



IMS Performance Solution Pack for z/OS

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Agenda

- Using IMS Performance Solution Pack for z/OS to analyze IMS performance problems

The pack consists of three products:

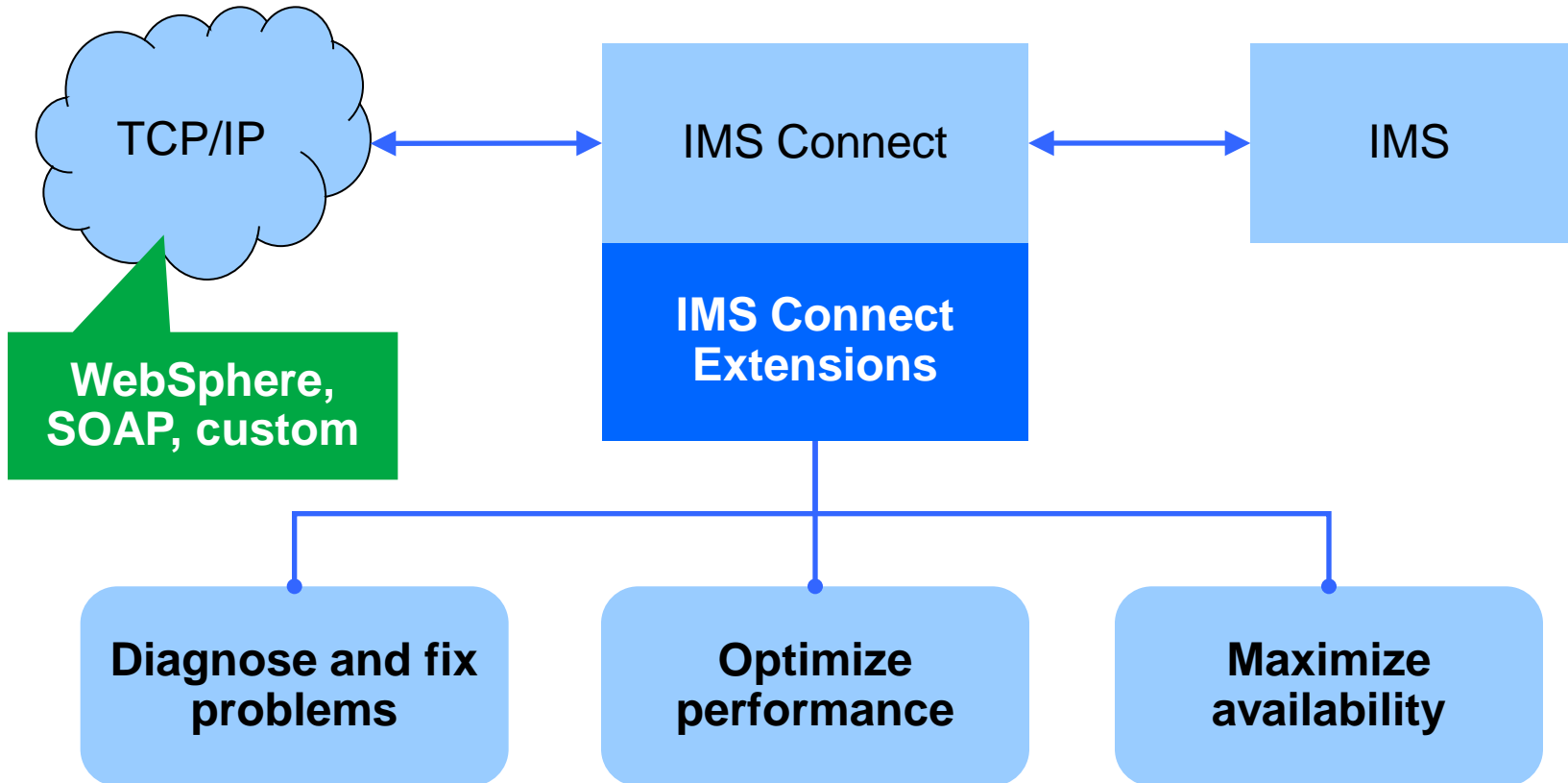
IMS Performance Solution Pack for z/OS

IMS Connect Extensions for z/OS

IMS Performance Analyzer for z/OS

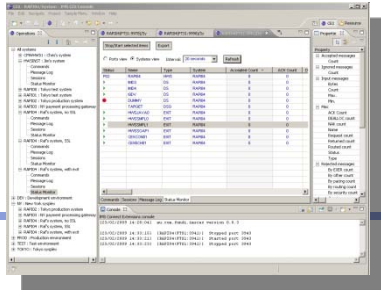
IMS Problem Investigator for z/OS

IMS Connect Extensions Overview



IMS Connect Extensions

Centralized monitoring and control



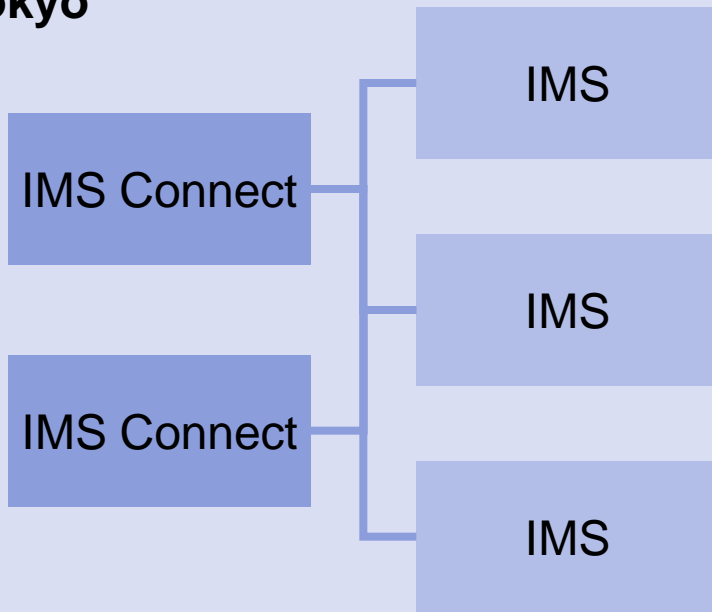
Eclipse or ISPF

File Option Help

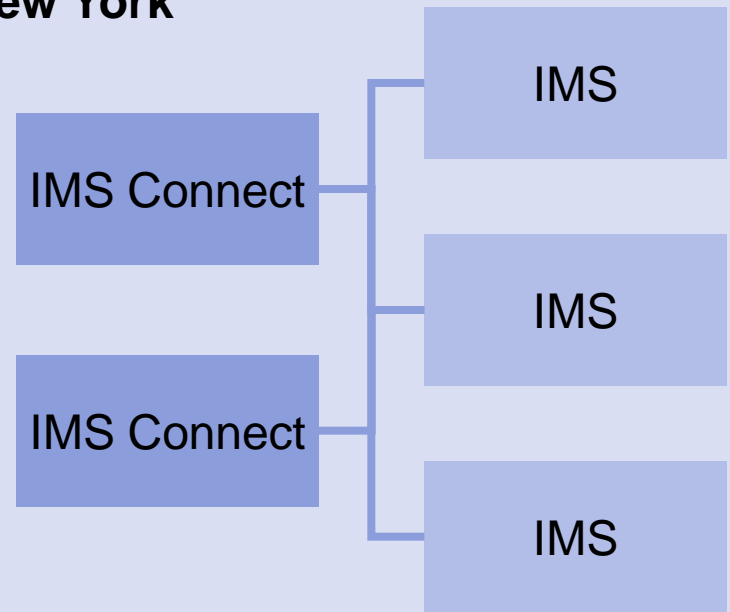
- Stop IMS 1 link
- View TOKYO sessions
- Stop NY sessions

F1 - Help F2 - Scroll

Tokyo



New York



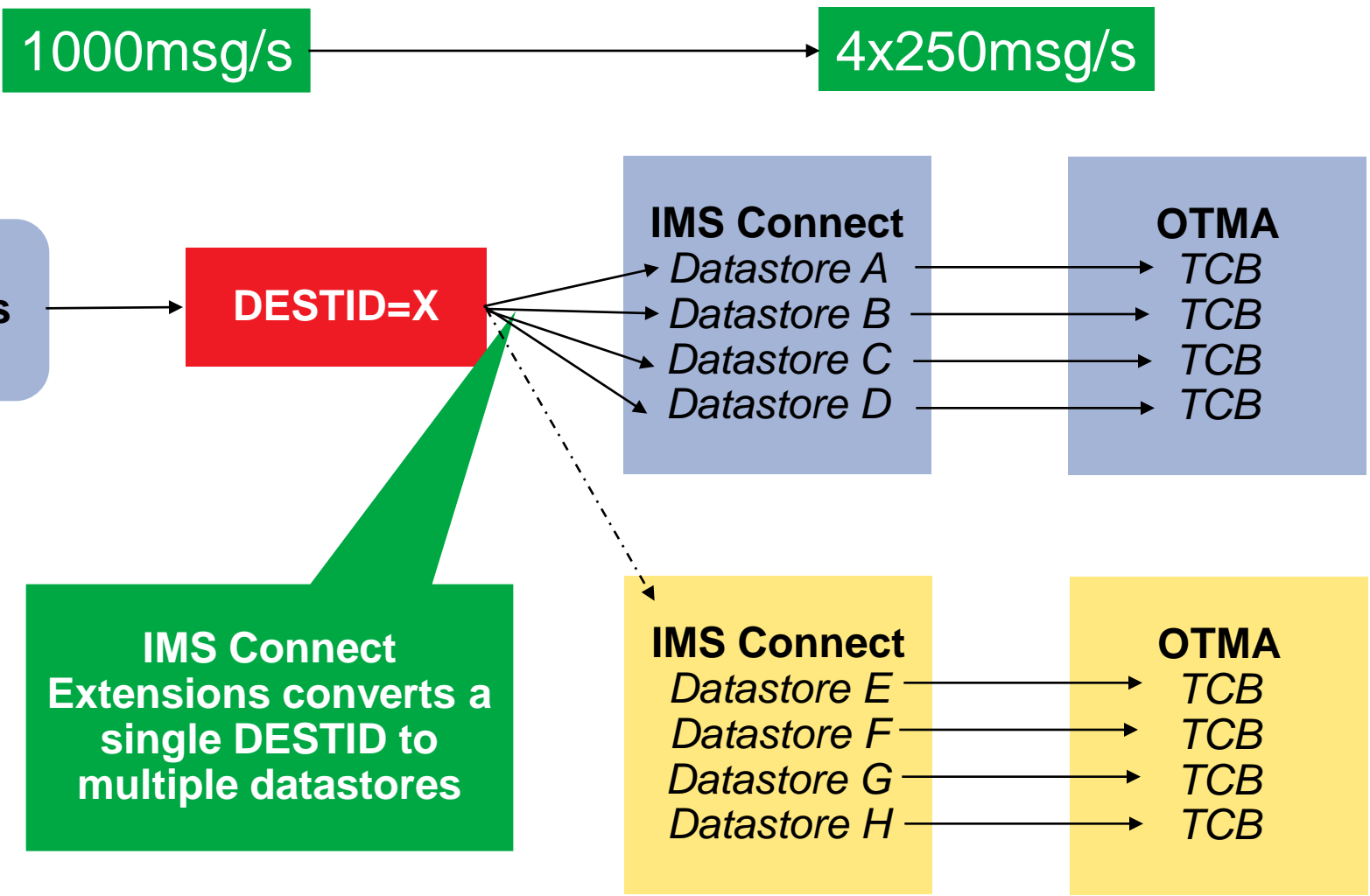
IMS Connect Extensions

Rules-based routing

- The simplest way to gain the benefits of IMS Connect Extensions' routing
- Create rules that, for a given DESTID, determine a primary and fallback collection of candidate datastores
- IMS Connect Extensions will balance workload between the datastores in the primary collection
- If none of the datastores in the primary collection are available or if all datastores in that collection are in flood, then IMS Connect Extensions spreads workload between the fallback collection
- Works for transactional messages, Send Only, Resume TPIPE, Synchronous callout, and Asynchronous callout
- Benefits: improved performance, redundancy, better capacity management

IMS Connect Extensions

Use generic routing to utilize multiple TCBs



IMS Connect Extensions

Transaction options

```
File  Menu  Settings  Help
-----
EDIT                                     Transaction
Command ==> _____

Name . . . . : GAGA
Description . . _____

Application . . . BABA _____ +

_ Override Transaction Timer      Message timeout . . 00 (default)
                                  ACK/NAK timeout . . 00 (default)
_ Override Transaction Expiration Set F1_TRNEXP . . . 1  1. On
                                  2. Off
_ Override Client ID Cancellation Set F3_CANCID . . . 1  1. On
                                  2. Off

_ Activate Transaction Routing

  _ Override Application options

    Route transactions to:
    1 1. All Datastores
    2 2. Datasstore . . . . . FAFA _____ +
    3 3. Datasstore Group . . . DSG1 _____ +
    4 4. Affinity List . . . . _____ +

    Routing Error processing:
    - 1. Use the original datasstore in the message request
      2. Reject the transaction
```

Set the timeout value for messages, as well as ACKs and NAKs for a given transaction code (V2R1)

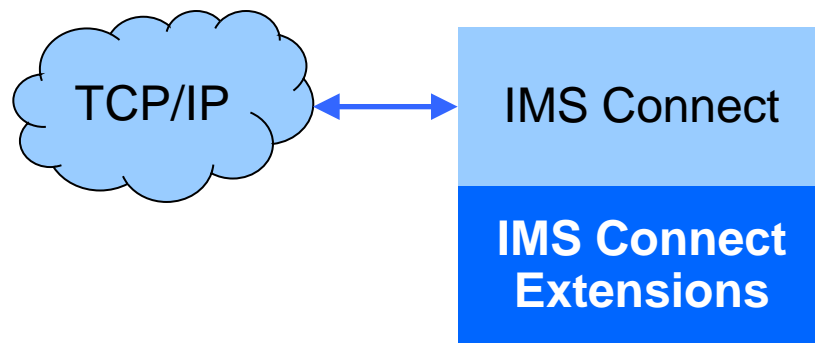
Sets transaction expiration and Client ID cancellation options (V2R2)

IMS Connect Extensions

Security and validation

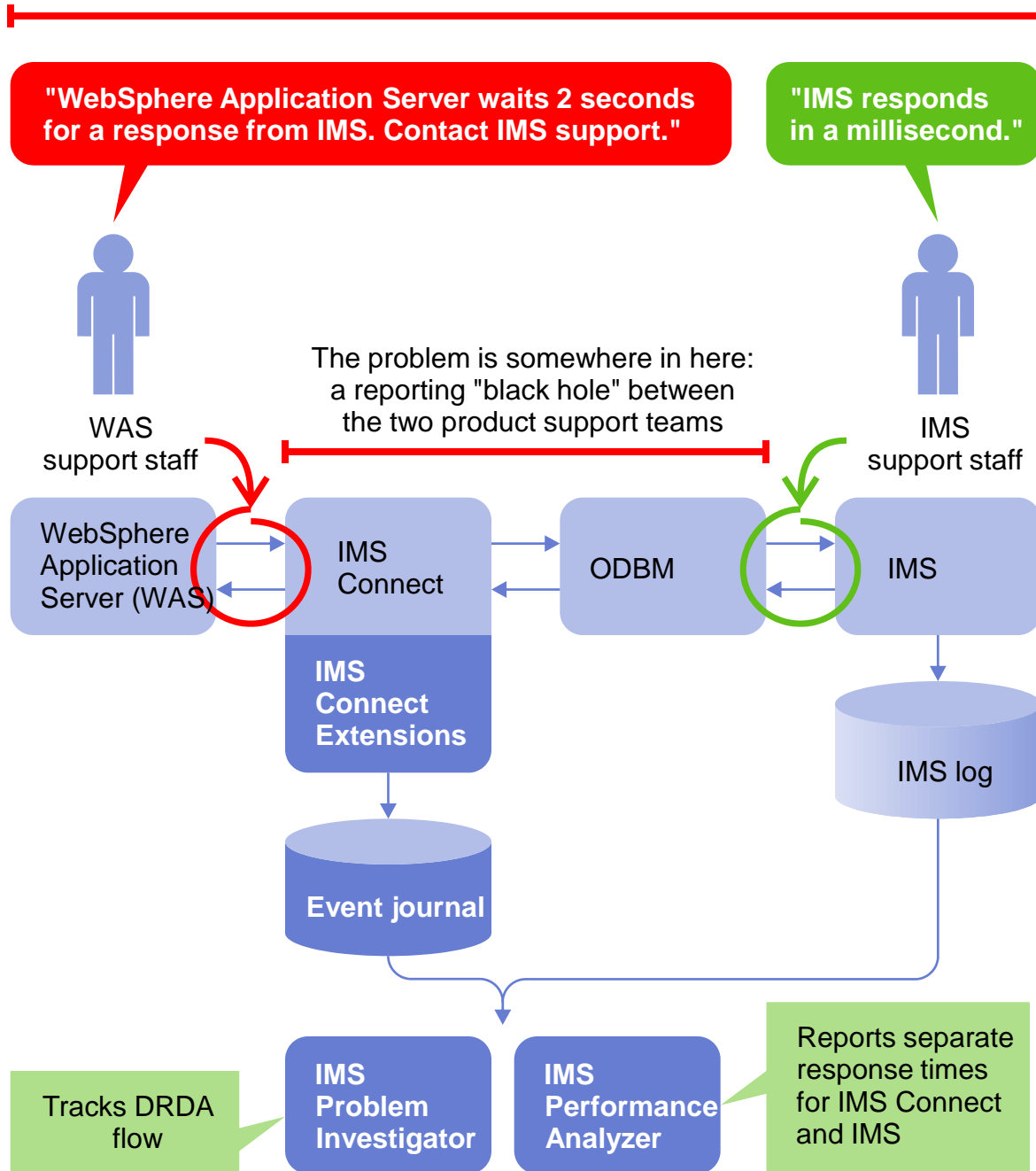
- Extends IMS Connect authentication and authorization to improve flexibility, performance, and security
- Authorize users based on:
 - The IMS Connect system they are connecting through
 - The IP address they are connecting from:
 - White list: only allow certain IP addresses access through IMS Connect
 - Black list: reject access from certain IP addresses or address ranges
 - The ports that users are connecting to

- Routing itself ensures enhanced security by allowing you to reject messages that don't have certain basic characteristics
- ACEE caching for all supported versions of IMS Connect



Is the user at that IP address authorized to access the requested IMS Connect, via this port?

Response times over 2 seconds!



IMS Connect Extensions

IMS Performance Analyzer report

IMS Performance Analyzer
Combined tran list

LIST0001 Printed at 19:33:38 12Dec2007 Data from 13.57.52 12Dec2007

CON Tran	Trancode	OTMA	CON Resp Time	PreOTMA Time	OTMAproc Time	IMS Tran Start	InputQ Time
13.57.52.714	IMSTRANS	CONNECT	1.810	0.000	1.803	13.57.54.517	0.000
13.57.52.964	IMSTRANS	CONNECT	1.575	0.000	1.574	13.57.54.538	0.000
13.57.52.972	IMSTRANS	CONNECT	1.588	0.000	1.588	13.57.54.548	0.009
13.57.53.091	IMSTRANS	CONNECT	1.716	0.002	1.714	13.57.54.806	0.000
13.57.53.567	IMSTRANS	CONNECT	1.839	0.000	1.839	13.57.55.403	0.000
13.57.54.044	IMSTRANS	CONNECT	1.800	0.000	1.799	13.57.55.836	0.006

- IMS log records show rapid reponse times, but users are experiencing slow response times
- OTMA is the source of the problem
- To obtain IMS Connect and OTMA performance, you need IMS Connect Extensions

Process Time	Total IMS Time	PostOTMA Time
0.001	0.001	0.006
0.001	0.001	0.000
0.002	0.011	0.000
0.001	0.001	0.000
0.002	0.002	0.000
0.001	0.007	0.001

IMS Performance Analyzer

Creating a report form (for program switch analysis)

File Edit Options Help

EDIT Summary Report Form - PGMSWITS Row 1 of 13 More: < >
Command ==> Scroll ==> PAGE

Description . . . Program Switch Summary Page Width . . . 132
Precision . . . 6
Digit Grouping SEC



Field	Sort				
/ Name +	K O	Func	Len	Description	
<u>ORGRAN</u>	K A		8	Originating transaction code	
<u>PARTRAN</u>	K A		8	Parent transaction code	
<u>TRANCODE</u>	K A		8	Transaction Code	
<u>PGMSWIT</u>	K A		5	Transaction number in program switch sequence	
<u>TRANCNT</u>			10	Transaction count	
<u>INPUTQ</u>		AVE	8	Input queue time	
<u>SWITTIME</u>		AVE	8	Program switch time	
<u>PROCESS</u>		AVE	8	Processing time	
<u>OUTPUTQ</u>		AVE	8	Output queue time	
<u>TOTALTM</u>		AVE	8	Total transaction elapsed time	
<u>RESPIMS</u>		AVE	8	IMS response time	
<u>CPUTIME</u>		AVE	8	CPU time	
<u>EOR</u>					

----- End of Report -----
***** Bottom of data *****

Select the fields that you want as columns in the report

IMS Performance Analyzer

Creating report forms: detailed field-level help

```
Command ==> _____  
Field Name . . : PGMSWIT  
Source . . . . : IMS  
Description . . : Transaction number in program switch sequence
```

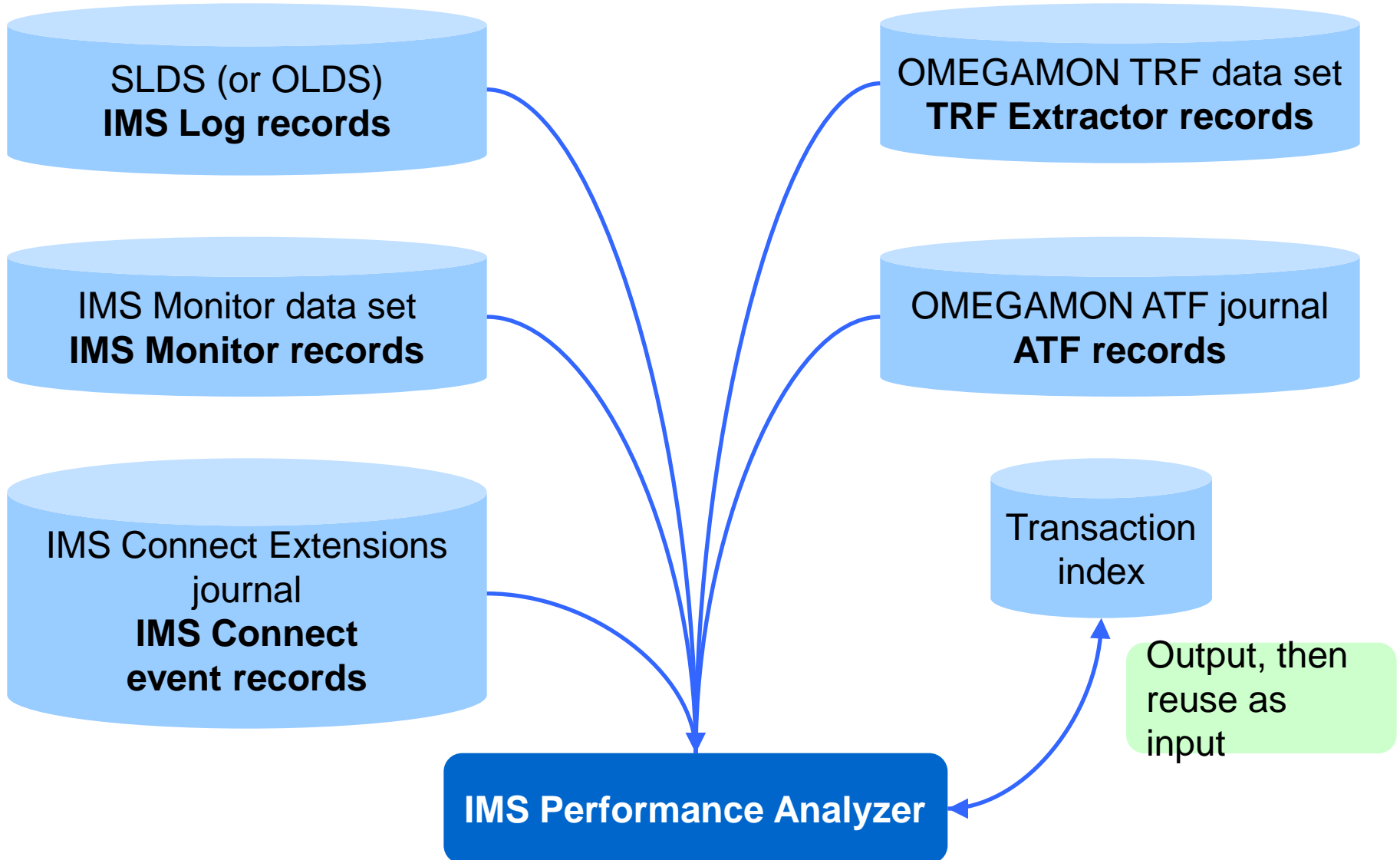
The sequence number of the transaction in the program switch sequence.

The originating transaction starts the sequence at position 0.

Use ORGTRAN, PGMSWIT (hidden) and TRANCODE as keys for Form-based summary reporting when transit analysis is required. IMS PA will summarize transaction transit activity by grouping all transactions involved in program switching, in the sequence that they are processed.

To get detailed help, enter **H** next to a field in the form

IMS Performance Analyzer Inputs



IMS Performance Analyzer

Example report: Program switch list

IMS Performance Analyzer								
<u>Program Switch List</u>								
Org	IMS Tran	Parent	Prog	InputQ	PgmSwitch	Process	OutputQ	
LTERM	Start	Trancode	Trancode	Swit#	Time	Time	Time	Time
NEWYORK	14.58.02.023922		BANK0001	0	0.004688	-	0.009277	-
	14.58.02.037859	BANK0001	BANK0010	1	0.000150	0.000137	1.065917	-
	14.58.03.102187	BANK0010	BANK0011	2	0.001114	0.001093	0.762127	-
	14.58.03.861171	BANK0011	BANK0012	3	0.004557	0.004535	0.586579	-
	14.58.04.449915	BANK0012	BANK0013	4	0.003350	0.003330	0.458266	-
	14.58.04.909175	BANK0013	BANK0014	5	0.101360	0.101341	0.428108	-
	14.58.05.435875	BANK0014	BANK0015	6	0.312120	0.312099	0.754851	0.000000

Total	IMS Resp	CPU
IMS Time	Time	Time
0.013965	4.467306	0.000737
1.066054	-	0.014046
0.763220	-	0.015807
0.591114	-	0.015897
0.461596	-	0.014347
0.529449	-	0.013495
1.066950	-	0.028735

IMS Performance Analyzer

Example report: Program switch summary

IMS Performance Analyzer
Program Switch Summary

SUMM0001 Printed at 22:35:20 06Jul2011 Data from 14.58.00 27Jun2011 to 15.12.39

Org	Tran	Avg	Avg	Max	Avg	Max	Avg	
Trancode	Trancode	InputQ	PgmSwch	PgmSwch	Process	Process	OutputQ	
	Count	Time	Time	Time	Time	Time	Time	
BANK0101	BANK0101	932	0.011484	-	-	0.044661	3.590554	0.000000
...								
BANK0101	BANK0150	126	0.188746	0.188721	7.246319	0.507465	5.454976	0.000000
BANK0101	BANK0153	309	0.006004	0.005973	0.549195	0.396116	4.169538	0.000000
BANK0101	BANK0154	607	0.002426	0.002396	0.337522	0.313873	1.866285	0.000000

The switch time for
trancode BANK0150 stands
out as a potential
bottleneck

27Jun2011

Avg	Avg	Avg
Total	IMS	Resp
IMS	Time	Time
Time		Time
0.056145	0.498563	0.004940
0.696186	-	0.014304
0.402089	-	0.020677
0.316269	-	0.019530

IMS Performance Analyzer

Example report: Quick analysis

IMS Performance Analyzer
Time Interval Summary

SUMM0002 Printed at 12:17:06 25Jul2011 Data from 09.56.21 17Jun2011 to 10.19.57

IMS Tran Start	Tran Count	Avg InputQ Time	Max InputQ Time	>1.0 InputQ Time	Avg Process Time	Max Process Time	>1.0 Process Time	Avg CPU Time
09.56.00	14	0.0059	0.0672	0.00%	0.0316	0.0811	0.00%	0.0171
09.57.00	17	0.0041	0.0597	0.00%	0.1005	0.7288	0.00%	0.0264
09.58.00	16	0.0005	0.0009	0.00%	0.1277	0.5752	0.00%	0.0308
09.59.00	23	0.0032	0.0592	0.00%	0.0617	0.3770	0.00%	0.0201
10.00.00	8	12.8442	49.2255	37.50%	25.6096	72.5095	87.50%	0.0622

Processing starts to degrade here

17Jun2011

Max CPU Time	Avg ESAFcall Count	Max ESAFcall Count	>100 ESAFcall Count
0.0532	71	190	28.57%
0.0629	108	270	52.94%
0.0657	159	269	75.00%
0.0542	97	269	34.78%
0.1145	190	367	87.50%

IMS Performance Analyzer

Example report: Synchronous callout

IMS Performance Analyzer									
Transactions w/ synch-callout									
Data from 10.18.37 19Apr2011 to 10.21.06 19Apr2011									
Trancode	Tran Count	Avg CPU Time	Avg InputQ Time	Avg Process Time	Avg SyncCout RespTime	Avg Total IMS Time	Avg SyncCout ACK Cnt	Avg SyncCout NAK Cnt	
MYORDER	57760	0.0023	0.0052	0.5673	0.4723	0.5725	1	0	

The sync callout response time is a large percentage of the overall processing time: indicative of a delay

IMS Problem Investigator

Interactive investigation: Synchronous callout

```

File  Menu  Edit  Mode  Navigate  Filter  Time  Labels  Options  Help
-----
BROWSE      IPI000.QADATA.JASDEEP2.VB10.IM01001      Record 00000057 More: < >
Command ==>                                     Scroll ==> PAGE
Forwards / Backwards . . HH.MM.SS.THMIJU      Time of Day . . HH.MM.SS.THMIJU
Code Description                               Date 2011-04-20 Wednesday Time (Relative)
/ ---- Search limit reached (+5000) -----
___ 01  Input Message TranCode=SMQLG              01.19.00.003853
___ 35  Input Message Enqueue TranCode=SMQLG      +0.000001
___ 31  DLI GU TranCode=SMQLG Region=0006         +0.000057
___ 6701 YOUT Sync callout message sent           +0.000125
___ 6701 YACK Received ACK                       +0.000618
___ 6701 YRSP Sync callout response received     +0.201386
___ 03  Output Message Response LTerm=OTM00001   +0.201420
___ 35  Output Message Enqueue LTerm=OTM00001 Region=0006 +0.201422
___ 37  Syncpoint Region=0006                   +0.201424
___ 37  Syncpoint message transfer Region=0006   +0.201425
___ 33  Free Message                             +0.201428
___ 5612 End of Phase 2 Syncpoint Program=PSBLG Region=0006 +0.201431
___ 31  Communications GU LTerm=OTM00001        +0.201440
___ 36  Output Message Dequeue LTerm=OTM00001   +0.203894
___ 33  Free Message                             +0.203895
___ 07  Application Terminate TranCode=SMQLG Region=0006 +0.220357
***** Bottom of Data *****

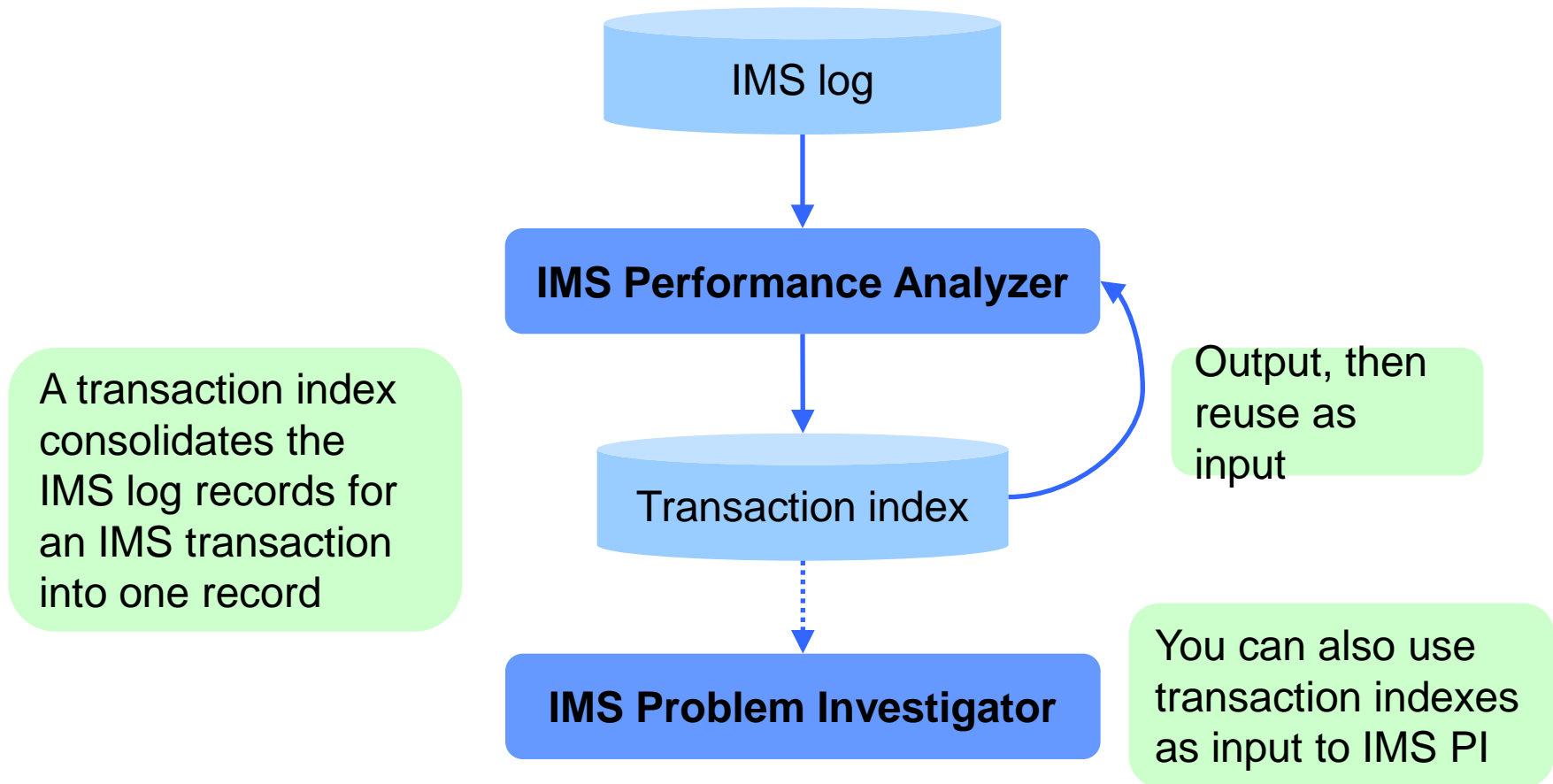
```

Delay due to sync callout



IMS Performance Analyzer

Save processing time with transaction indexes



IMS Performance Analyzer

Save processing time with transaction indexes

- After creating a transaction index from the IMS logs, you can use the transaction index instead of the logs for subsequent reporting
- Typically 4 to 5 times faster than using the original logs!

Input source	I/O count	CPU (total) <i>ss.th</i>	Elapsed <i>mm:ss.th</i>	CPU (TCB) <i>ss.th</i>	CPU (SRB) <i>ss.th</i>	Service units
SLDS	20962	12.89	01:05.08	12.30	00.59	96518
Transaction index	4920	02.97	13.02	02.83	00.14	22178
Improvement factor	4.2	4.3	5.0	4.3	4.2	4.3

IMS Performance Analyzer

Non-“transit” reports

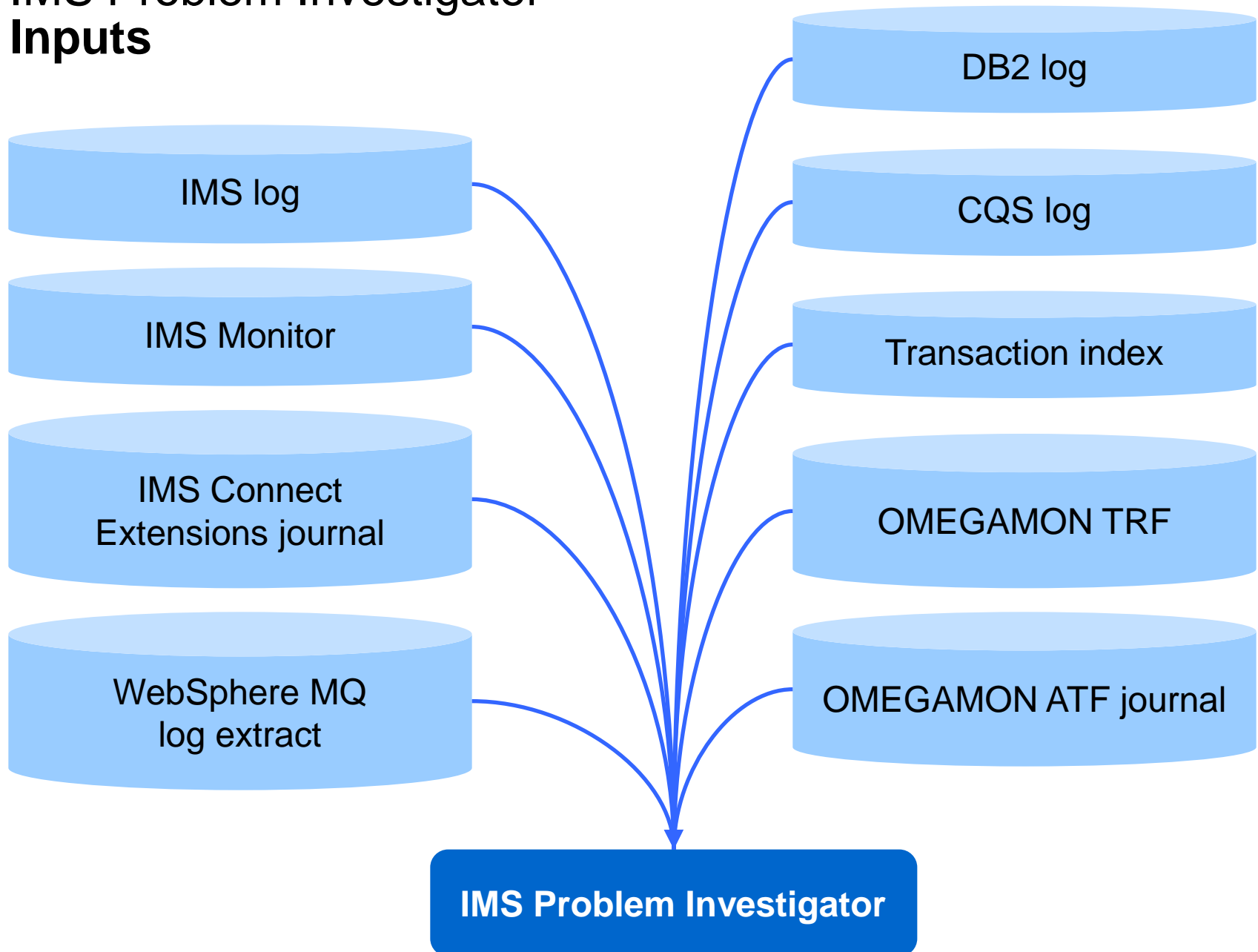
- Resource Usage & Availability
 - Dashboard
 - Management Exception
 - Transaction Resource Usage
 - Resource Availability
 - CPU Usage
 - Internal Resource Usage
 - MSC Link Statistics
 - Message Queue Utilization
 - Database Update Activity
 - Region Histogram
 - OSAM Sequential Buffering
 - Deadlock
 - System Checkpoint
 - BMP Checkpoint
 - Gap Analysis
 - Cold Start Analysis
- Fast Path Resource Usage
 - Resource Usage & Contention
 - Database Call Statistics
 - IFP Region Occupancy
 - EMH Message Statistics
 - DEDB Update Activity
 - VSO Statistics
- Trace
 - DC Queue Manager Trace
 - Database Trace (Full Function)
 - DEDB Update Trace
 - ESAF Trace

IMS Performance Analyzer

Fields for forms-based reports

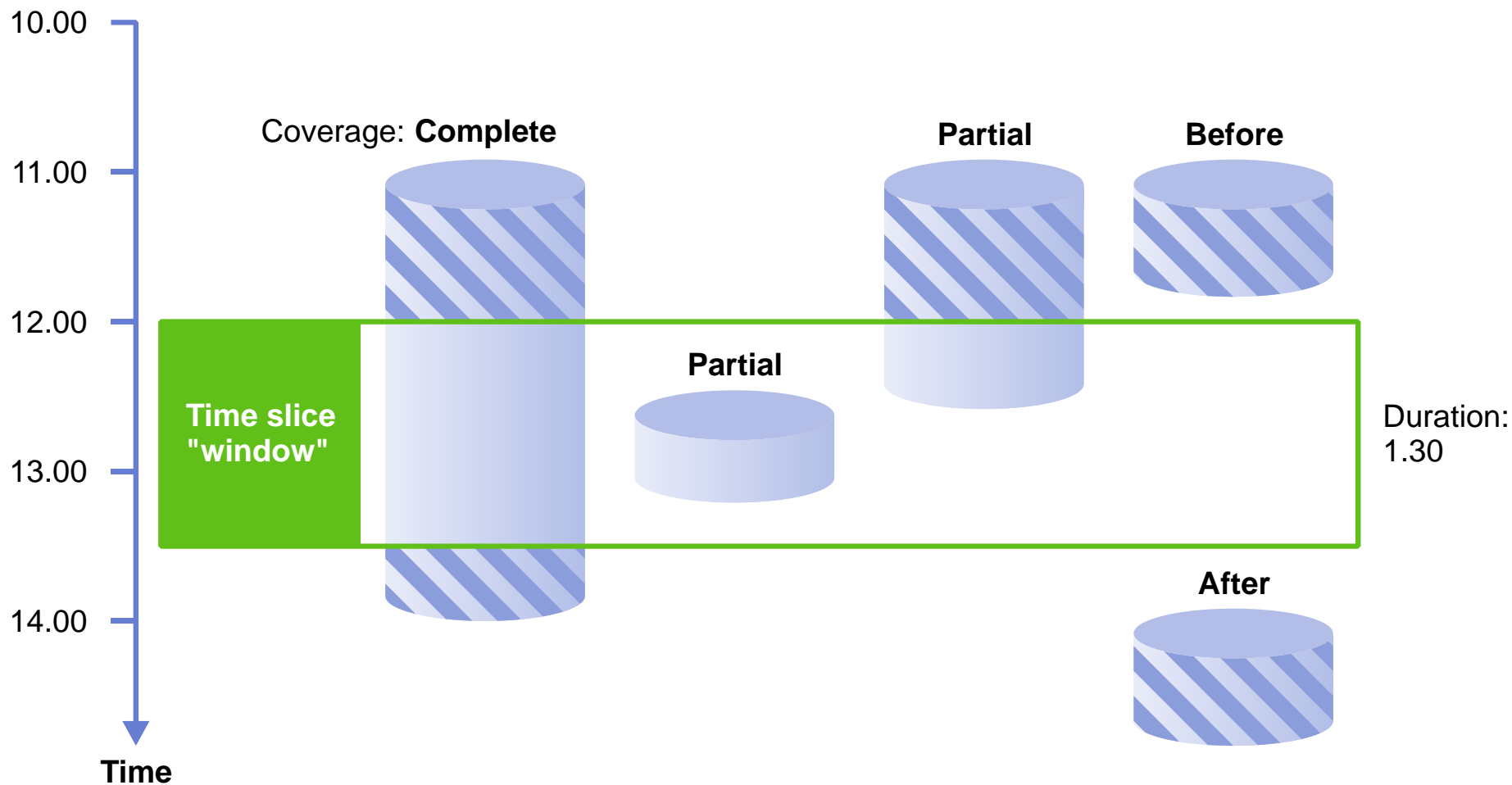
ACKREAD	APPC	APPLNAME	CCTLTASK	CLASS	CLIACK	CLIENTID	CM0DELAY	CM1DELAY
COMMITMD	COMPCODE	COMPLVL	COMPLVLC	CONFIRM	CONFOTMA	CONNLTOK	CONNOTOK	CONVERS
CPUTIME	DATABASE	DBACMETH	DBBLKDEL	DBBLKINS	DBBLKREP	DBBLKUPD	DBCALLS	DBDLET
DBGETS	DBGHN	DBGHNP	DBGHU	DBGN	DBGNP	DBGNS	DBGU	DBGUS
DBIOCALL	DBIOTIME	DBISRT	DBORGTYP	DBREPL	DBUPDATS	DBWAITS	DCCALLS	DDNAME
DEDBAREA	DLAYOTMA	ESAFCALL	ESAFCCON	ESAFCOMT	ESAFNAME	ESAFPRE	EXITNAME	FAILED
FPASIORA	FPASIOWT	FPBALGCT	FPBFOTHR	FPBFSTL	FPBFWT	FPCALLS	FPCILWT	FPDDEPU
FPDECL	FPDEGET	FPDEPUT	FPDLET	FPFLD	FPGETS	FPGHN	FPGHP	FPGHU
FPGN	FPGNP	FPGNS	FPGU	FPGUS	FPISRT	FPMSC	FPNBFS	FPNBFU
FPNRDB	FPOBFS	FPOBFU	FPPBFU	FPPBFWT	FPPH1PH2	FPPOS	FPPRCTYP	FPREPL
FPRTCODE	FPSDEPCI	FPSDEPI	FPSDEPSG	FPSEMHQI	FPSEMHQO	FPSYNCCT	FPTOTIME	FPUOWLWT
FPUPDATS	FPVSORFD	FPVSREAD	FPVSWRIT	FPWAITS	HWSID	IMSACK	IMSID	IMSVR
INPUTQ	INREAD	IPADDR	JOBNAME	LOCKTIME	LTERM	LTERMOUT	LTERMOVR	MSC
MSGLIN	MSGLOUT	ORGIMS	ORGLTERM	ORGTRAN	ORGUOWID	ORGVER	ORIGDS	OSAMREAD
OSAMWRIT	OTMA	OUTDEQ	OUTENQ	OUTPUTG	OUTPUTL	OUTPUTQ	OUTRTCON	OUTRTIMS
PARTRAN	PGMSIZE	PGMSWIT	PORT	PORTDEP	PORTTYPE	POSTOTMA	PREOTMA	PRIORITY
PRMEM24	PRMEM31	PROCESS	PROCOTMA	PROGRAM	PROUOWID	PSTID	QTYPE	READEXIT
RECOVER	RECTOKEN	REGTYPE	REJECT	REROUTNM	RESPCON	RESPIMS	RESPMODE	RESUMETP
RXMLEXIT	R0TIME	R1TIME	SAFTIME	SCHEDTM	SOCKET	SRBTIME	STARTCON	STARTDEP
STARTIMS	STARTLVL	STEPNAME	SWITTIME	SYNCFAIL	SYNCLEV	SYNCTIME	TARGDS	TERMINAL
TIMEOUT	TIMERV	TMEMBERD	TMEMBERO	TOTALTM	TOTRTIMS	TPIPE	TRANCODE	UORTIME
USERID	VSAMREAD	VSAMWRIT	WFITIME	XMITEXIT	XMLADAPT			

IMS Problem Investigator Inputs



IMS Problem Investigator

Time slicing



IMS PI indicates how much of a time slice (the time period in which you are interested) is covered by the available log data sets

IMS Problem Investigator

Transaction tracking: program switch

```
BROWSE      IMSP.D110627.T102346.SLDS1      Record 00000778 More: < >
Command ==> Scroll ==> PAGE
Forwards / Backwards . . HH.MM.SS.THMIJU    Time of Day . . HH.MM.SS.THMIJU
Code Description          Date 2011-06-27 Monday    Time (Relative)
/ -----
___ 01  Input Message TranCode=ORDER001 Source=Connect Level=0 14.58.01.757247
___ 35  Input Message Enqueue TranCode=ORDER001                    +0.000004
___ 08  Application Start TranCode=ORDER001 Region=0001           +0.000123
___ 5607 Start of UOR Program=ORDERP01 Region=0001                +0.000123
___ 31  DLI GU TranCode=ORDER001 Region=0001                     +0.000129
___ 5616 Start of protected UOW Region=0001                      +0.000337
___ 50  Database Update Database=ORDERSDB Region=0001            +0.002744
___ 50  Database Update Database=ORDERSDB Region=0001            +0.015338
___ 5610 Start Phase 1 Syncpoint Region=0001                     +0.015440
___ 03  Input Message TranCode=ORDER002 Source=Connect Level=1 input +0.019162
___ 35  Input Message Enqueue TranCode=ORDER002 Region=0001      +0.019166
___ 37  Syncpoint Region=0001                                     +0.019175
___ 5600 Commit found no work to do Region=0001 SSID=DB2P         +0.019201
___ 5612 End of Phase 2 Syncpoint Program=ORDERP01 Region=0001    +0.019204
___ 56FA Transaction Statistics TranCode=ORDER001 Region=0001     +0.019205
----- End of T1, Start of T2 -----
```

continued on next slide...

To get this display, we entered **TX** (track transaction) next to the 01 record for the originating transaction that we are interested in. TX tracks the entire transaction, including program switches.

...continued from previous slide

```
----- End of T1, Start of T2 -----
___ 08 Application Start TranCode=ORDER002 Region=0002 +0.019368
___ 5607 Start of UOR Program=ORDERP02 Region=0002 +0.019368
___ 31 DLI GU TranCode=ORDER002 Region=0002 +0.019375
___ 5616 Start of protected UOW Region=0002 +0.019597
___ 07 Application Terminate TranCode=ORDER001 Region=0001 +0.020689
___ 50 Database Update Database=ORDERSDB Region=0002 +0.020795
___ 50 Database Update Database=ORDERSDB Region=0002 +0.022390
___ 5610 Start Phase 1 Syncpoint Region=0002 +0.022619
___ 03 Input Message TranCode=ORDER003 Source=Connect Level=2 input +0.027125
___ 35 Input Message Enqueue TranCode=ORDER003 Region=0002 +0.027129
___ 37 Syncpoint Region=0002 +0.027137
___ 5612 End of Phase 2 Syncpoint Program=ORDERP02 Region=0002 +0.027162
___ 56FA Transaction Statistics TranCode=ORDER002 Region=0002 +0.027162
----- End of T2, Start of T3 -----
___ 08 Application Start TranCode=ORDER003 Region=0003 +0.027520
___ 5607 Start of UOR Program=ORDERP03 Region=0003 +0.027520
___ 31 DLI GU TranCode=ORDER003 Region=0003 +0.027529
___ 5616 Start of protected UOW Region=0003 +0.027857
___ 07 Application Terminate TranCode=ORDER002 Region=0002 +0.028133
___ 50 Database Update Database=ORDERSDB Region=0003 +0.028834
___ 50 Database Update Database=ORDERSDB Region=0003 +0.032497
___ 03 Output Message Response LTerm=NYC1 Source=Connect +0.032524
___ 31 Message GU for APPC LTerm=NYC1 +0.032563
___ 5610 Start Phase 1 Syncpoint Region=0003 +0.032643
___ 37 Syncpoint Region=0003 +0.037484
___ 5600 Commit found no work to do Region=0003 SSID=DB2P +0.037520
___ 5612 End of Phase 2 Syncpoint Program=ORDERP03 Region=0003 +0.037523
___ 56FA Transaction Statistics TranCode=ORDER003 Region=0003 +0.037524
___ 07 Application Terminate TranCode=ORDER003 Region=0003 +0.038184
```

To isolate a single unit of recovery within the program switch sequence, enter **TU** (track UOR) next to a related record.

IMS Problem Investigator

Transaction tracking: IMS, DB2, and MQ (adapter)

BROWSE IMSP.INDEX + Record 00005682 More: < >
 Command ===> Scroll ===> PAGE

Code	Description	Date	Time of Day	Time (Relative)
CA01	Transaction TranCode=MQATREQ1 Region=0001	2008-01-25	Friday	11.20.12.324192
01	Input Message TranCode=MQATREQ1			+0.000000
35	Input Message Enqueue TranCode=MQATREQ1			+0.000027
31	DLI GU TranCode=MQATREQ1 Region=0001			+0.000152
50	Database Update Database=DI21PART Region=0001			+0.000505
50	Database Update Database=DI21PART Region=0001			+0.000787
5600	Sign-on to ESAF Region=0001 SSID=DB3A			+0.001700
0020	DB2 Unit of Recovery Control - Begin UR			+0.005999
0020	DB2 Update In-Place in a Data Page			+0.006015
0010	DB2 Savepoint			+0.006207
0020	DB2 Delete from a Data Page			+0.006287
0020	DB2 Insert into a Data Page			+0.006527
5600	Sign-on to ESAF Region=0001 SSID=CSQ6			+0.031739
0002	MQ Get Region=0001			+0.032322
0006	MQ Commit Phase 1 Region=0001			+0.032322
0007	MQ Commit Phase 2 Region=0001			+0.032322
0001	MQ Put Region=0001			+0.461377
0006	MQ Commit Phase 1 Region=0001			+0.461377
0007	MQ Commit Phase 2 Region=0001			+0.461377
5600	Commit Prepare starting Region=0001 SSID=CSQ6			+0.481558
0020	DB2 Unit of Recovery Control - End Commit Phase 1			+0.514735
03	Output Message Response LTerm=FUNTRM78			+0.517690
35	Output Message Enqueue LTerm=FUNTRM78 Region=0001			+0.517715
37	Syncpoint Region=0001			+0.517742
31	Communications GU LTerm=FUNTRM78			+0.518031
5600	Commit Continue completed Region=0001 SSID=CSQ6			+0.556094
0020	DB2 Unit of Recovery Control - Begin Commit Phase 2			+0.556255
0020	DB2 Unit of Recovery Control - End Commit Phase 2			+0.558095
5600	Commit Continue completed Region=0001 SSID=DB3A			+0.558315
5612	End of Phase 2 Syncpoint Program=MQATPGM Region=0001			+0.558329
36	Output Message Dequeue LTerm=FUNTRM78			+0.561043



IMS Problem Investigator

Miscellaneous new features: scrub & interactive extract

- **Scrub**

- Omits customer-sensitive data from batch output and dialog display
- For situations where users must never be allowed to see sensitive data, or you want to send the log file to IBM or another external location
- Enforced by a “request authorization exit”: you can customize this exit with your own site-specific rules to specify which users can view only scrubbed data

- **Dynamic extract**

- When tracking a transaction (**TX** or **TU** line actions) in the dialog, enter **EXTRACT** on the command line to create an extract data set containing just the displayed records (that is, the log records related to the transaction)

More information

- IBM website:
<http://www.ibm.com/software/data/db2imstools/imstools/ims-performance-solution-pack/>
- Jim Martin:
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