361

Technote (FAQ)

In order to meaningfully compare the performance of two different CPUs processing a similar transaction workload, a unit of measure called the service unit is required. The service unit normalizes the reporting of CPU time to allow for performance comparisons between, for example, an older processor and a newer processor in terms of CPU effort. In the event that an older processor has been replaced with a newer, faster processor, it allows users to determine if transaction processing is using more or less CPU cycles on the newer processor than on the older processor.

APAR PM77790 adds a new form field CPUSU which reports CPU time as service units, where:

CPUSU = CPU time * Conversion factor

CPU service unit reporting is only available in form-based transit reports.

Conversion Factor:

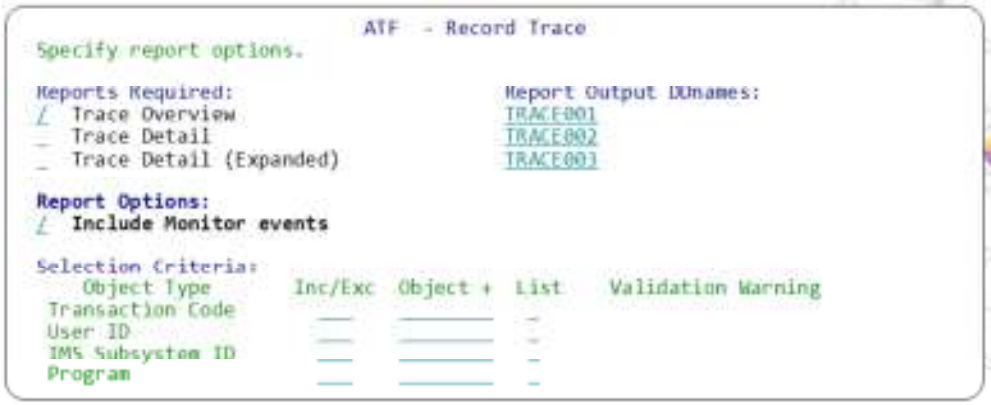
When IMS PA is running on the same system that generated the IMS log input file, the conversion factor can be calculated at run-time. Otherwise the conversion factor must be supplied to IMS PA in the command input.

IMS PA provides a REXX EXEC (member IPICPUSU in library SIPIEXEC) to generate the CPU time to Service Units conversion factor. You must execute this REXX on the same system that created the IMS log file. The command generated by this REXX is then input into the IMS PA batch process.

Note: There is no provision for specialty processors.

What's new in IMS PA…

- OMEGAMON ATF trace report enhancements with **MONITOR** option (APAR PM83151)



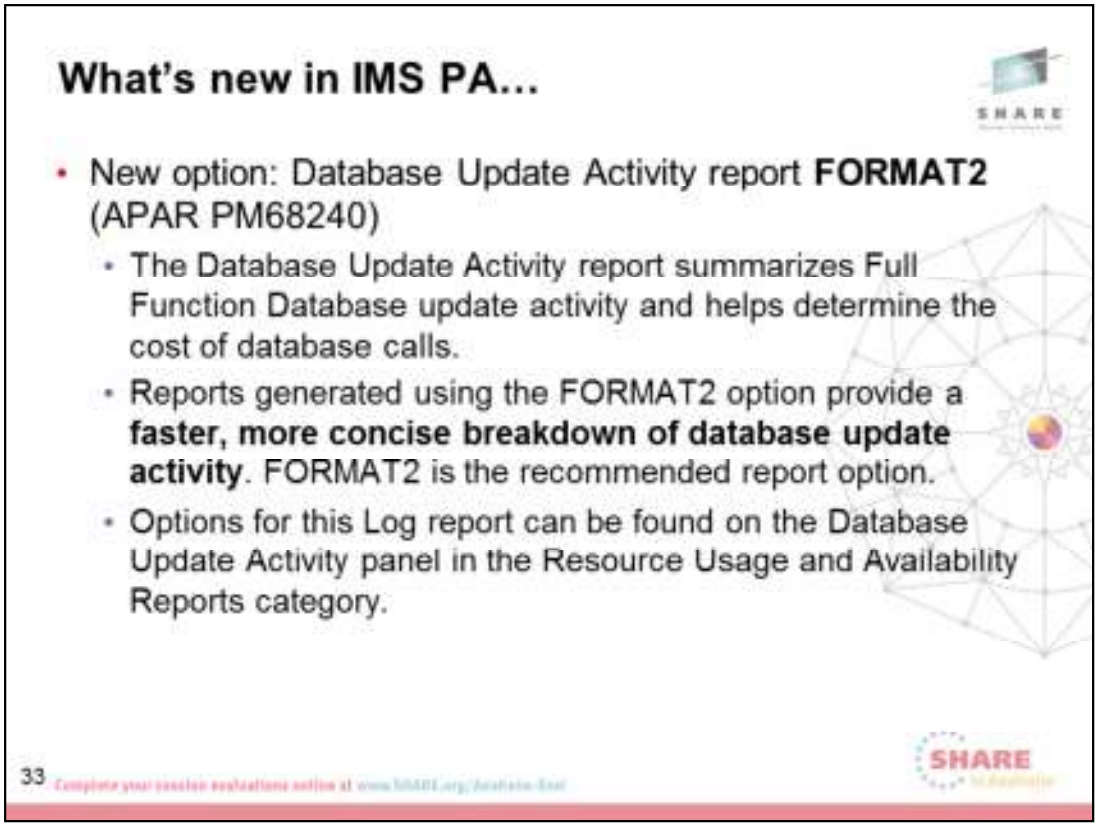
TECHNOTE:
http://www.ibm.com/support/docview.wss?rs=434&context=SSCX8A2&dc=DB560&dc=DB520&uid=swg21645839&loc=en_US&cs=utf-8&lang=en

What's new in IMS PA…

- With the **MONITOR** option specified, trace level 2 and 3 OMEGAMON ATF Reports contain:
  - Fast Path (type X'03') and Full Function (type X'06') monitor event records. (When the MONITOR option is not specified, monitor events are not reported).
  - The Event CPU/AccumCPU column, providing the CPU time consumed by the execution of the event, and the transaction CPU time up to the completion of the event respectively.
  - The level column (L) reporting the level of the monitor event. Non-monitor event types are reported as 0.
  - For WebSphere MQ events, the MQ function name and type, program name, as well as the queue manager and queue name.
  - For DB2 SQL events, the program name and statement number (Stmt#).

What's new in IMS PA…

- New option: Source of **IMS Processing ID** - APAR PM73151(v4.2), PM74169 (v4.3)
  - Controls how IMS Processing ID reported in the Transaction Transit Reports (fixed format and form-based) is derived. Choose between…
    - Subsystem name taken from the **log input ddname** in the format L*xxxxunn* where *xxxx* is the IMSID, for example //LIMSA001 DD DSN=IMSA.SLDS.
    - Subsystem name from the **IMS log records**. Field TPCPOSSN in any type 56 record associated with the transaction is typically used. This option generates the SETIMSID(LOG) batch operand.
  - Available via option 3(Report Sets) - Log Global Options.



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Database update activity can be measured using the IMS PA Database Update Activity report. Options for this Log report can be found on the Database Update Activity panel in the Resource Usage and Availability Reports category as follows:

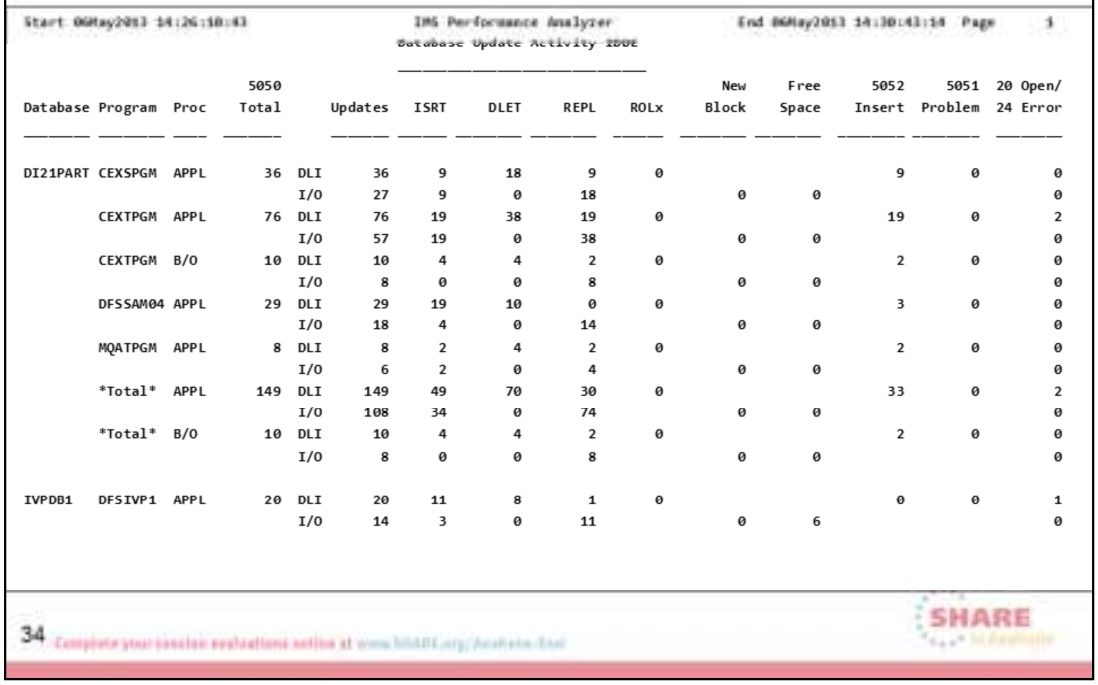
The Database Update Activity report summarizes Full Function Database update activity and helps determine the cost of database calls. Reports generated using the FORMAT2 option provide a faster, more concise breakdown of database update activity. FORMAT2 is the recommended report option.

To run a FORMAT2 report, use the Database Update Activity report options panel, or specify
FORMAT2 in your batch command as follows:

IMSPALOG DBUPDATE(PROGRAM,**FORMAT2**) IMSPALOG EXECUTE

What's new in IMS PA...

- Database Update Activity **FORMAT2** example



Start 06May2013 14:26:10:43 — IMS Performance Analyzer — End 06May2013 14:30:43:14 Page 1

Database Update Activity 2000

Database	Program	Proc	5050 Total		Updates	ISRT	DLET	REPL	ROLx	New Block	Free Space	5052 Insert	5051 Problem	20 Open/ 24 Error
DI21PART	CEXSPGM	APPL	36	DLI	36	9	18	9	0			9	0	0
				I/O	27	9	0	18		0	0			0
	CEXTPGM	APPL	76	DLI	76	19	38	19	0			19	0	2
				I/O	57	19	0	38		0	0			0
	CEXTPGM	B/O	10	DLI	10	4	4	2	0			2	0	0
				I/O	8	0	0	8		0	0			0
	DFSSAM04	APPL	29	DLI	29	19	10	0	0			3	0	0
				I/O	18	4	0	14		0	0			0
	MQATPGM	APPL	8	DLI	8	2	4	2	0			2	0	0
				I/O	6	2	0	4		0	0			0
	Total	APPL	149	DLI	149	49	70	30	0			33	0	2
				I/O	108	34	0	74		0	0			0
	Total	B/O	10	DLI	10	4	4	2	0			2	0	0
				I/O	8	0	0	8		0	0			0
IVPDB1	DFSIVP1	APPL	20	DLI	20	11	8	1	0			0	0	1
				I/O	14	3	0	11		0	6			0

34 Complete your session evaluations online at www.SHARE.org/AnaheimEval

SHARE

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The columns in a FORMAT2 report are described as follows:

Database - Database name.

Program - Program name. Use the DBUPDATE(PROGRAM) batch operand to report a breakdown by program name within the database name. If there are two or more programs for the database then the database total (*Total*) is reported.

Proc - Processing taking place when record was written. Can be one of:

APPL – Record written during application processing.

B/O – Record written during Transaction Backout.

OLR – Record written during online recovery.

5050 Total – The total number of 5050 (Database Update) records (sum

of the ISRT, DLET, REPL, and ROLx columns).

Updates – The total number of block updates.

> For DLI application calls, this value is the sum of the ISRT, DELT, and REPL columns minus the ROLx column.
>
> For Physical I/O, this value is the sum of the ISRT, DELT, and REPL columns.

ISRT/DLET/REPL - The number of physical segments changed by ISRT, DLET and REPL calls.

ROLx – The number of rollbacks.

New Block – The number of requests to create new blocks.

Free Space – The number of changes to free space elements.

5052 Insert – The number of 5052 (Database Update prior to KSDS insert) records.

5051 Problem – The number of 5051 (Database Update – prior action was unsuccessful) records.

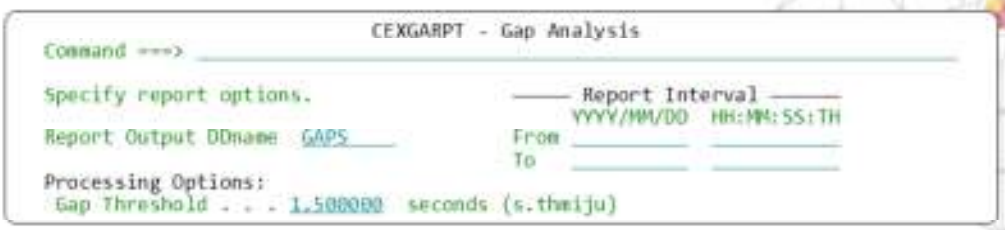
20 Open - The number of 20 (Database Open) records (row above).

24 Error - The number of 24 (Database Error) records (row below).

A summary total can be found at the end of the report.

What's new in IMS PA…

- **IMS Connect Gap Analysis report**
  - Quickly identify potential performance issues by locating periods of time when journal records are not being written.
    - *Uses IMS Connect Extensions archive journals*
  - User customizable Gap Threshold lets you choose what an "acceptable" gap really is.



What's new in IMS PA...

- Generate stand-alone **LOGINFO** report (PM68240)
  - Provides a breakdown of the log record types in the input IMS log files. It shows record count, length, rates per second, and volume. Selected record types are broken down further to provide additional information about transaction arrival and processing throughput.
  - A LOGINFO report is produced automatically whenever an IMS PA Log report set is run. This new feature allows you to generate a LOGINFO report without running a report set using the `IMSPALOG LOGINFO` batch command.

TECHNOTE: http://www-01.ibm.com/support/docview.wss?rs=434&context=SSCX8A2&dc=DB560&dc=DB520&uid=swg21647197&loc=en_US&cs=utf-8&lang=en

What's new in IMS PA...

- **LOGINFO** example

V4R3M0 IMS Performance Analyzer - Log Information

Log data From 2013-06-06 11:11:19.457342 To 2013-06-06 11:12:27.736114 Duration 1:08.278772

	In								
Code	Count	MCNT	Recs/Sec	Avg len	Max Len	Byte/Sec	MB	%	
01 IN	6,025		88	719	2,170	63,719	4.3	2.3	IMS Message
INPUT	6,025		88	719	2,170	63,719	4.3	2.3	Input message
03 IN	1,412		20	634	799	13,179	0.8	0.5	IMS Message
INPUT	1,412		20	634	799	13,179	0.8	0.5	Input msg (program switch)
03 OUT	11,506		169	627	1,734	106,230	7.2	3.8	IMS Message
OUTPUT	6,899		101	713	1,734	72,408	4.9	2.6	Output message
MSG SWI	4,607		67	499	582	33,821	2.2	1.2	Message switch
07	3,588	7,405	52	456	456	24,060	1.6	0.9	Program schedule end
MPP	3,528	6,919	51	456	456	23,658	1.6	0.8	MPP
QUICK	45	450	0	456	456	301	0.0	0.0	MPP quick reschedule
ABEND	15	36	0	456	456	100	0.0	0.0	Abended transaction
08	3,590		52	156	156	8,235	0.5	0.3	Program schedule start
MPP	3,545		52	156	156	8,132	0.5	0.3	MPP
QUICK	45		0	156	156	103	0.0	0.0	MPP quick reschedule
11	1,078		15	68	68	1,078	0.0	0.0	Start of conversation
12	1,064		15	48	48	751	0.0	0.0	End of conversation
16	707		10	80	80	831	0.0	0.0	Sign On/Off

What's new in IMS PA...

- APAR PM74169
  - IMS Version 13 support
    - The Region PST (PSTID) field size has increased from 3 to 4 bytes. This is due to an increase in the maximum partition specification table (MAXPST) limit to 4095.
    - Log reporting: Internal Resource Usage Report (IRUR): Logger Statistics averages have increased from 3 to 6 decimal places.
    - Log reporting: Fast Path LU6.2 transactions are now flushed at EOT, not EOF.
    - Log reporting: New batch command global option SETIMSID(LOG).
    - Monitor Resource Usage reporting: CTXT latch name added to Latch Statistics report.
  - OMEGAMON IF3 support.

PSP features and enhancements under consideration…

- IMS Connect Extensions
  - A new REXX environment for use in automation allowing more intelligent issuing of commands.
  - Improved support for dynamic workload balancing so customers can easily redistribute workloads at specific times of the day to save on costs or during an emergency.
  - Improved support for dynamically altering routing rules to aid automated operations.
  - Operations Console
    - Enhanced status reporting (e.g. ICON health value, SOAP gateway monitoring)
    - Integrate with IBM Explorer for z/OS
    - Integrate with IMS Configuration Manager and Transaction Analysis Workbench for z/OS
- IMS Problem Investigator
  - Support for BPE recorder trace.

Contact information

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Additional documentation and resources

Visit the IMS Performance Solution Pack Knowledge Center :

http://www.ibm.com/support/knowledgecenter/SSS8SV/welcome

See our recently updated IMS Connect Extensions User's Guide:

http://publib.boulder.ibm.com/infocenter/dzichelp/v2r2/topic/com.ibm.imstools.cex23.doc.ug/cexu-home.htm

See recently published IMS Performance Analyzer technotes:

http://www.ibm.com/support/search.wss?rs=434&tc=SSCX8A2&dc=DB520+D800+D900+DA900+DA800+DB560&dtm