



Welcome to the Virtual IMS user group newsletter. The Virtual IMS user group at www.fundi.com/virtualims is an independently-operated vendor-neutral site run by and for the IMS user community.

Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "Enterprise Application Modernization with the IMS ICAL", and was presented by Suzie Wendler, a Consulting IT Specialist in the IBM IMS zGrowth Team.

Over the past several years, Suzie's major responsibilities have included areas such as customer support, critical situation analyses, IMS Integration, and Connectivity projects. She has been involved in several onsite consulting projects including implementations of connectivity designs and Proofs of Technology. Additionally, she has presented at several User Groups, including Share and the IMS regional user groups; has been involved

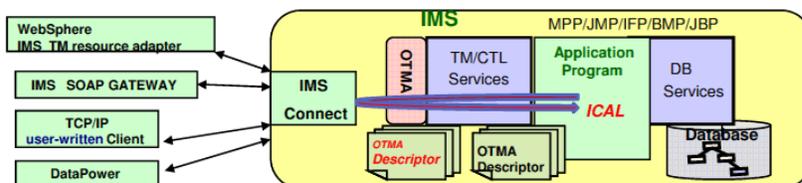


Figure 1: Original ICAL

in IBM-sponsored activities such as technical seminars and roadshows; and has provided both technical and teaching support for IMS hands-on workshops.

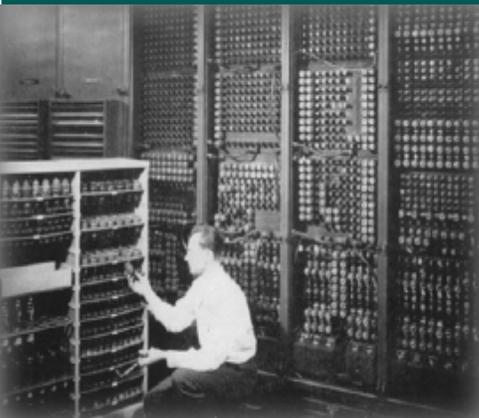
Suzie started her presentation by explaining that ICAL is a DL/I call that enables an IMS application program to send a callout request to an external, non-IMS application program for data or service, and synchronously receive the response back during the same unit of work. This external program or service can run in a z/OS or

distributed environment.

Figure 1 shows how ICAL originally provided support for the IMS synchronous callout capabilities. With IMS 13, ICAL now provides synchronous program-to-program switching.

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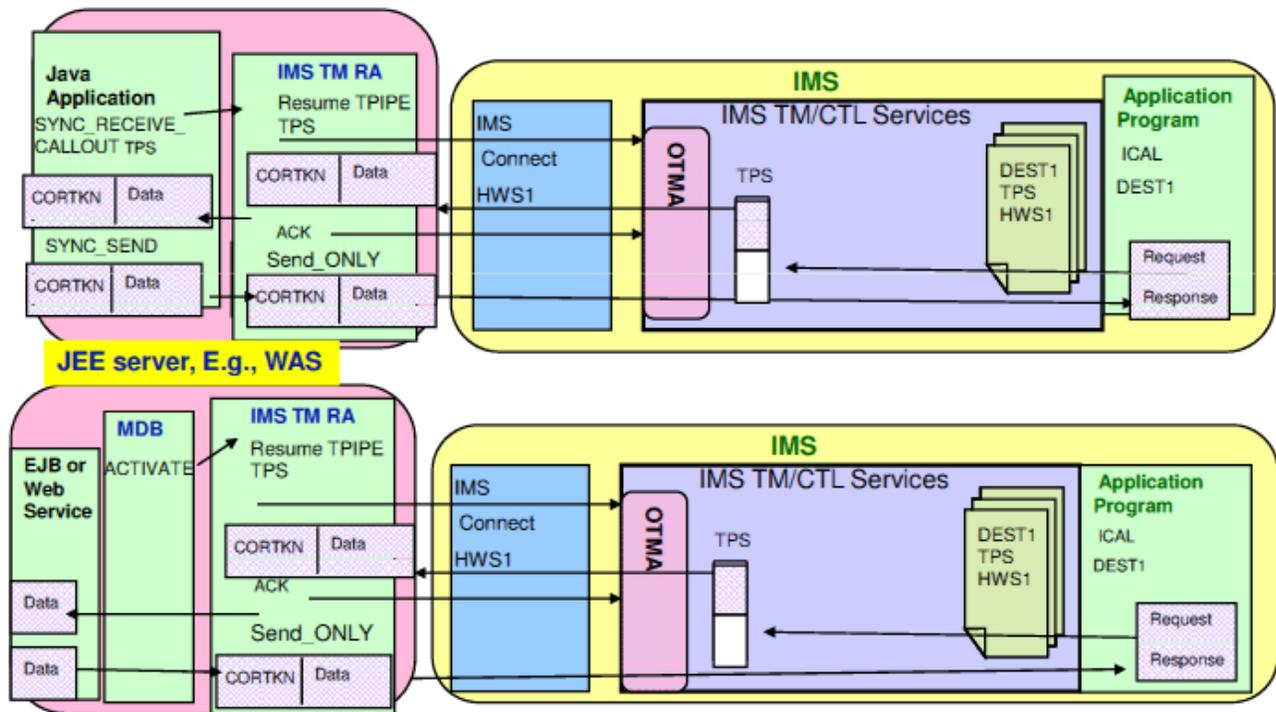


Figure 2: IMS TM Resource Adapter (JEE environments)

You can modernize the IMS application infrastructure by the implementation of a process server or broker function inside IMS. This reduces unnecessary network traffic when accessing multiple applications in the same IMS or IMSplex. It also provides an internal service flow of IMS transactions to complete a business process (in the same IMS or a different IMS).

IMS applications function as clients to remote Web services. The IMS DL/I call 'ICAL' sends messages through IMS Connect to: EJB/MDB on a JEE server, eg WebSphere Application Service; Soap clients through

IMS ES Soap Gateway; and RYO clients. The callout message format indicates whether it's asynchronous or synchronous to the partner client program.

In terms of clients, Figure 2 illustrates the IMS TM Resource Adapter (JEE environments). And Figure 3 illustrates DataPower (Firmware 6.0).

When programming, it's important to think about error conditions. The IMS ICAL is informed of error conditions using AIB return/reason codes.

In IMS 13, there's a new "RECEIVE" subfunction code with an expanded

response area that retrieves the response message after an ICAL "SENDRECV" is issued with an inadequate response area specification and gets partial data (AIB RC X'100', AIB RS X'00C'). IMS 13 keeps a copy of the entire response message in the control region private storage until a subsequent ICAL "SENDRECV", syncpoint, or application termination. The benefit of this is that it provides the ability to complete the retrieval of a reply message without having to re-issue a complete ICAL "SENDRECV" and associated network transmission costs.

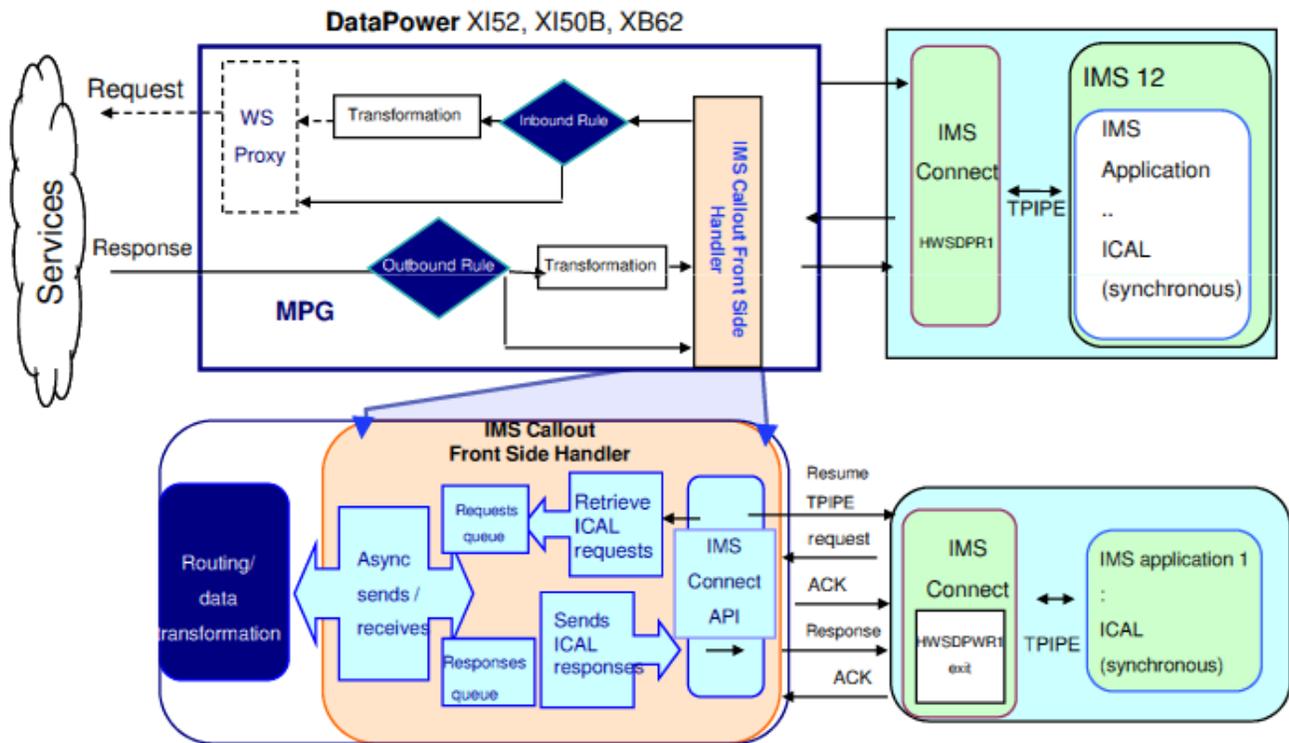


Figure 3: DataPower

A new capability that enhances the DL/I ICAL support allows an IMS application program to synchronously call and wait for a reply from another IMS application program within the calling program's UOW. This is regardless of where the called application resides (in the same IMS/in a different IMS/in a Shared Queues back-end/across an MSC link).

Synchronous Program Switch Highlights include:

- Automatic invocation of OTMA without requiring OTMA to be defined or commands to be issued. Plus there's a new OTMA

destination descriptor TYPE – IMSTRAN.

- Enhancements to the DL/I ICAL allow an IMS transaction to be the target destination; accepts multi-segment requests/responses; and provides additional AIB return and reason codes
- Support for Late Reply messages that can be purged or rerouted
- Security authorization ensures the userid of the program issuing the ICAL can access the target transaction.

Suzie told the group that

there is no ICAL support for BMP or JBP applications running in DBCTL environments, ICAL is part of the IMS TM capability. The IMS application program issuing the ICAL for a synchronous program switch can be a protected transaction, but the target transaction of the ICAL is not part of the RRS commit scope. The switched-to program (target of the ICAL) has read-only access to the main storage data base (MSDB), cannot be an IMS Conversational transaction, and does not invoke IMS Message Format Service (MFS).

When it comes to OTMA Support, non-XCF-related OTMA services are used. The internal invocation of OTMA services to process the target transaction request occurs without specifying OTMA=Y in the DFSPBxxx member of IMS PROCLIB and without issuing a /START OTMA command. There's no need to start the XCF connection with any OTMA client for the synchronous program switch.

The target transaction is processed as an OTMA transaction. If authorization is required, IMS checks to see whether the user can access the target. It uses the OTMA send-then-commit (CM1) protocol with SyncLevel=CONFIRM. The target transaction of the ICAL is processed as an OTMA transaction. IMS creates an internal OTMA member DFSYICAL and internal TPIPE, DFSTPIPE, to process the transaction and generates internal ACK/NAK for the CONFIRM request.

The IBM Operational Decision Manager (ODM) can be used with IMS (see Figure 5). It supports rules management for IMS COBOL Message Processing Programs (MPPs), Batch Message processing Programs (BMPs), and DLIBATCH programs

The runtimes can be:

- Stand-alone on z/OS
- Within a WebSphere Application Server environment and accessed via WebSphere z/OS Optimized Local Adapters (WOLA).

Suzie concluded by saying that the synchronous program switch capability expands the IMS environment to suit your evolving needs by providing the ability to call other IMS transactions in the calling program's UOW to integrate multiple transactions into a composite transaction across a single or multiple IMS systems (see Figure 4). And

it can even integrate the two ICAL capabilities of calling to a Web service and calling to another IMS program.

A copy of Suzie's presentation is available for download from the Virtual IMS user group Web site at www.fundi.com/virtualims/presentations/IMSICALApr15.pdf.

You can see and hear the whole user group meeting by downloading the WMV file from www.fundi.com/virtualims/presentations/2015-04-14meeting.wmv.

Meeting dates

- On 9 June 2015, we have Fundi Software's Jim Martin. He will be discussing "Automation for IMS Connect".
- On 4 August 2015, we have SQData's Scott Quillicy speaking

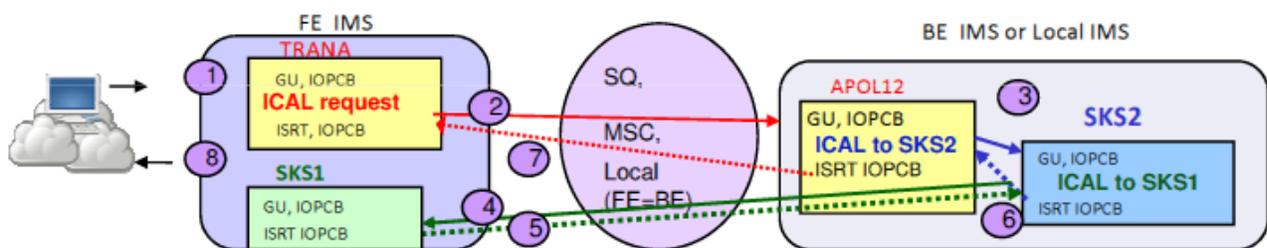


Figure 4: Calling other IMS transactions

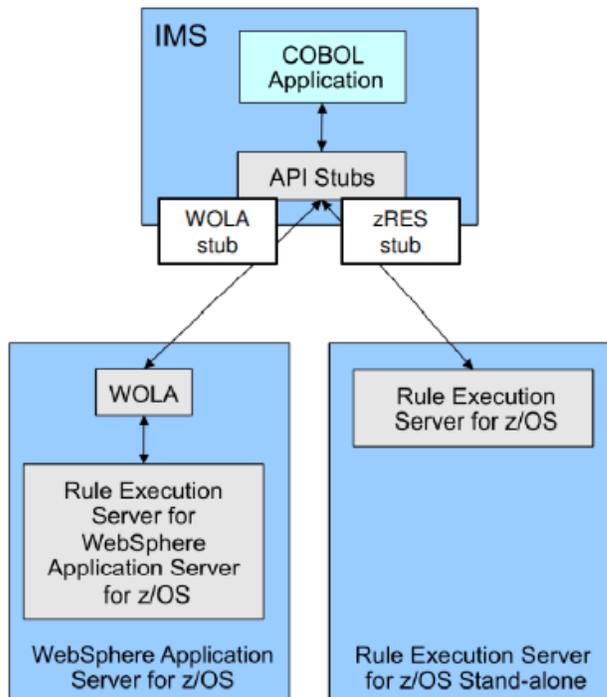


Figure 5: ODM

IMS news

SQData has announced SQData's replication feature for IBM's DB2 Analytics Accelerator (IDAA), which is designed for users of advanced data analytics where access to current, real-time information is a critical requirement. With SQData's IDAA replication, companies now have the ability to leverage the

power of the DB2 Analytics Accelerator with real-time data from a variety of operational sources. Key features include near-real-time replication directly into IDAA from IMS, DB2, VSAM, and non-z/OS databases. More information can be found at <http://wp.sqdata.com/News/SQData%20Announcement%20-%20IDAA%20Replication%20Feature.pdf>.



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About the Virtual IMS user group

The Virtual IMS user group was established as a way for individuals using IBM's IMS hierarchical database and transaction processing systems to exchange information, learn new techniques, and advance their skills with the product

The Web site at www.fundi.com/virtualims provides a central point for coordinating periodic meetings (which contain technically-oriented topics presented in a webinar format), and provides articles, discussions, links, and other resources of interest to IBM IMS practitioners. Anyone with an interest in IMS is welcome to join the Virtual IMS user group and share in the knowledge exchange.

To share ideas, and for further information, contact trevor@itech-ed.com.

The Virtual IMS user group is free to its members.