

C05: IMS Connect for Enterprise Workloads

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Sharpen your competitive edge
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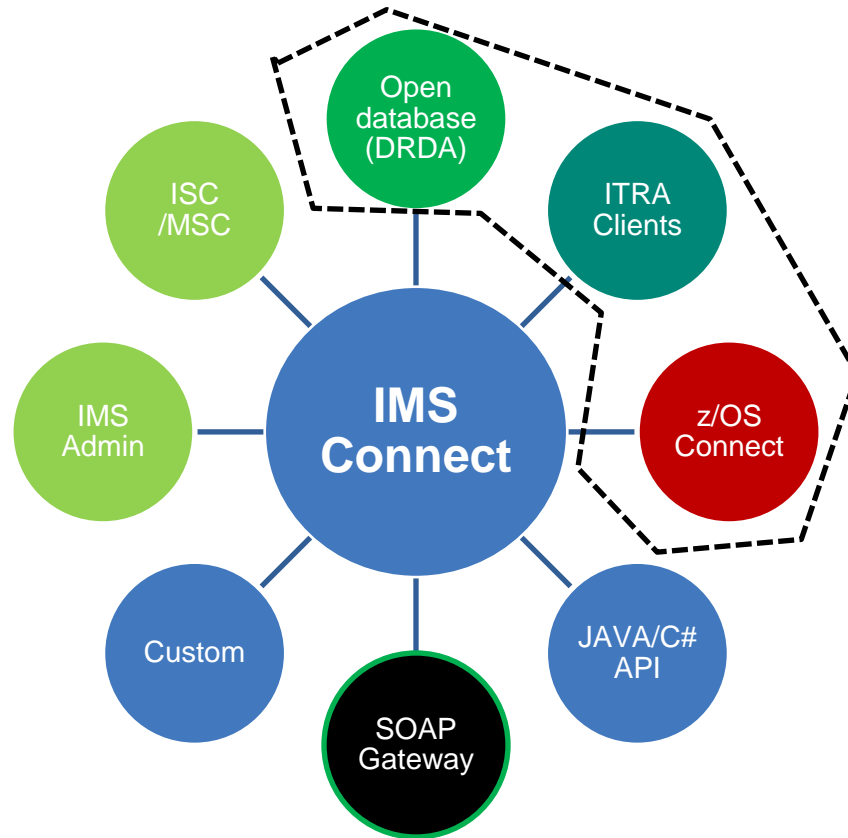
Overview

- Introduction: IMS Connect, why it increasingly matters
- Evolution of typical IMS Connect architectures
- Impact and challenges of growing workloads
- Strategies for addressing these challenges
- Conclusions

IMS Connect History

- 1997 – ITOC Get's a User's Guide
- 1998 – Visual Age for Java – Connecting to IMS using Java (“e-business”)
- 2004 – IMS V9 – “IMS Connect” becomes an integrated component
- WebSphere TM Resource Adapter (from distributed) Support
- 2009 – IMS V11 – IMS Open Database
- 2011 – IMS Management Console
- Now z/OS Connect

IMS Connect: state of the union



IMS Connect characteristics

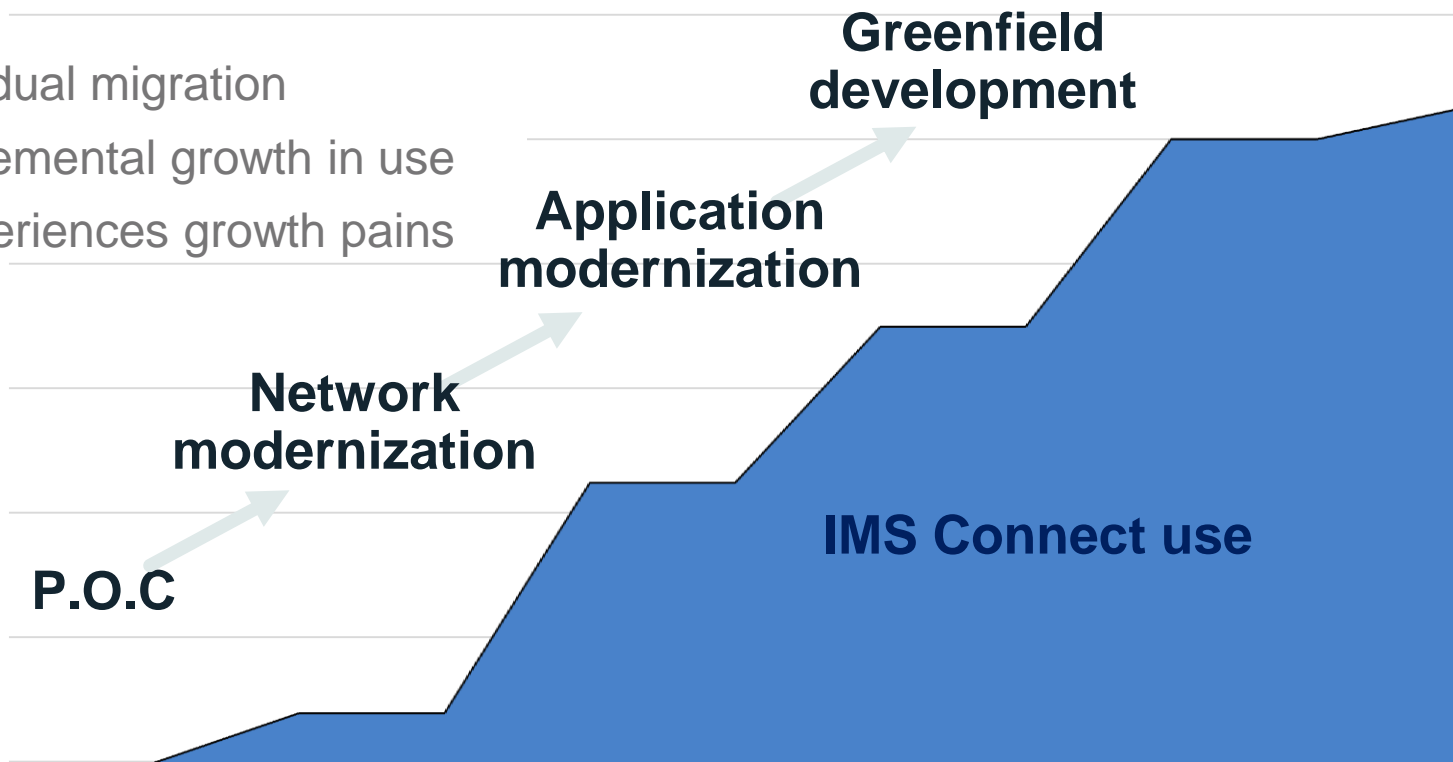
- Lightweight
- Own address space
- Extensible: messages processed via user exits
- Simple to configure and set up
- Propriety IRM protocol (except for open database)

IMS Connect Extensions

- Companion tool for IMS Connect
- Available since just before IMS V9
- Originally developed for routing and exit management
- Used for event collection
- Recent years show a strong shift towards routing and exit management
- Why?

Profile of an IMS Connect customer

- Gradual migration
- Incremental growth in use
- Experiences growth pains





IMS Connect Growing pains

Cost of down time

Performance limits

Clients coded to
an inflexible
topology

Workload type changing

Consolidation versus
redundancy

Increasing
customization
needs

Operations and
maintenance
challenges

With pain comes requirements

- Greater scalability
- Higher availability
- Improved security
- Cost containment: consistency, fewer customizations, greater flexibility
- Requirements must be met **while minimizing the disruption to existing client code and existing client instances**

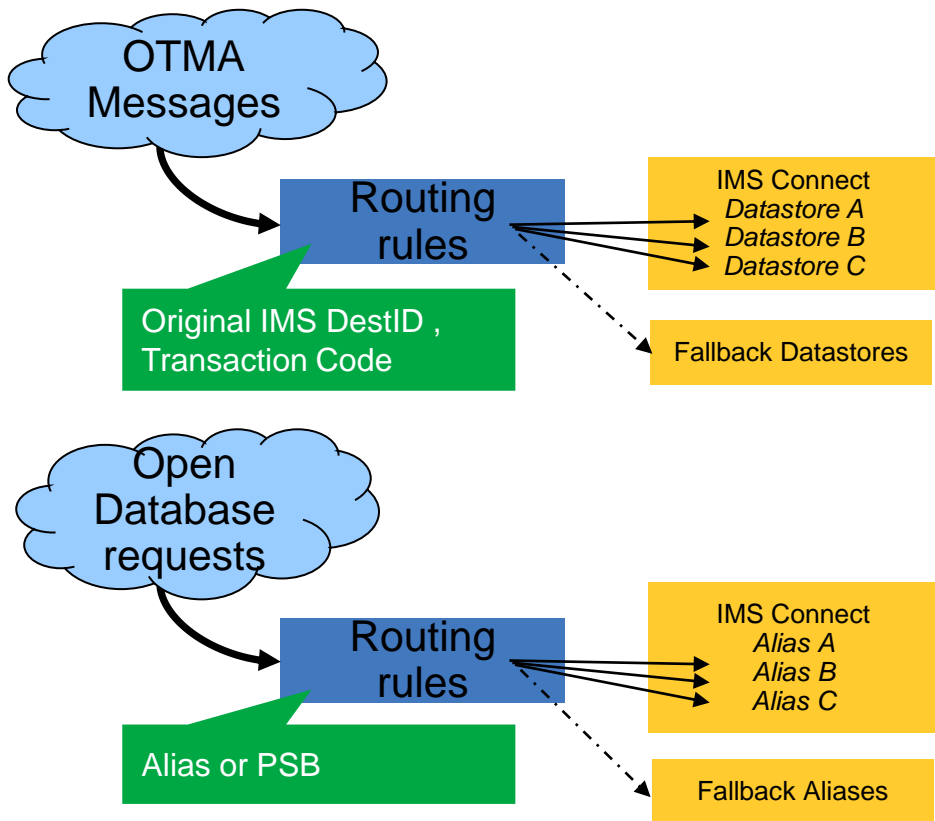
Meeting the challenges

- Use routing to improve parallelism, add redundancy, and provide abstraction (insulation) to clients
- Consider additional security
- Centralize the management of client option
- Centralize operational management
- Use IMS Connect instrumentation to tag the various workloads

Customizing exits

- Can provide a short-term fix for many requirements
- Be mindful of OCO only exits (Java exit in particular)
- Open database offers simple round-robin routing
- Maintenance over time
- Can only refresh BPE Exits, not message exits

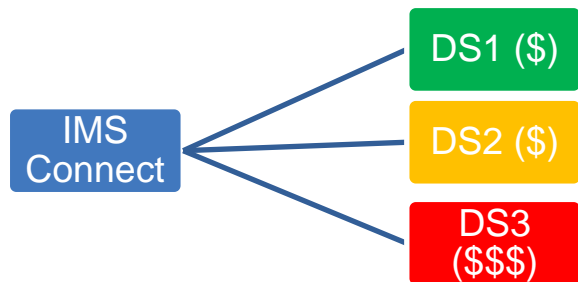
User Story: Manage workload by attributes



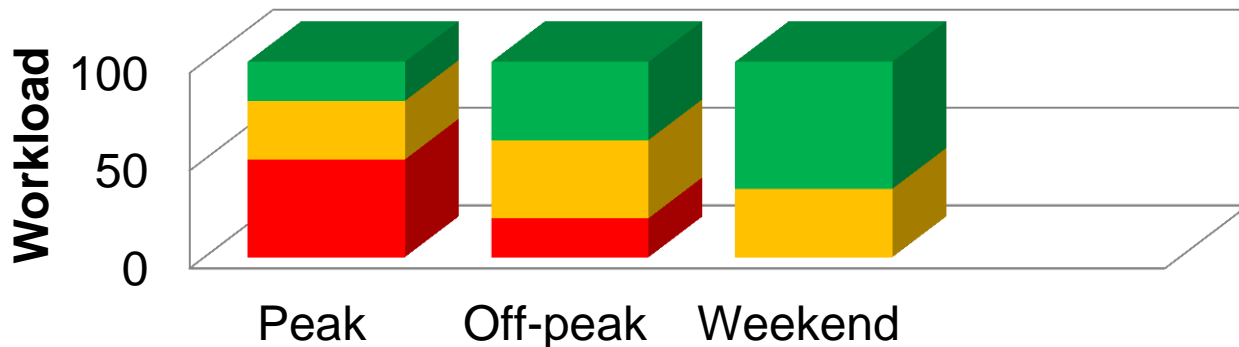
- OTMA routing includes the ability to qualify by transaction code as well as datastore
- Open Database routing support can qualify by the alias name or PSB
- Generic destinations.
- Parallelism
- Optional fallback (flood or down)

Try at HOL4

User Story: Manage message distributions



- Capacity weights allow you to dynamically favour certain destinations
- Switch from one plan to another with z/OS Explorer plug-in.
- Or batch automation....

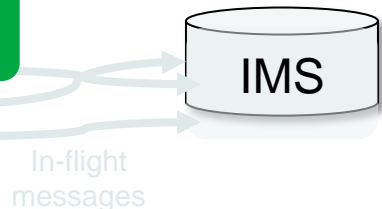


Try at HOL4

User Story: do not interrupt in-flight work

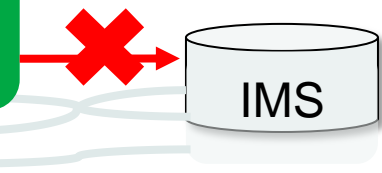
1. Active IMS system used by three IMS Connects

ICON 2 Datastore for IMSA
ICON 3 Datastore for IMSA



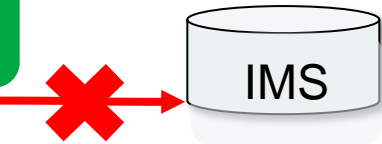
2. Drain initiated stopping new transactions to IMS system. Workload is routed to other IMS systems

ICON 2 Datastore for IMSA
ICON 3 Datastore for IMSA



3. When all activity has completed the IMS system can be brought down safely

ICON 2 Datastore for IMSA
ICON 3 Datastore for IMSA



- Drain in-flight work before IMS shut down.
- Coordinate manually using z/OS Explorer Plugin
- Use commands and batch automation.

4. When the IMS system is restarted, IMS Connect Extensions automatically resumes routing workload to it.

Try at HOL4

Security

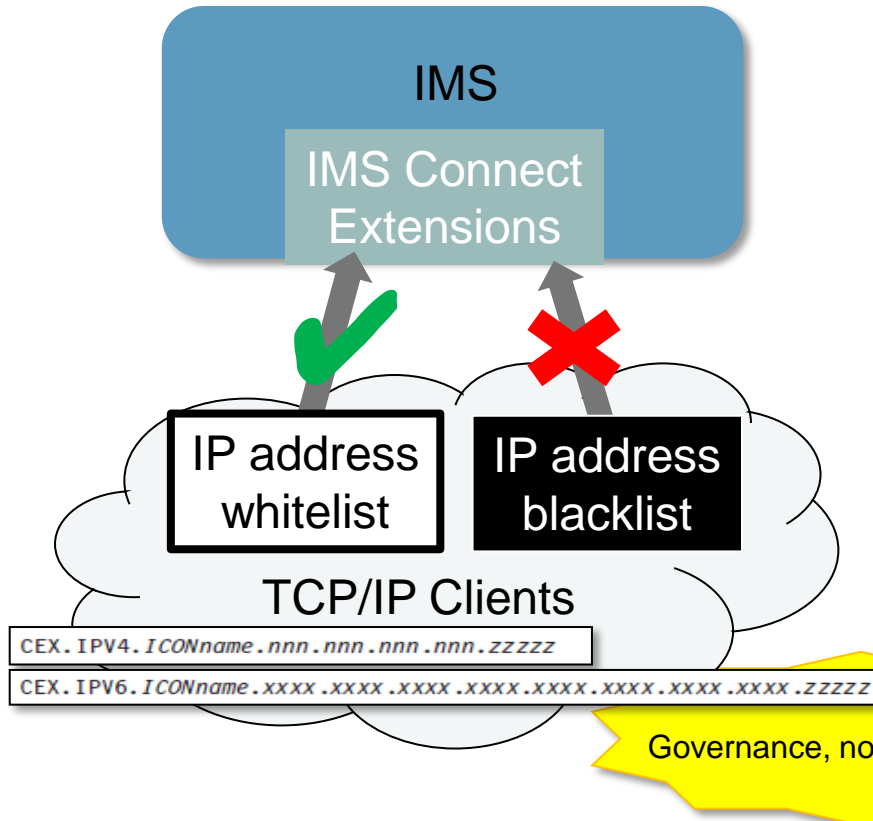
What does IMS Connect provide?

- Password, Passticket and Password Phrase verification
- ACEE caching
- Automatically monitors RACF Event Notification Facility (ENF) events for changes.

What additional security could you need?

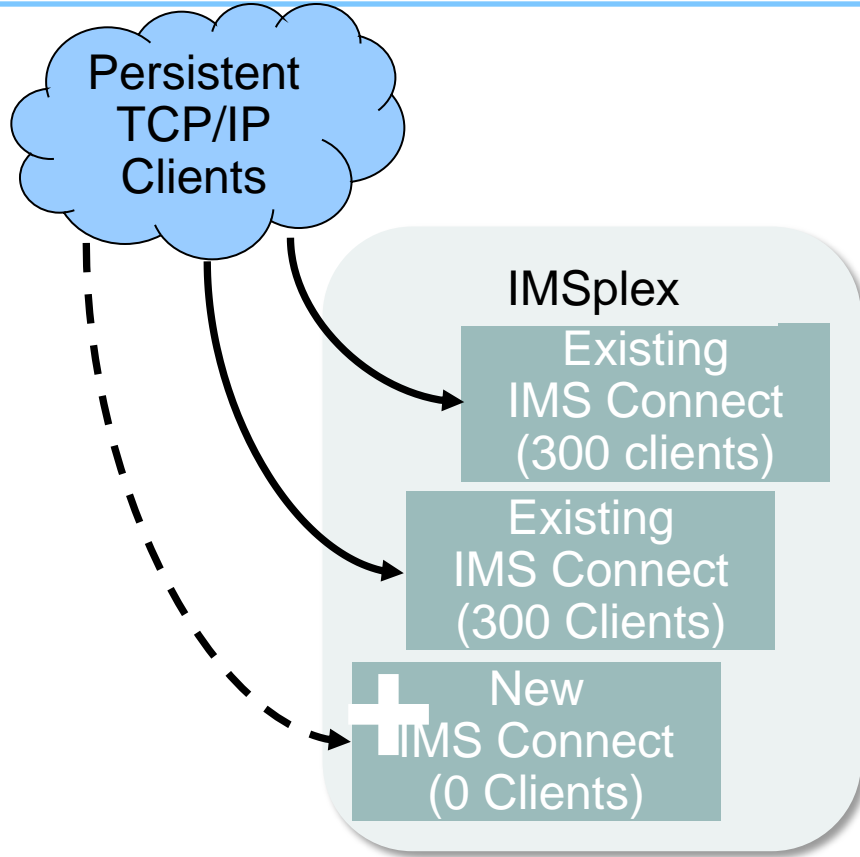
- Access control by system name, client IP address and port
- Consistent implementation for both traditional OTMA clients and Open Database clients

User Story: limit IP address access



- Manage access to IMS Connect systems based on the IMS Connect system a client is connecting through and the IP address they are connecting from.
- Security rules (RACF or other) can be used to produce *whitelists*
- Rules can be formed to produce *blacklists* that reject access from certain IP addresses or address ranges.
- Access can be restricted further based on the IMS Connect port being used by the client.

User Story: redistribute persistent sessions



When an IMS Connect system is restarted after maintenance, established persistent socket sessions on other IMS Connect systems remain in place. The newly started IMS Connect is underutilized and the sysplex workload appears out of balance.

You can also drain persistent sessions

Centralized management of client options

- Transaction options (expiration, IRM Timer values, client ID cancellation)
- Duration of persistent sessions
- Message translation between any code pages (such as EBCDIC <=> ASCII)
- Extended RSM feedback

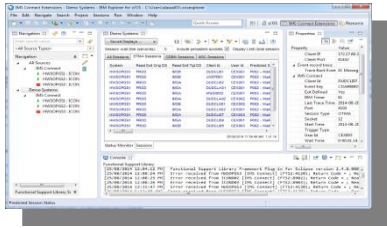
Fine tuning
options by
transaction

Removes
the need to
customize
exits

Restrict client
session life

Changes are
immediate

Key features: Centralized monitoring and control



Eclipse
or ISPF

```
File Option Help
-----
_ Stop IMS 1 link
_ View TOKYO sessions
_ Stop NY sessions

F1 - Help F2 - Scroll
```

And REXX
for
Automation

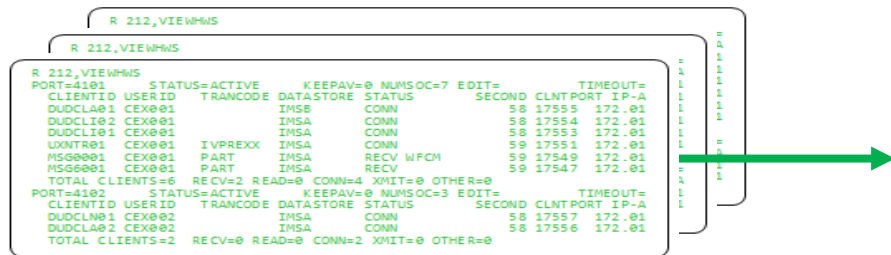
```
/* REXX */
address LINK "CEXRXENV INIT"
address CEX
"CONNECT HOST=FTSD," || ,
"PORT=13883,HWSID=HWS1,
"SWITCH TYPE=JOURNAL"
address LINK "CEXRXENV TERM"
```

Growing workloads mean more IMS Connect
instances

Beyond VIEWHWS

VIEWHWS

- Output in system-specific joblogs.
- Output is cluttered and fills spool.
- Difficult to filter, search, sort, summarize and export.
- Displays don't provide leads to command actions.



IMS Connect Extensions

- Consolidated output from multiple systems.
- Output is tabulated.
- Built-in filtering and sorting.
- Instant export to spreadsheet applications.
- Context actions:
perform commands directly against objects in table.

[illegible]

Move beyond /VIEWHWS with the Status Monitor

The screenshot shows the 'Status Monitor' window in IBM Explorer for z/OS. The window displays a table of resource instances with columns for Status, System, Name, TMember, Super Member, Connect Status, IMS Status, Routing Status, Waiting Reply, CWR, Input Count, and Ac. The table is filtered by 'All Source Types' and shows a list of resources under 'Demo Systems'. A context menu is open over the table, showing options like 'Route Drain', 'Route Drain with AUTORESUME', 'Route Resume', 'Start', 'Update Capacity Weight ...', 'Hide all-Zero Value Columns', 'Manage list layout', 'Reset List to Default Layout', 'Show all Columns', 'Summarize/Group ...', 'Properties', 'Manage/Define List Filters', 'Find the Value After Current Position', and 'Find the Value Before Current Position'.

Status	System	Name	TMember	Super Member	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR	Input Count	Ac
Active	HWSOPGS1	MSA	XCFMICDA	MEM1	Active	MemberFloodSevr	Unavailable	0	1	205	
Active	HWSOPGS1	MSB	XCFMICDA	MEM1	Active	GlobalFloodWarn	Degraded	0	1	0	
Active	HWSOPGS1	MSC	XCFMICDB	MEMA	Active	Normal	Normal	0	0	0	
Active	HWSOPGS1	MSD	XCFMICDB	MEMA	Active	Normal	Normal	0	30	0	
Discon	HWSOPGS1	TESTDS	XCFMIZZ	MEMA	Discon		AutoResume	0	1	0	
Active	HWSOPGS2	MSA	XCFMICDA	MEM2	Active	GlobalFloodWarn	Degraded	0	1	7	
Active	HWSOPGS2	MSB	XCFMICDA	MEM2	Active	GlobalFloodWarn	Degraded	0	1	0	
Active	HWSOPGS2	MSC	XCFMICDB		Active	Normal	Normal	0	0	0	
Active	HWSOPGS2	MSD	XCFMICDB		Active	Normal	Normal	0	30	0	

The Status Monitor view provides you with:

- Tabbed views of each resource type.
- Context actions against resource instances like drain, stop, and start.
- Sortable, searchable, and filterable sysplex view of resources.
- Summarise, save, and export the session list as a CSV file.
- Auto-update highlighting any criteria.
- Many more session attributes.

Move beyond /VIEWHWS with Sessions Display

IMS Connect Extensions - Demo Systems - IBM Explorer for z/OS - C:\Users\alawal01\zosexplorer

File Edit Navigate Search Project Sessions Run Window Help

Quick Access z/OS IMS Connect Extensions Resource

Navigation

Enter search value

<All Source Types>

Navigation

All Sources

IMS Connect

HWSOPGS1

HWSOPGS2

HWSOPGS3

Demo Systems

IMS Connect

HWSOPGS1

Demo Systems

Session wait time (seconds): 0 Include persistent sockets Dis

All Sessions OTMA Sessions ODBM Sessions MSC Sessions

System	Session Type	Port	Socket	Event Key
HWSOPGS1	OTMA	4101	5	CDCC1FE58B8982
HWSOPGS1	OTMA	4101	6	CDCC1FE58BA384
HWSOPGS1	OTMA	4101	8	CDCC1FE59BCDE1
HWSOPGS1	OTMA	4101	9	CDCC1FE5A16FF9
HWSOPGS1	OTMA	4102	9	CDCC1FE5A6F531
HWSOPGS1	OTMA	4102	10	CDCC1FE5AACE8F

Network Status

Stop Selected Sessions

Hide all-Zero Value Columns

Hide Blank Columns

Manage list layout

Reset List to Default Layout

Show all Columns

Summarize/Group ...

Properties

Properties view...

Property	Value
Client	
Client Family	IPv4
Client IP	172.17.69.32
Client Port	4484
Event record trace	
Trace Back Events	41 Message sent to OTMA3E Message E...
IMS Connect	
Client Id	DUDCL001
Event Key	CDCC1FE58BA38404
Exit Defined	Yes
IRM Timer	81
Last Trace Time	2014-09-23 09.44.34.557877
Port	4101
Session Type	OTMA
Socket	6
Start Time	2014-09-23 09.44.34.554424
Trigger Type	
User Id	CEX001
Wait Time	0-00.00.38.415112
Misc	
AltTxnCode	
AltTxnLength	
AltTxnOffset	

Status Monitor

Console

Functional Support Libr

Functional Support

The sessions view provides you with:

- Context actions to cancel sessions and get network status.
- Sortable, searchable, and filterable Sysplex view of sessions.
- Ability to summarize, save, and export the session list as a CSV file.
- Auto-update highlighting any criteria.
- Many more session attributes.

Restart the datastore

- Click to stop the datastore
- Perform maintenance
- Click to start the datastore

Route Drain
Route Drain with AUTORESUME
Route Resume
Stop
Update Capacity Weight ...

IMS Connects	Ports	Exits	Datastores	Datastore Groups	ODBM's	Aliases	MSCs	Remote Connects	
Status	System	Name	TMember	Super Member	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR
●	HWSOPGS1	IMSA	XCFMICDA	MEM1	Active	Normal	Normal	4	1
●	HWSOPGS1	IMSB	XCFMICDA	MEM1	Active	Normal	SusAutoRes	0	1
●	HWSOPGS1	IMSC	XCFMICDB	MEMA	Active	Normal	Normal	0	10
●	HWSOPGS1	IMSD	XCFMICDB	MEMA	Active	Normal	Normal	0	30

No sessions waiting – datastore drained

Route Drain
Route Drain with AUTORESUME
Route Resume
Start
Update Capacity Weight ...

IMS Connects	Ports	Exits	Datastores	Datastore Groups	ODBM's	Aliases	MSCs	Remote Connects	
Status	System	Name	TMember	Super Member	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR
●	HWSOPGS1	IMSA	XCFMICDA	MEM1	Active	Normal	Normal	4	1
■	HWSOPGS1	IMSB	XCFMICDA	MEM1	Inactive	Normal	AutoResume	0	1
●	HWSOPGS1	IMSC	XCFMICDB	MEMA	Active	Normal	Normal	0	10
●	HWSOPGS1	IMSD	XCFMICDB	MEMA	Active	Normal	Normal	0	30

IMS Connects	Ports	Exits	Datastores	Datastore Groups	ODBM's	Aliases	MSCs	Remote Connects	
Status	System	Name	TMember	Super Member	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR
●	HWSOPGS1	IMSA	XCFMICDA	MEM1	Active	Normal	Normal	4	1
●	HWSOPGS1	IMSB	XCFMICDA	MEM1	Active	Normal	Normal	0	10
●	HWSOPGS1	IMSC	XCFMICDB	MEMA	Active	Normal	Normal	0	10
●	HWSOPGS1	IMSD	XCFMICDB	MEMA	Active	Normal	Normal	0	30

Datastore Drain

- Recall: Take datastores offline without disrupting active sessions
- Mark the datastore as requiring a drain
- Status changed to suspended

The screenshot displays the 'Datastores' tab in the IBM IMS console. The table lists four datastores: IMSA, IMSB, IMSC, and IMSD, all belonging to system HWSOPGS1. The initial state shows all datastores with a 'Normal' IMS Status and 'Normal' Routing Status. A context menu is open for the first row (IMSA), with the 'Route Drain with AUTORESUME' option selected. A green arrow points from this menu option to the 'Routing Status' column of the first row in the second screenshot, which now shows 'SusAutoRes'. Another green arrow points from the 'Datastores' tab header in the first screenshot to the same tab in the second screenshot. In the second screenshot, the 'Waiting Reply' value for the first row has changed from 6 to 3, which is highlighted with an orange box.

IMS Connects	Ports	Exits	Datastores	Datastore Groups	ODBM's	Aliases	MSCs	Remote Connects		
Status	System	Name	TMember	Super Member	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR	
●	HWSOPGS1	IMSA	XCFMICDA	MEM1	Active	Normal	Normal	6	1	
●	HWSOPGS1	IMSB	XCFMICDA	MEM1	Active	Normal	Normal	4		
●	HWSOPGS1	IMSC	XCFMICDB	MEMA	Active	Normal	Normal	0	10	
●	HWSOPGS1	IMSD	XCFMICDB	MEMA	Active	Normal	Normal	0	30	

IMS Connects	Ports	Exits	Datastores	Datastore Groups	ODBM's	Aliases	MSCs	Remote Connects		
Status	System	Name	TMember	Super Member	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR	
●	HWSOPGS1	IMSA	XCFMICDA	MEM1	Active	Normal	SusAutoRes	3	1	
●	HWSOPGS1	IMSB	XCFMICDA	MEM1	Active	Normal	SusAutoRes	0	10	
●	HWSOPGS1	IMSC	XCFMICDB	MEMA	Active	Normal	Normal	0	10	
●	HWSOPGS1	IMSD	XCFMICDB	MEMA	Active	Normal	Normal	0	30	

Route Drain

Route Drain with AUTORESUME

Route Resume

Stop

Update Capacity Weight ...

Update Commands: IMS Connect

New in V2.4

The screenshot shows the IMS Connect interface with the 'Update' command highlighted in the context menu. A green arrow points from the 'Update' command to the configuration table. Another green arrow points from the table back to the 'Update' command, indicating a dynamic update process.

OTMA Routing Plan	ODBM Routing Plan	Event Coll. Level	Msg. Limit	Limit Threshold
PEAK		4	Active	50
PEAK	WEEKENDS	4	Inactive	0

Context Menu Options:

- Switch Journal
- ACEE Cache Statistics
- Clear ACEE Cache...
- Update**
- Start Conditional Trace...
- Stop Conditional Trace
- Start Recorder Trace
- Stop Recorder Trace

Configuration Table:

- Event Collection Level ...
- Session Message Limit ...
- ODBM Routing Plan ...
- OTMA Routing Plan ...

- Dynamically change
- OTMA/ODBM Routing Plans
 - Event Collection Level
 - Message Limits
 - Single or multiple systems

Update capacity weight

New in V2.4
Update CWR:
- GUI or Batch
- Zero CWR

IMS Connects Ports Exits **Datastores** Datastore Groups ODBMs Aliases MSCs Remote Connects

Status	System	Name	Member	TMember	XCF Group	Connect Status	IMS Status	Routing Status	Waiting Reply	CWR	S
●	HWSOPGS1	IMSA	DM1IMSA	XCFMICDA	XCFGDEVT	Active	Normal	Normal	2	1	M
●	HWSOPGS1	IMSB	DM1IMSB	XCFMICDA	XCFGDEVT	Active	Normal	Normal	8	1	M
●	HWSOPGS1	IMSC	DM1IMSC	XCFMICDB	XCFGDEVT	Active	Normal	Normal	0	0	M
●	HWSOPGS1	IMSD	DM1IMSD	XCFMICDB	XCFGDEVT	Active	Normal	Normal	0	30	M
■	HWSOPGS1	IMSE	DM1IMSE	XCFMICDB	XCFGDEVT	Discon	Normal	AutoResume	0	1	M
●	HWSOPGS1	IMSF	DM1IMSF	XCFMICDB	XCFGDEVT	Active	Normal	Normal	4	1	M
●	HWSOPGS1	IMSG	DM1IMSG	XCFMICDB	XCFGDEVT	Active	Normal	Normal	2	1	M
●	HWSOPGS1	IMSH	DM1IMSH	XCFMICDB	XCFGDEVT	Active	Normal	Normal	2	10	M
●	HWSOPGS1	IMSI	DM1IMSI	XCFMICDB	XCFGDEVT	Active	Normal	Normal	1	30	M

Route Drain
Route Drain with AUTORESUME
Route Resume
Stop
Update Capacity Weight ...

Capacity Weight Rating

Update Selected Datastores

Capacity Weight Rating: 25

Acceptable field values are numbers in the range 1 - 100 and 0.

Note: A value of zero has a special meaning. It indicates that the datastore is a candidate for routing.

< Back Next > Finish Cancel

Capacity Weight Rating

Confirm Changes

Name	System	Old Value	New Value
IMSC	HWSOPGS1	0	25
IMSD	HWSOPGS1	30	25

< Back Next > Finish Cancel

Use case: But now I want to automate it...

Master your operations with automation

The CEX host command environment for REXX enables IMS Connect Extensions commands to be embedded in REXX programs, which allows more flexible automation of IMS Connect operations.

- Programs can connect to multiple IMS Connects.
- Use REXX features such as variables and conditional logic.
- Integrate with other host command environments (MVS, CONSOLE, TSO).
- Submit programs interactively as well as in batch.

Use the
flexibility
of REXX

Single
REXX to control
multiple
systems

Integrate
with other host
command
environments

Automate
routine
operational
activities

working REXX
samples

User story: Management reporting

- Why now?
 - Nature of the workload
- Historical summary
- Why focus on IMS Connect (as opposed to IMS or further upstream)?
 - All web facing activity
- Long term trends more important

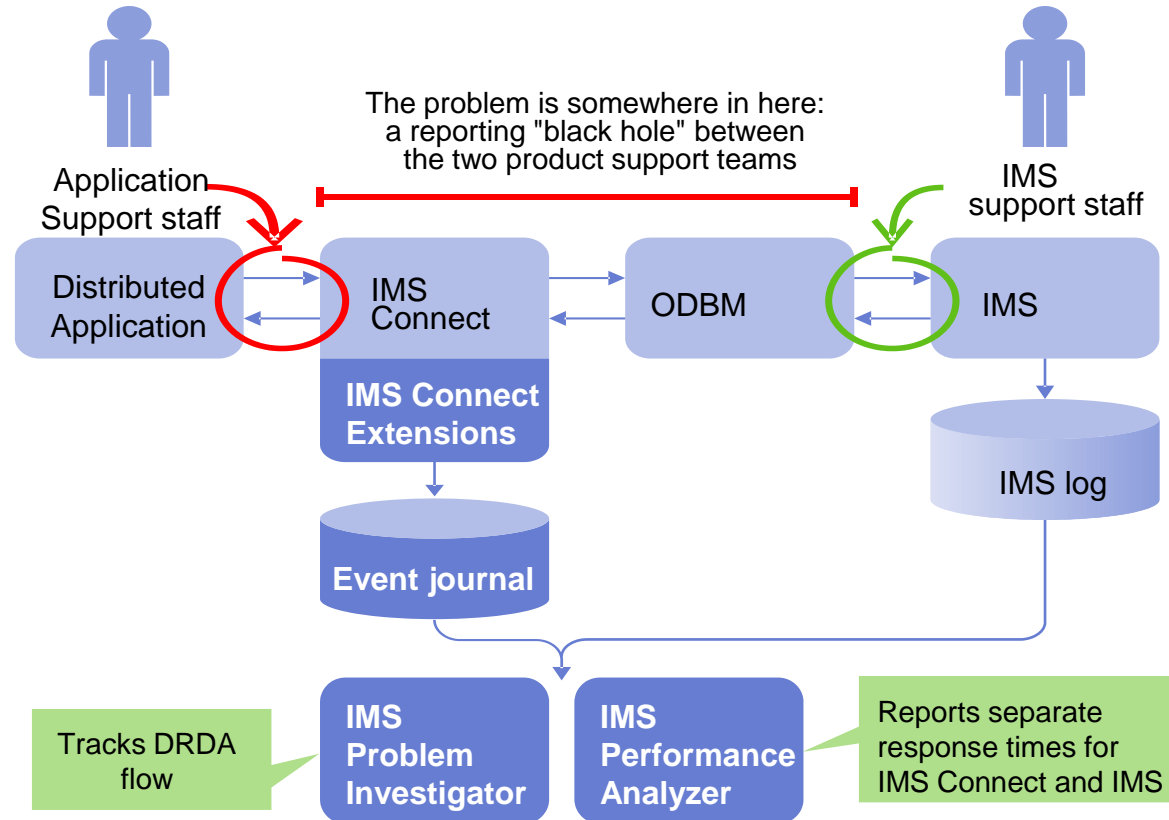
User story: unmasking abstractions

- How do I quickly understand where a problem lies in complex multi-tiered environment?

Response times over 2 seconds!

"Application waits 2 seconds for a response from IMS. Contact IMS support."

"IMS responds in a millisecond."



IMS Connect receives Open Database requests via TCP/IP

IMS Connect calls security and routing exits

IMS Connect forwards requests to ODBM

IMS Processes Open Database request

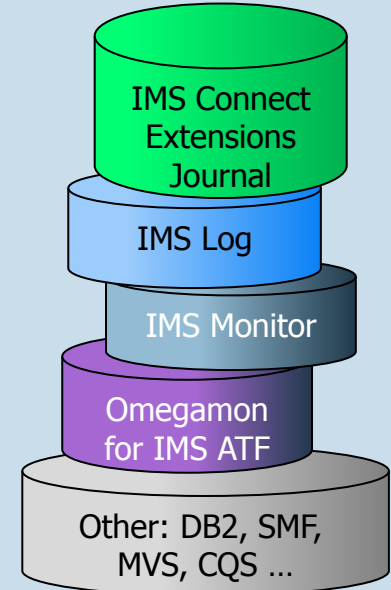
Response returns to client via ODBM & IMS Connect

IMS Connect receives next request from client

DRDA conversation continues until PSB deallocated and socket closes

```
BROWSE CEX000.QADATA.DEMO.LOG.ICON Record 0000598 More: < >
Command ===> Scroll ==> CSR
Navigate < 00.00.01.000000 > Date/Time 2010-03-31 12.51.02.387397
/ ----- Wednesday 2010-03-31 Time (Relative)
003C Prepare READ Socket 13.16.53.026908
0049 READ Socket +0.000118
005B DRDA 1041 EXCSAT-Exchange Server Attributes +0.000125
0049 READ Socket +0.000151
005B DRDA 106D ACCSEC-Access Security +0.000182
005C DRDA 1443 EXCSATRD-Server Attributes Reply Data +0.000204
004A WRITE Socket +0.000310
0049 READ Socket +0.854012
005B DRDA 106E SECCHK-Security Check +0.854020
0063 ODBM Security Exit called +0.854053
0064 ODBM Security Exit returned +0.854126
005C DRDA 1219 SECCHKRM-Security Check Reply Message +0.854142
004A WRITE Socket +0.854230
0049 READ Socket +1.022542
005B DRDA 2001 ACCRDB-Access RDB +1.022551
005D ODBM begin Allocate PSB (APSB) Program=AUTPSB11 +1.022572
0061 ODBM Routing Exit called +1.022582
0062 ODBM Routing Exit returned +1.022740
00AA ODBM Trace: Message sent to ODBM +1.022880
0069 Message sent to ODBM +1.022887
06 BMP Scheduling start TranCode=ODBA02CD Region=0004 +1.024870
4E02 BMP Scheduling start Region=0004 +1.024873
08 Application Start Program=AUTPSB11 Region=0004 +1.025814
5607 Start of UOR Program=AUTPSB11 Region=0004 +1.025815
5616 Start of protected UOW Region=0004 +1.026013
4E03 BMP Scheduling end TranCode=ODBA02CD Region=0004 +1.026018
00AA ODBM Trace: Message received from ODBM +1.028028
006A Message received from ODBM +1.028043
005E ODBM end Allocate PSB (APSB) Program=AUTPSB11 +1.029573
005C DRDA 2201 ACCRDBRM-Access RDB Reply Message +1.029600
004A WRITE Socket +1.029600
0048 Trigger Event for ODBMMSG +1.029600
003C Prepare READ Socket +1.029600
0049 READ Socket +1.029600
005B DRDA 200C OPNQRY-Open Query +1.029600
0049 READ Socket +1.029600
005B DRDA CC05 DLIFUNC-DL/I function +1.029600
0049 READ Socket +1.029600
005B DRDA CC01 INAIB-AIB data +1.051689
0049 READ Socket +1.051712
005B DRDA CC04 RTRVFLD-Field client wants to retrieve data +1.051742
0049 READ Socket +1.051787
005B DRDA CC06 SSALIST-List of segment search argument +1.051795
00AA ODBM Trace: Message sent to ODBM +1.052210
0069 Message sent to ODBM +1.052221
01 DLI GHU Database=AUTOLDB SC=' ' Elapse=0.000364 +1.052811
4E60 DLI Call start Region=0004 +1.052816
4E62 DLA00 start Database=AUTOLDB Region=0004 Func=GU +1.052873
4E63 DLA00 end Region=0004 Seg=DEALER SC=' ' +1.053029
4E61 DLI Call end Region=0004 +1.053165
00AA ODBM Trace: Message received from ODBM +1.053760
006A Message received from ODBM +1.053771
```

Sudden jumps in elapsed or relative times may indicate problems



DRDA requests and responses

VIEW
Command ==> _____ Filter

Filter DRDAEVENTS +
Description DRDA Requests and responses

/ Log Code + Exc Description
- CON 005B ODBM DRDA command issued
- CON 005C ODBM DRDA command reply
- CON 00AA ODBM Send/Receive Trace

DDM (**distributed data management**) commands.
'Code points' show flow of
DRDA requests and responses

These code points include:

- DRDA V5 Code points as defined by the Open Group
- IMS-specific code points

Code	Description	Date 2015-04-30 Thursday	Time (LOCAL)
005B DRDA 1041	EXCSAT-Exchange Server Attributes		09.23.59.653612
005B DRDA 106D	ACCSEC-Access Security		09.23.59.653639
005C DRDA 1443	EXCSATRD-Server Attributes Reply Data		09.23.59.653656
005C DRDA 14AC	ACCSECRD-Access Security Reply Data		09.23.59.653663
005B DRDA 106E	SECCHK-Security Check		09.23.59.690552
005C DRDA 1219	SECCHKRM-Security Check Reply Message		09.23.59.691545
005B DRDA 1055	SYNCCCTL-Sync Point Control Request		09.23.59.717168
005C DRDA 1248	SYNCCRD-Sync Point Control Reply		09.23.59.717859
005B DRDA 2001	ACCRDB-Access RDB		09.23.59.887593
005C DRDA 2201	ACCRDBRM-Access RDB Reply Message		09.23.59.995587
005B DRDA 200C	OPNQRY-Open Query		09.24.00.223312
005B DRDA CC05	DLIFUNC-DL/I function		09.24.00.223344
005B DRDA CC01	INAIB-AIB data		09.24.00.223384
005B DRDA CC04	RTRVFLD-Field client wants to retrieve data		09.24.00.223414
005B DRDA CC06	SSALIST-List of segment search argument		09.24.00.223432
005C DRDA 2205	OPNQRYRM-Open Query Complete		09.24.00.230294
005B DRDA 2006	CNTQRY-Continue Query		09.24.00.287237
005C DRDA 241B	QRYDTA-Query Answer Set Data		09.24.00.287945
005B DRDA 2006	CNTQRY-Continue Query		09.24.00.401372
005C DRDA 241B	QRYDTA-Query Answer Set Data		09.24.00.401996
005B DRDA 2006	CNTQRY-Continue Query		09.24.00.426842
005C DRDA 220B	ENDQRYRM-End of Query		09.24.00.427392
005B DRDA C802	RLS-Release database locks		09.24.00.441456
005C DRDA CA03	RLSERM-RLSE command has completed normally		09.24.00.441885
005B DRDA 1055	SYNCCCTL-Sync Point Control Request		09.24.00.498253
005C DRDA 1248	SYNCCRD-Sync Point Control Reply		09.24.00.498751
005B DRDA 1055	SYNCCCTL-Sync Point Control Request		09.24.00.531258
005C DRDA 1248	SYNCCRD-Sync Point Control Reply		09.24.00.541405
005B DRDA C801	DEALLOCDB-Deallocate PSB		09.24.00.567558
005C DRDA CA01	DEALLOCDBRM-Name of deallocated PSB		09.24.00.568680


```

ROWSE      IDDA.SLDSP.IMSLOG.G0026V00 +      Record 00000080 More: < >
Command ===> _____ Scroll ===> CSR
/  _____ Navigate < 00.00.01.000000 >      Date/Time 2016-02-16 09.44.02.176316
   Tracking _____      Tuesday 2016-02-16 Time (Relative)
0049 READ Socket      09.48.19.182300
00A4 Event Collection IRM Trace      +0.000022
003D Message Exit called for READ      +0.000028
00A3 Event Collection OTMA Trace      +0.000071
003E Message Exit returned from READ TranCode=IVTNO      +0.000078
00A3 Event Collection OTMA Trace      +0.000180
0041 Message sent to OTMA Type=Transaction      +0.000192
01   Input Message TranCode=IVTNO Source=Connect      +0.000528
35   Input Message Enqueue TranCode=IVTNO      +0.000644
31   DLI GU TranCode=IVTNO Region=0002      +0.000712
...
5050 Database ISRT Database=IVPDB1I Region=0002      +0.002012
...
5610 Syncpoint Start of Phase 1 Region=0002      +0.002219
00A3 Event Collection OTMA Trace      +0.002321
0042 Message received from OTMA Type=Data      +0.002328
00A3 Event Collection OTMA Trace      +0.004396
0042 Message received from OTMA Type=Commit confirm      +0.004405
00A3 Event Collection OTMA Trace      +0.004449
003D Message Exit called for XMIT      +0.004456

```

z/OS Connect

Conclusions

- Starting with IMS Connect is easy but it can be a poisoned chalice
 - Can be a victim of its own success
- Have a plan for how you will grow your workloads
- Understand that growth is not just more workload but more variety of workload
- Understand what changes impact clients that you cannot control
- Understand the big picture

Thank You



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