

# IMS...REST it, Share it, Mash it, Just Use It



Dusty Rivers  
Principal Technical Architect  
**GT Software**



Session #11232  
August 7th, 2012



# GOT IMS?

**GOT IMS?**



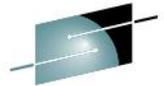
**NEED TO MODERNIZE!**

# GOT IMS?



# NEED TO MODERNIZE!

- Modernizing
- Doing Nothing
- Moving off the Mainframe

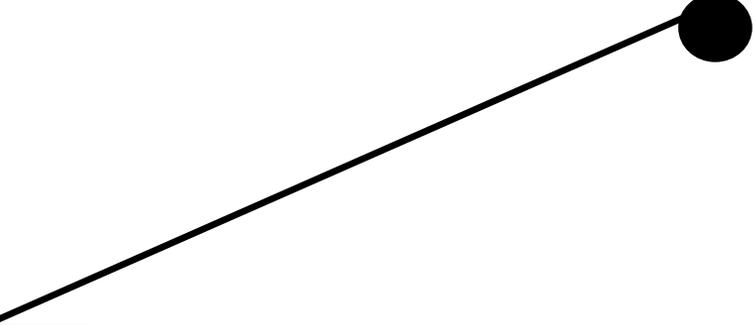


**SHARE**  
Technology • Connections • Results

# GOT IMS?

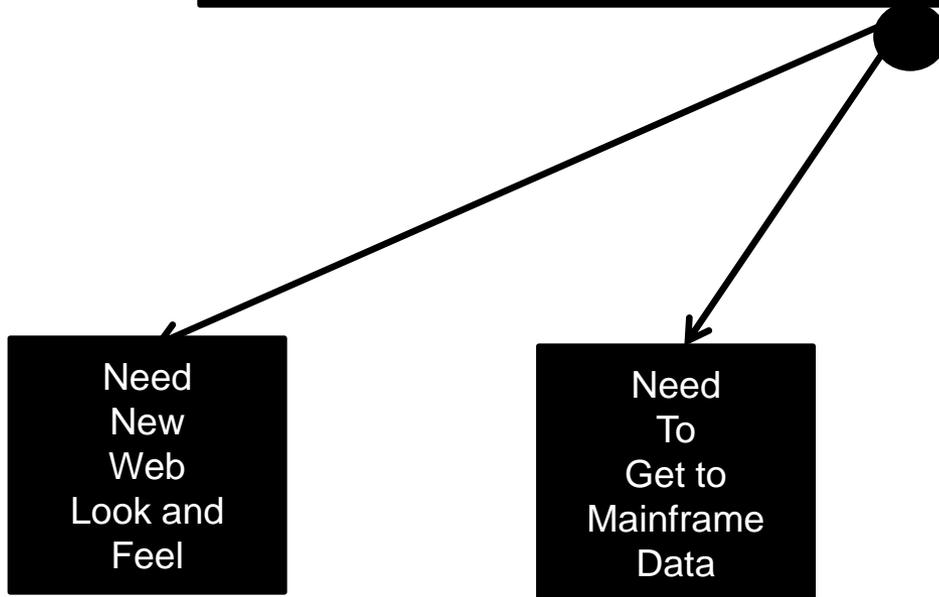


# GOT IMS?

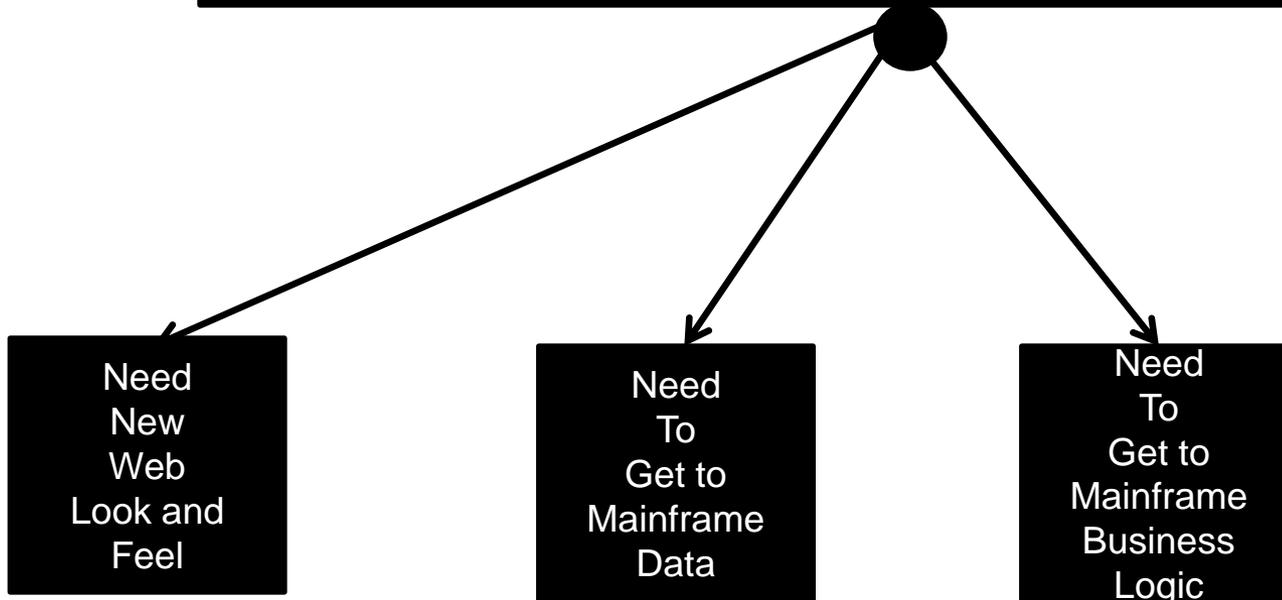


Need  
New  
Web  
Look and  
Feel

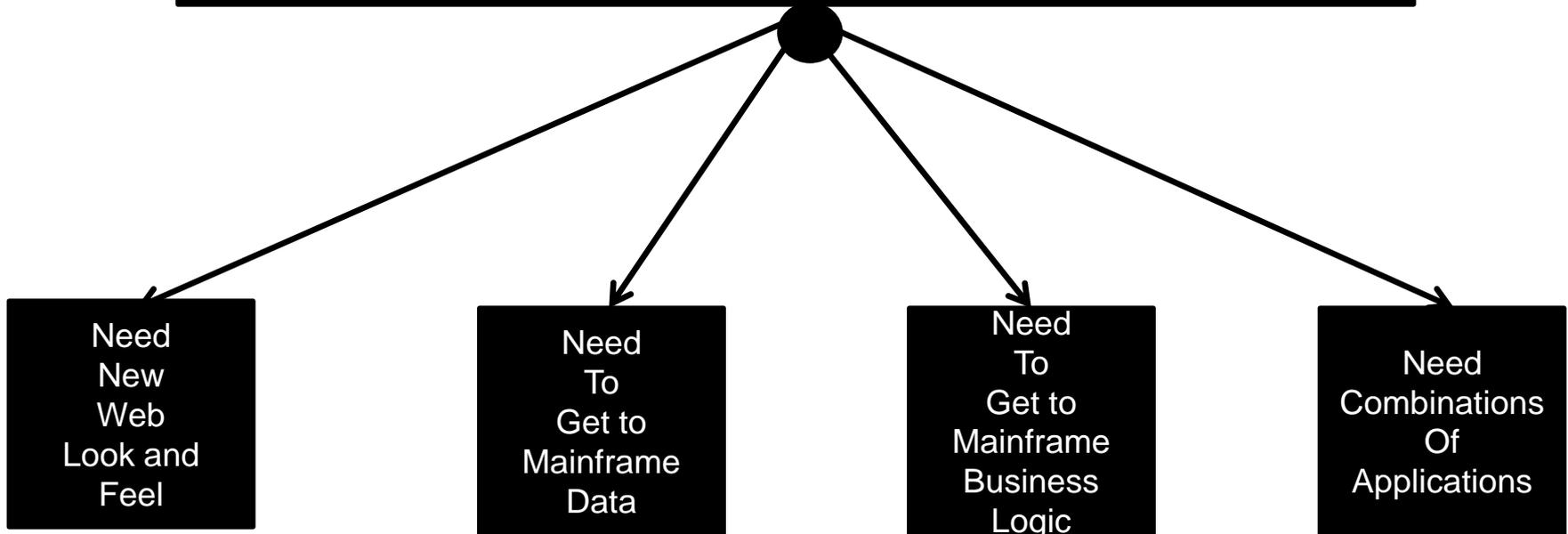
# GOT IMS?



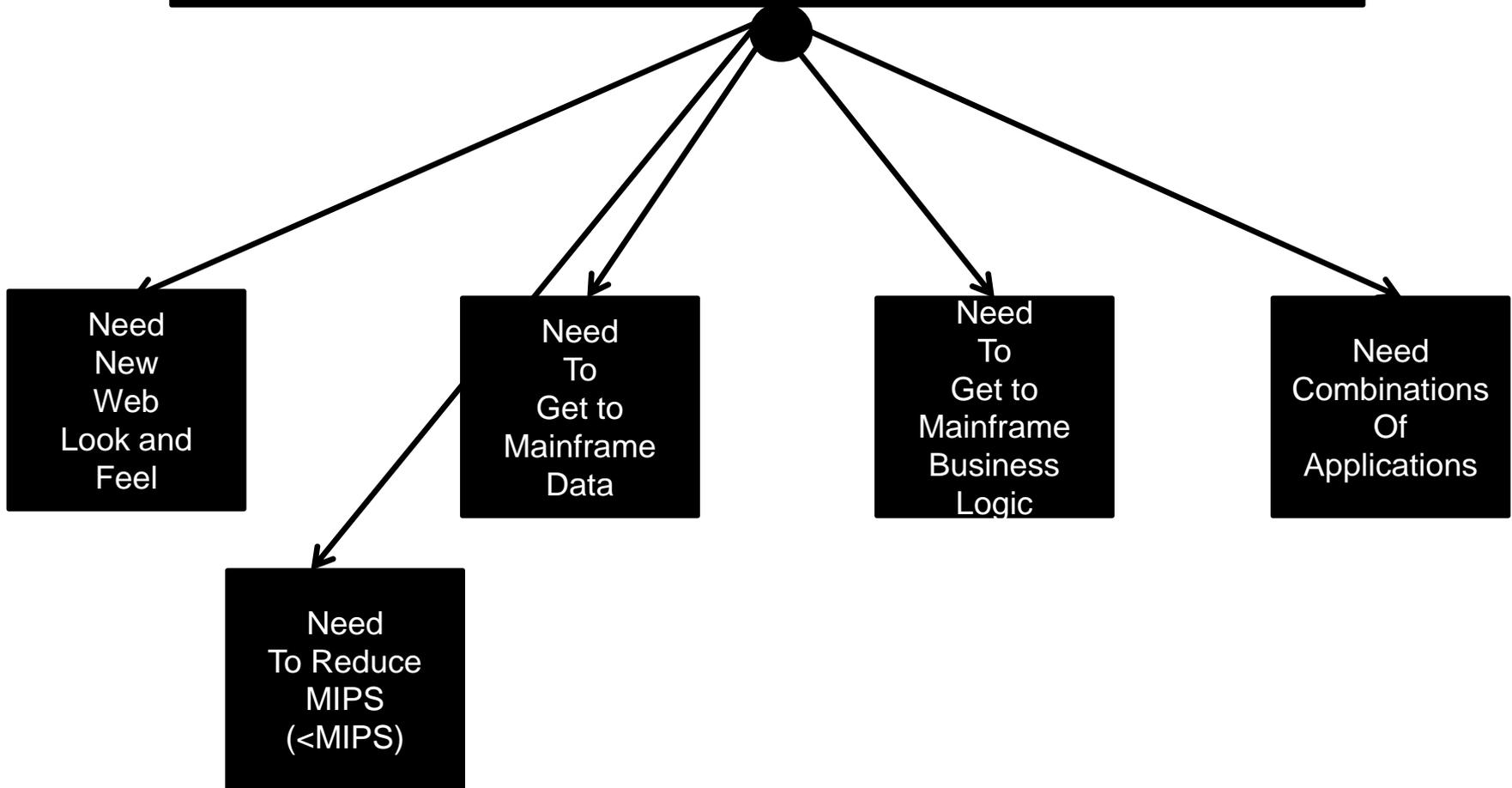
# GOT IMS?



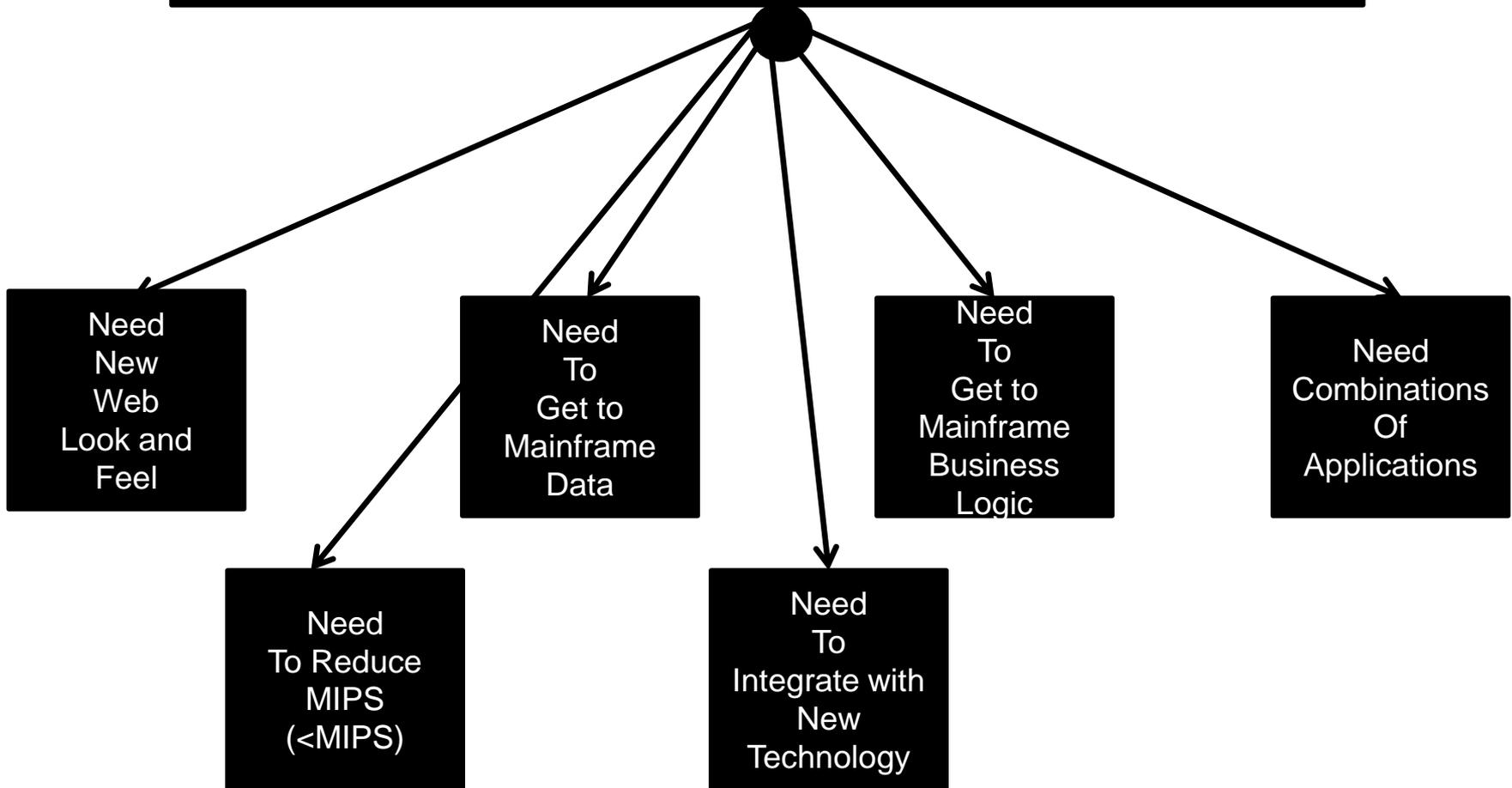
# GOT IMS?

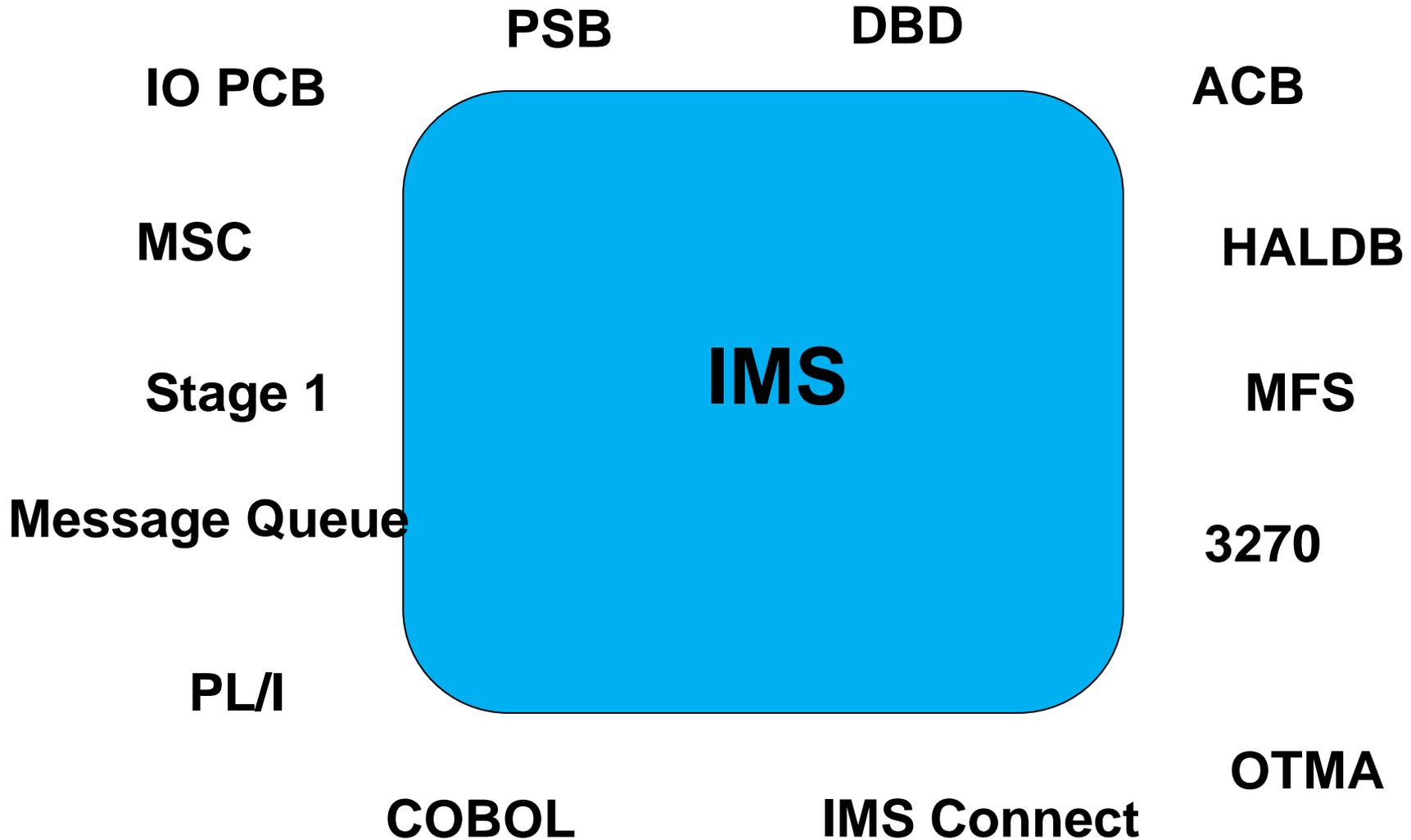


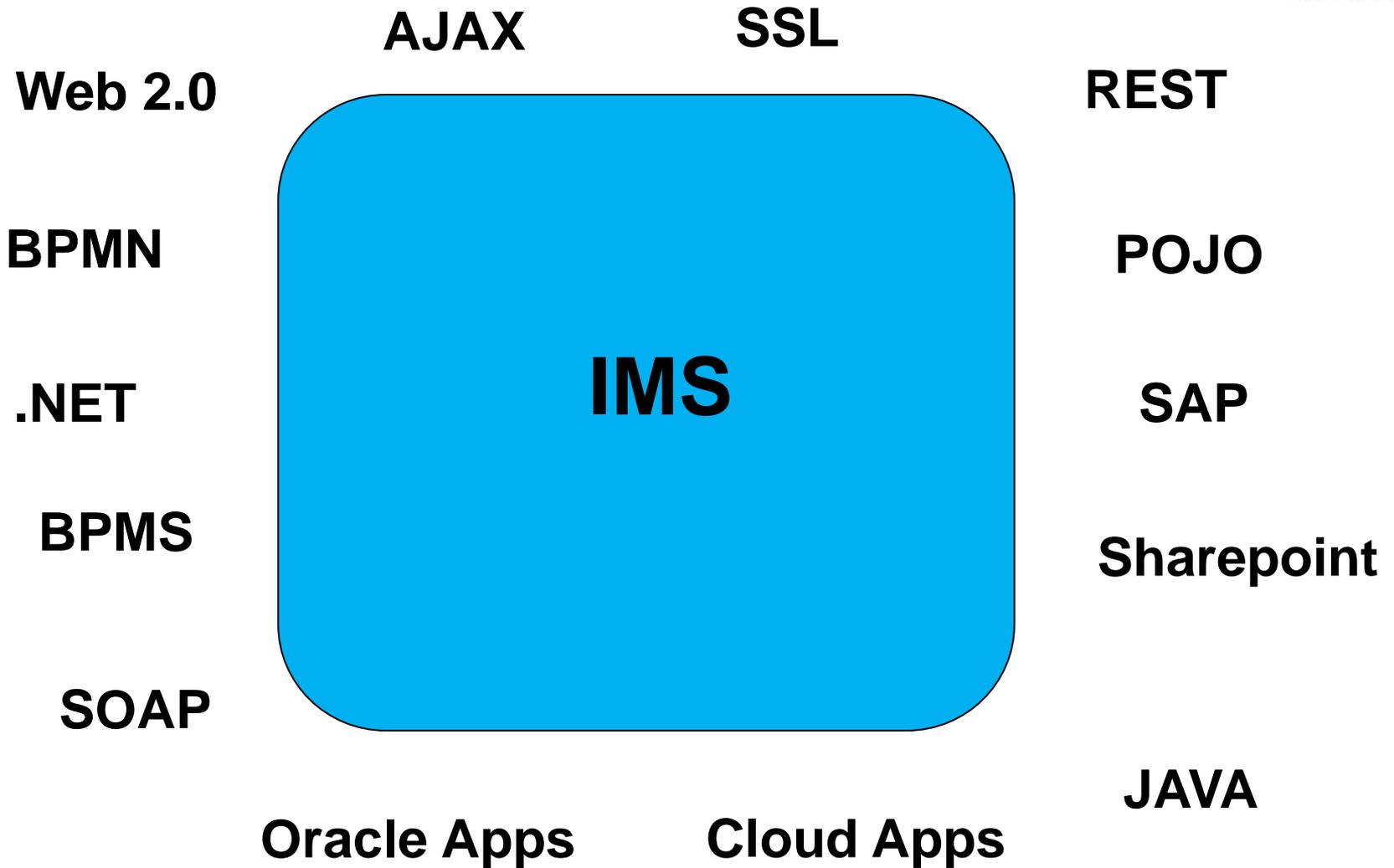
# GOT IMS?

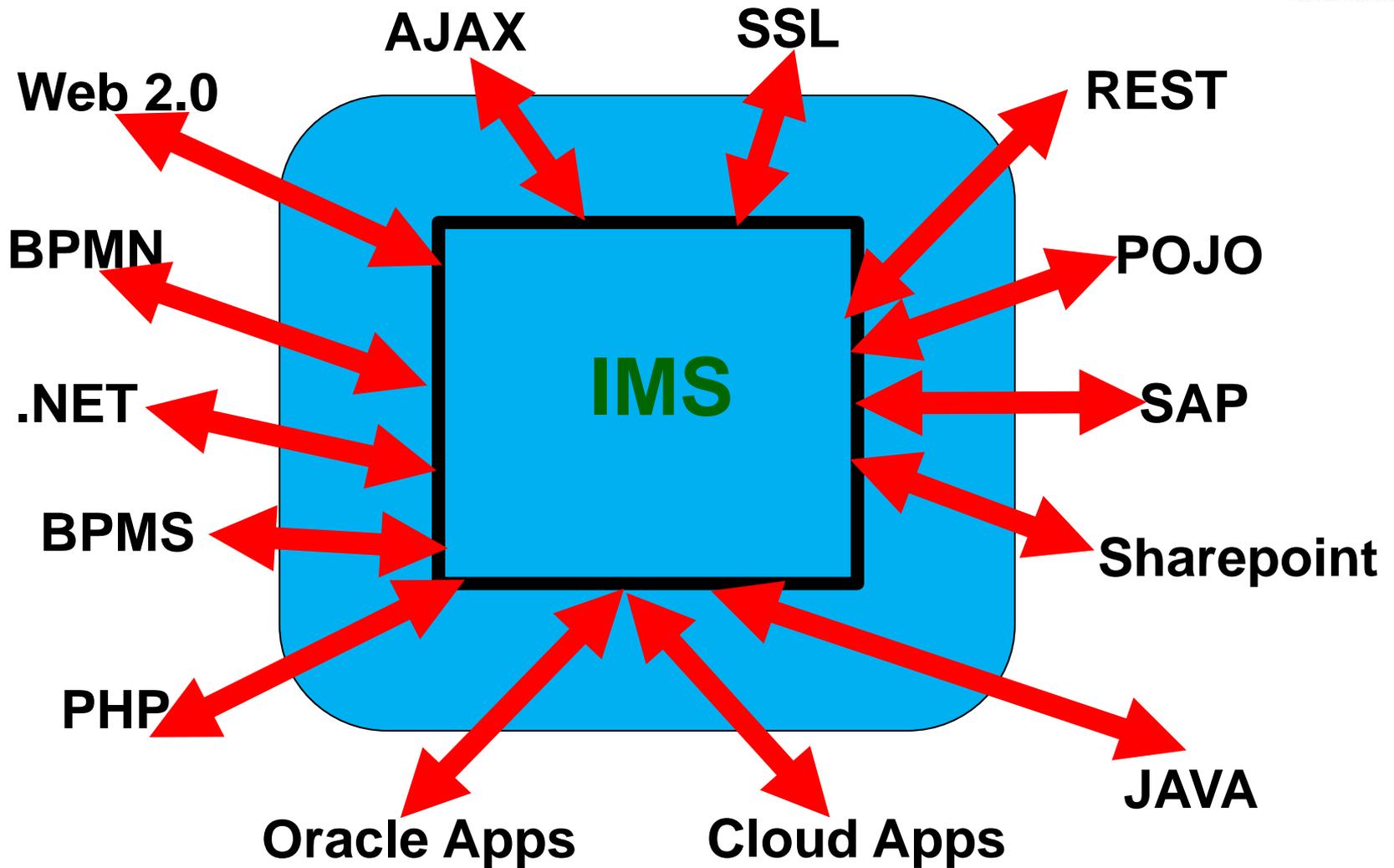


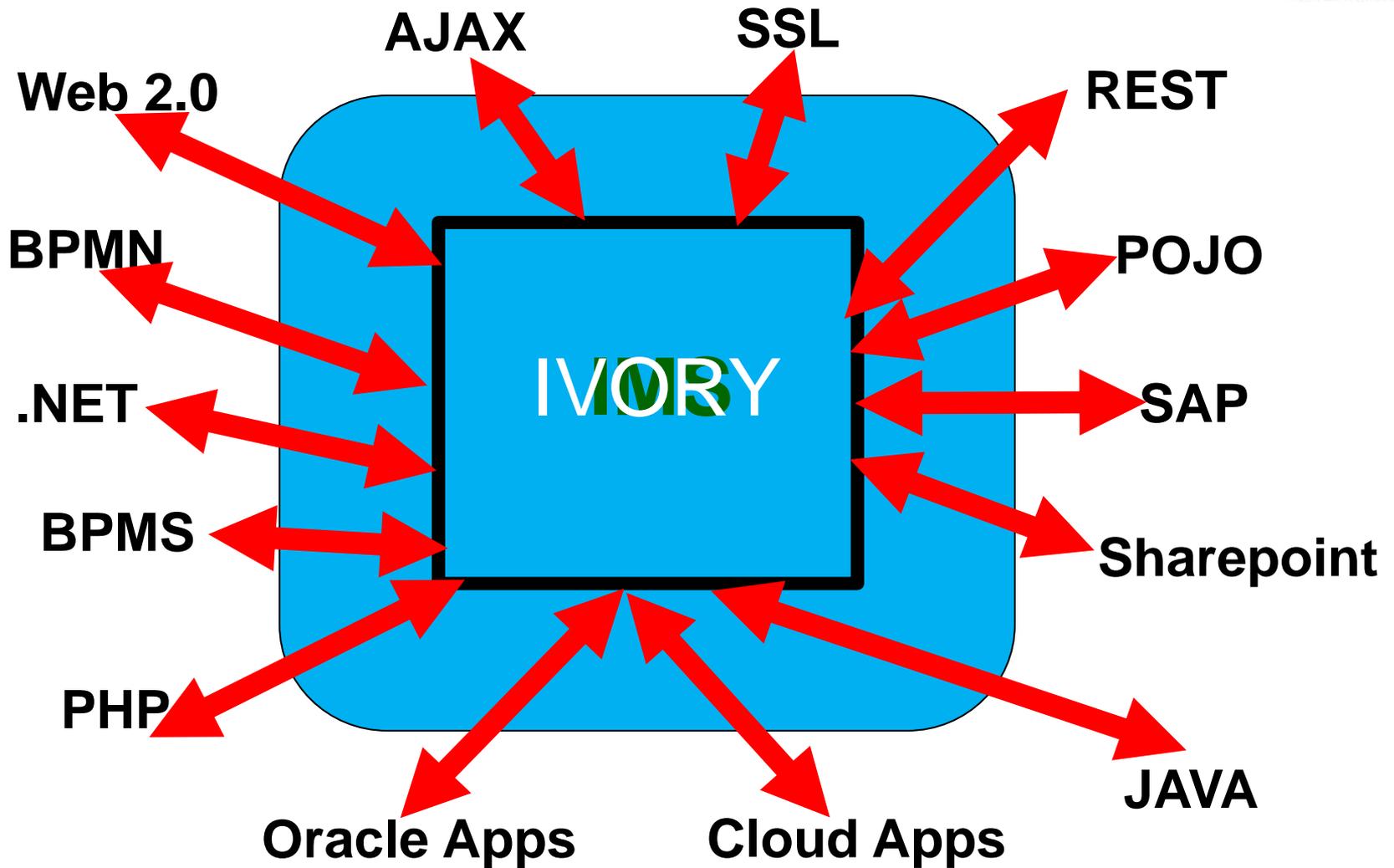
# GOT IMS?











# WHY MAINFRAME?



In the worldwide banking sector, **96 OF THE TOP 100 GLOBAL BANKS** operate IBM System z mainframes.

**60 PERCENT OF ALL DATA AVAILABLE ONLINE** is stored on mainframe platforms.

**66 OF THE TOP 100 IBM System z customers** run Linux on the platform.

**A MAJORITY OF FORTUNE 1000 COMPANIES** operate mainframe environments for at least some aspect of their IT infrastructures.

System z holds the **HIGHEST SECURITY RATING/CLASSIFICATION** for any commercially available server and is the only server to obtain the EAL5 security classification.

In 2011, IBM tallied **MORE THAN 1,500 NEW AND UPGRADED APPLICATIONS FOR Z/OS AND LINUX** on System z, with more than 100 new ISV partners coming to the platform in the same year.

# Success Factors:

1. **IMS** Data Used in Cloud and Mobile Applications

# Success Factors:

- Critical IMS data available directly from cloud or mobile applications
- Available via ODBC/JDBC
- Available via Web Services(SOAP/REST)
- Available via JSON
- Available via JCA

# Success Factors:

1. **IMS** Data Used in Cloud and Mobile Applications
2. **IMS** Applications to/from the cloud

# Success Factors:

- IMS Applications can be called by Mobile or Cloud
- IMS Applications calling Mobile or Cloud applications
- IMS Applications calling in native language(COBOL,PL/1)
- IMS Application does not worry about XML/SOAP
- IMS Application can be orchestrated

# Success Factors:

1. **IMS** Data Used in Cloud and Mobile Applications
2. **IMS** Applications to/from the cloud
3. **IMS** New Application usage with no new coding

# Success Factors:

- IMS Applications can be included in new applications
- IMS Applications are left unchanged , but are reused
- IMS Applications can be combined in new business function
- IMS Applications are not re-coded
- No New IMS Application code is required

# Success Factors:

1. **IMS** Data Used in Cloud and Mobile Applications
2. **IMS** Applications to/from the cloud
3. **IMS** New Application usage with no new coding
4. **IMS** New Applications leveraging standards

# Success Factors:

- New Services can leverage industry standards(IFX,SWIFT,ACORD..etc.)
- IMS Applications can use company specified standards and mappings(XSD's, WSDL)
- Services can easily be mapped in Ivory Studio that will handle difficult data types.

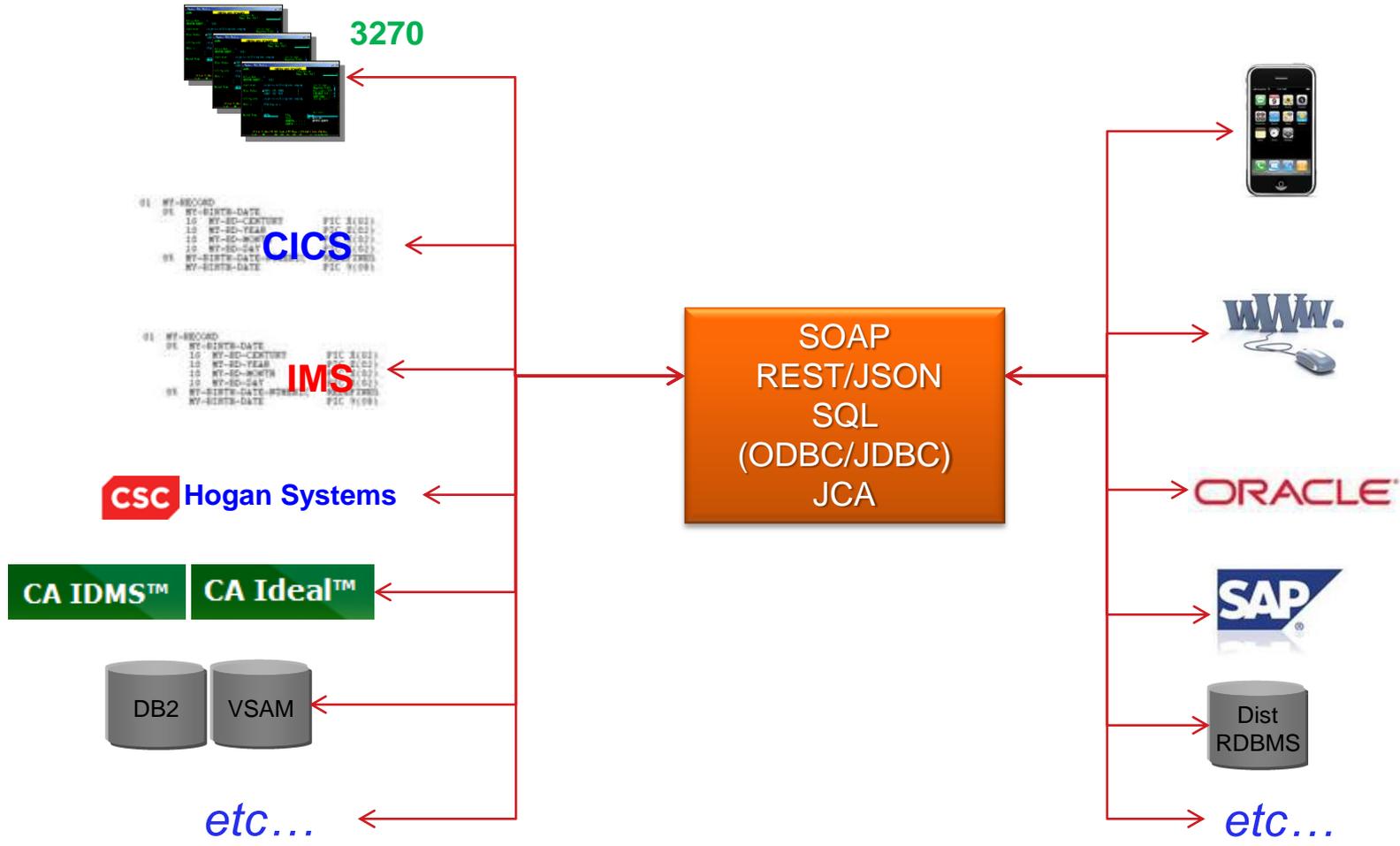
# Success Factors:

1. **IMS** Data Used in Cloud and Mobile Applications
2. **IMS** Applications to/from the cloud
3. **IMS** New Application usage with no new coding
4. **IMS** New Applications leveraging standards
5. **IMS** New Applications developed at the speed of business

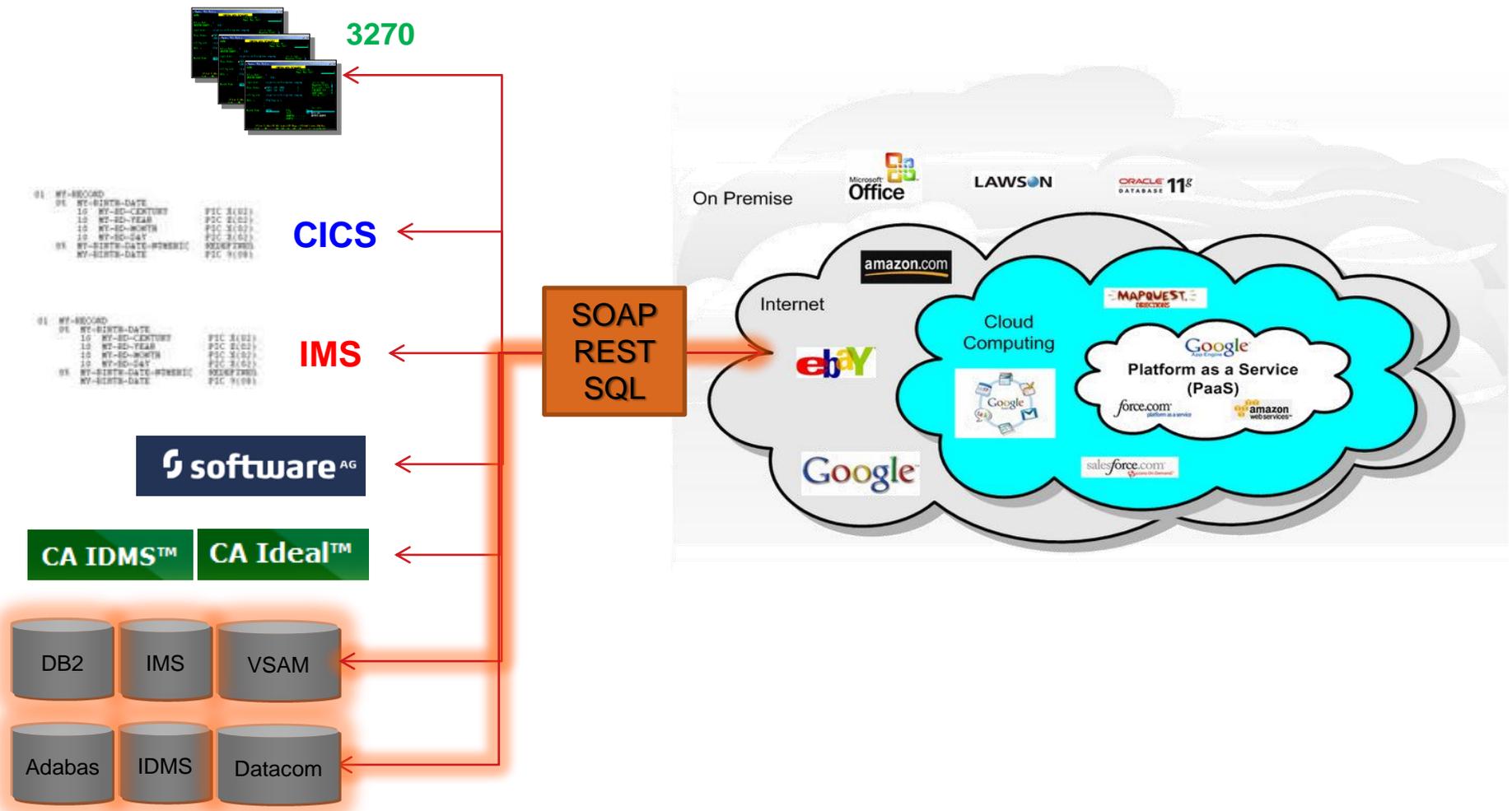
# Success Factors:

- IMS based services developed in minutes
- IMS based services developed as new business needs
- IMS based services in easy drag and drop studio
- IMS based services immediately available
- No New IMS Application code is generated

# Mainframe Integration Issues and Opportunities



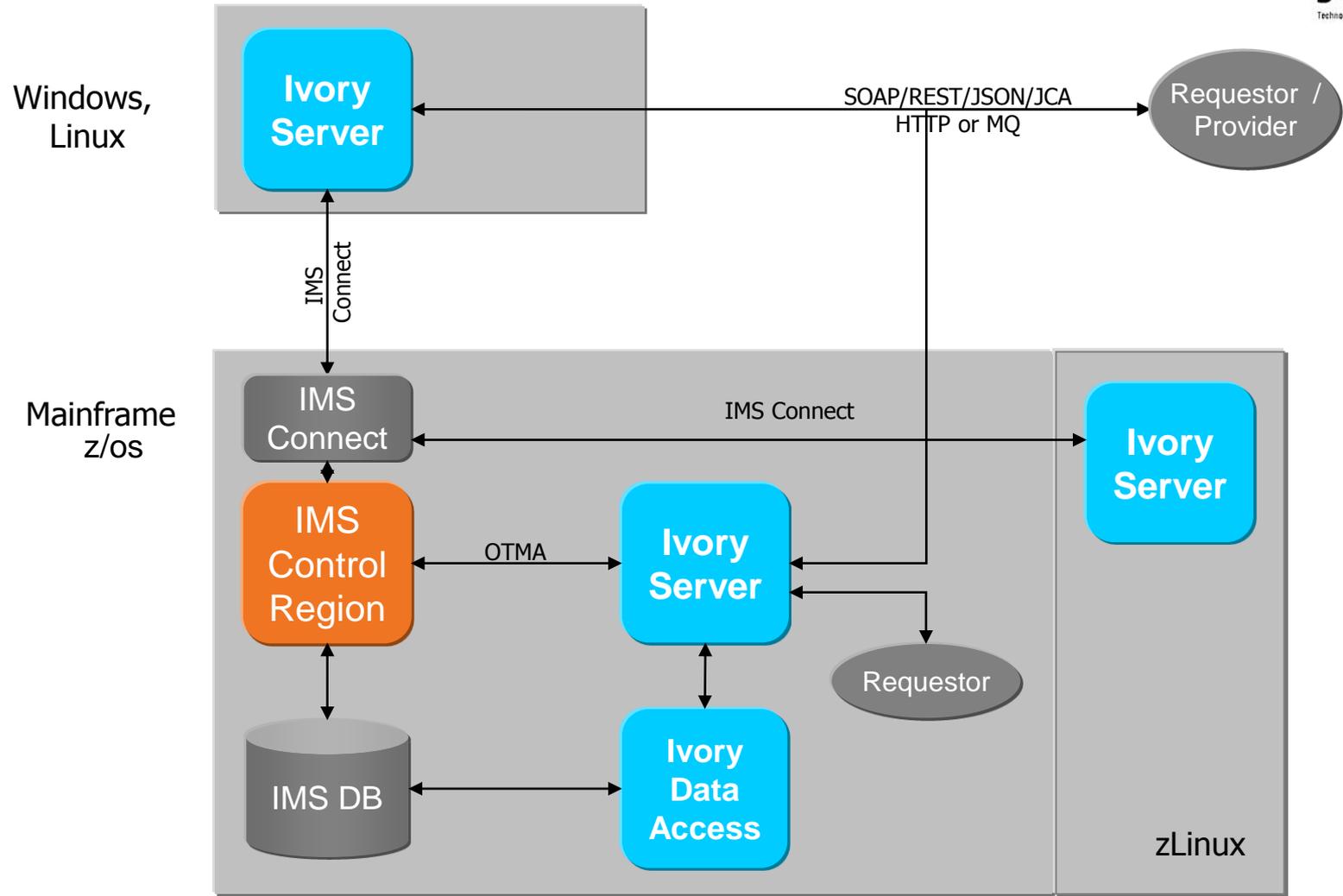
# Cloud to Mainframe Integration



# New Development Paradigm

- Integrated drag and drop graphical environment( No coding)
- One Tool no other pre-reqs.
  - WSDL-First design
  - WSDL Wizard
- Design once, deploy many:
  - Started Task (OTMA)
  - CICS
  - Linux for SystemZ (SUSE or Redhat)
  - Windows (IMS Connect)
  - Linux (IMS Connect)
- Once designed available via:
  - Web Services (WSDL)
  - REST-ful services
  - JSON
  - JCA

# Ivory Runtime Architecture



# Hard Questions

- Can I get IMS data for use in the new systems?
- Can I get IMS transactions easily incorporated into the new systems?
- What about the others(CICS,IDMS/DC, IDEAL, NATURAL,etc.?)
- Do you have the need for 1 IMS tran per service with no other mainframe artifacts?
- Are you are at the current latest edition/version of IMS?
- Do you only want to run the services strictly on the mainframe?
- Do you only have simple IMS transactions, no conversational IMS transactions?
- Do I need IMS calling out to other distributed systems?



# REST and SOAP(Web Services)

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:s0="urn:ims2TNS">
  <soap:Body>
    <s0:getInfo>
      <s0:inCommand>display</s0:inCommand>
      <s0:inLastName>smith</s0:inLastName>
    </s0:getInfo>
  </soap:Body>
</soap:Envelope>
```

Input

http://gtzdev.gtsoftware.com:20180/soap/ims2?RESTRequest=getinfo  
&inCommand=**display**&inLastName=**smith**

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:ns1="urn:ims2TNS">
  <soap:Body>
    <getInfoResponse xmlns="urn:ims2TNS">
      <outDataType>
        <outLastName>SMITH</outLastName>
        <outFirstName>MARY</outFirstName>
        <outExtension>265</outExtension>
        <outZipCode>30022</outZipCode>
      </outDataType>
    </getInfoResponse>
  </soap:Body>
</soap:Envelope>
```

Output

```
<?xml version="1.0" encoding="utf-8" ?>
<getInfoResponse>
  <outDataType>
    <outLastName>SMITH</outLastName>
    <outFirstName>MARY</outFirstName>
    <outExtension>265</outExtension>
    <outZipCode>30022</outZipCode>
  </outDataType>
</getInfoResponse>
```

SOAP

REST

restful services with JSON *with Ivory™ Service Architect by GT Software, Inc.*

EXAMPLE DESCRIPTION CODE

## customer information system

### Customer Information

STEVE A SMITH  
1122 MAIN ST.  
ROSWELL GA  
30075



### Directions

- › Head west on NW 120th St/Co Rd 678 toward River Valley Rd
- › Take the 1st left onto River Valley Rd
- › Take the 1st left onto NW 110th St
- › Turn right onto U S-77 S/Rte 77 S
- › Turn left  
Partial toll road
- › Keep right at the fork, follow signs for I-36 N/Emporta and merge onto I-36 N  
Toll road
- › Take exit 127 to merge onto I-36 N toward U S-60/Emporta/Kansas City  
Partial toll road
- › Take exit 222A to merge onto I-48E  
Entering Missouri
- › Continue onto I-470 E/U S-60 E (signs for Interstate 470 E/Lee's Summit/Grandview/U. S. 71 S)  
Continue to follow I-470 E
- › Take exit 18B to merge onto I-70 E toward St Louis
- › Take exit 210A to merge onto I-84 E/U S-40 E/U S-81 S toward Chesterfield  
Continue to follow I-84 E/U S-40 E
- › Continue onto I-70 E  
Entering Illinois
- › Slight right onto I-84 E/IL-3 N (signs for Louisville/ St Clair Ave)  
Continue to follow I-84 E

### You are here



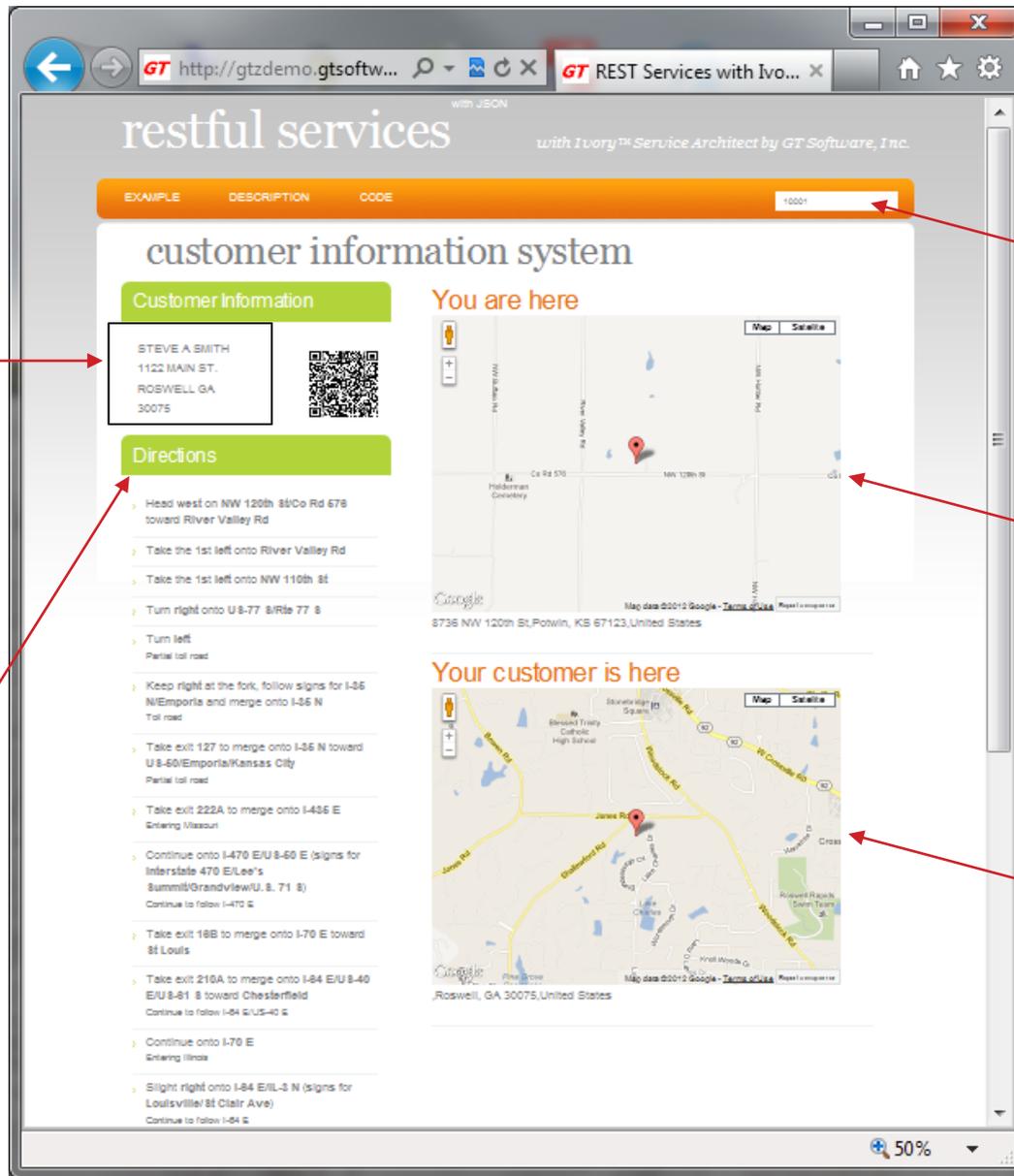
8736 NW 120th St, Powlin, KS 67123, United States

### Your customer is here



Roswell, GA 30075, United States

50%



IMS Output

IMS Input

Google Maps My location

MapQuest Driving directions

Google Maps Cust location

IBM Mashup Center - Windows Internet Explorer

https://localhost:9443/mashuphub/client/layout/layout.html

File Edit View Favorites Tools Help

NETGEAR ProSafe™ - Welc... Google Suggested Sites

Internet Explorer cannot dis... Integrated Solutions Console IBM Mashup Center

IBM Mashup Center drivers | Settings | Logout | Help

Home: Catalog REST Service 39

### REST Service 39

https://drivers3.gtsoftware.com:9443/mashuphub/client/plugin/generate/entryid/39/plu...  
 RESTRequest=get&ims1=ims1&inCommand=display&inLastName=rivers&parameter0=&soa...

**Rest String** ←

#### Details

<b>Permalink:</b>	http://drivers3.gtsoftware.com:9080/mashuphub/public/permalink?entryid=39		
<b>Source:</b>	REST Service	<b>Creator:</b>	drivers
<b>Version:</b>	1.0	<b>Average Rating:</b>	★★★★★ by 0 user(s)
<b>Documentation:</b>	None	<b>My Rating:</b>	★★★★★ Specify rating component 0 stars
<b>Times Accessed:</b>	2	<b>Categories:</b>	None
<b>Last Updated:</b>	2/1/11 4:10 PM	<b>Related Entries:</b>	None
<b>MIME Type:</b>	application/atom+xml	<b>Active Content Filtering:</b>	Disabled
<b>Saved:</b>	Yes	<b>Tags:</b>	
<b>My Permissions:</b>	View , Edit	<b>My Tags:</b>	<input type="text"/> <input type="button" value="Submit"/>
<b>Depends On:</b>	None	<b>Provides For:</b>	None

#### Comments

There are no comments.

#### Add a Comment

Required fields marked with \*

©IBM Corp. 2007, 2009. All rights reserved.

Local intranet 100%

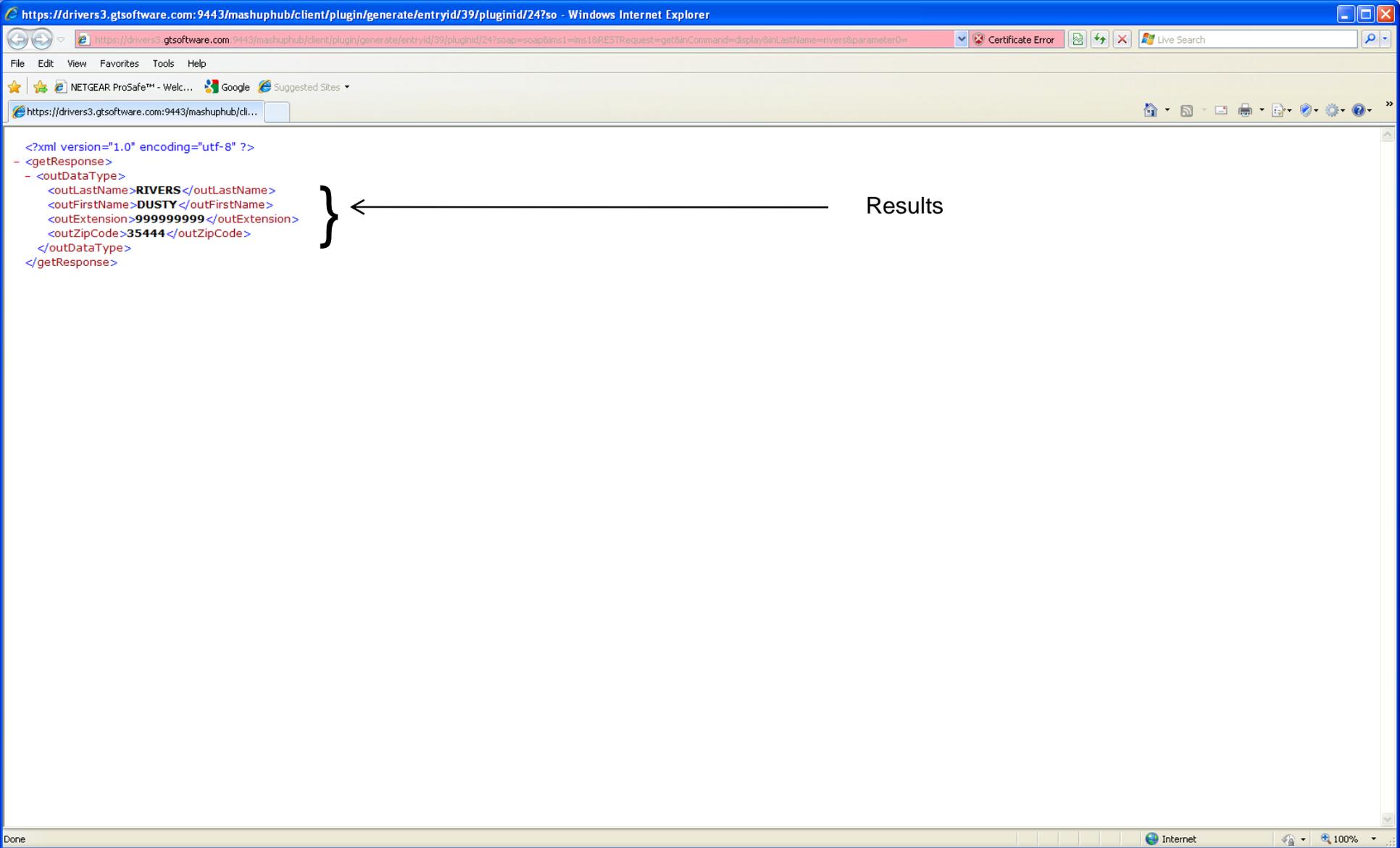
IBM Mashup Hub(InfoSphere MashupHub) , and Ivory REST Service(IMS) has been added to the hub as a listed REST service

The screenshot shows the IBM Mashup Center interface in a Windows Internet Explorer browser. The browser's address bar shows the URL `https://localhost:9443/mashuphub/client/layout/layout.html`. The page title is "IBM Mashup Center". The main content area is titled "REST Service Invoker" and contains several input fields:

- `soap:`
- `ims1:`
- `RESTRequest:`
- `inCommand:`
- `inLastName:`
- `parameter0:`

Below the input fields is an "Invoke" button. Two black arrows originate from the text "Input Values" on the right side of the page and point to the `inCommand` and `inLastName` input fields. The browser's status bar at the bottom shows "Done" and "Local intranet".

IBM Mashup Hub(InfoSphere MashupHub) , REST Service Invoker



http://gtxsp2010 - Microsoft SharePoint Designer

File Data Sources

Navigation Site Objects

- Home
- Lists and Libraries
- Workflows
- Site Pages
- Site Assets
- Content Types
- Site Columns
- External Content Types
- Data Sources
- Subsites

DispForm.aspx dustyIDA Data Sources

Home Data Sources

Name	Type
<b>Lists</b>	
Announcements	Lists
Calendar	Lists
Links	Lists
Tasks	Lists
Team Discussion	Lists
<b>Document Libraries</b>	
Customized Reports	Document Libraries
Document Library	Document Libraries
dustyIDA	Document Libraries
Form Templates	Document Libraries
Shared Documents	Document Libraries
Site Assets	Document Libraries
Site Pages	Document Libraries
Style Library	Document Libraries
testIDAFrom INP2010	Document Libraries
<b>SOAP Services</b>	
acctlkup From Ivory Server(dusty)	SOAP Services
AcctMain on gtzdev.gtsoftware.com:20080	SOAP Services
IVORY CICS ACCT	SOAP Services
<b>RSS, REST, Server Scripts</b>	
dase on gtzdev.gtsoftware.com:20990	RSS, REST, Server Scripts
<b>XML Files</b>	
dustyform.xml	XML Files

Ivory Data Service(ODBC) in List

Ivory SOAP Services (WSDL) in list

Ivory REST Service in list

SharePoint 2010 Designer

Microsoft Excel - Table Tools Design

Table Name: Table\_Query\_fro

Table Style Options: Header Row, Total Row, Banded Rows, First Column, Last Column, Banded Columns

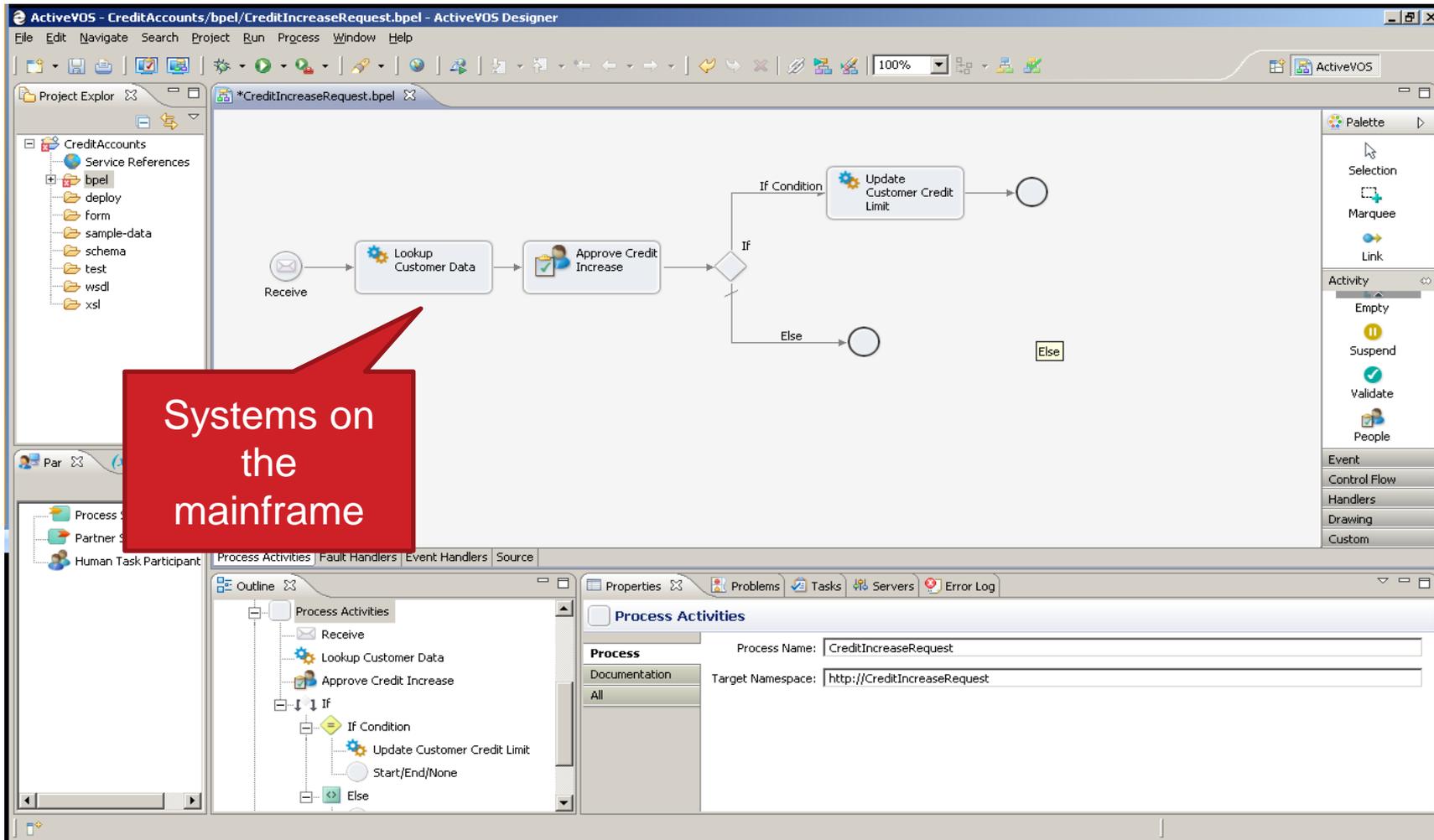
Table Styles: [Various styles]

NUMBER	ITEM	PRICE	SUPPLIER	CATALOG	UNIT	STATUS
1	1 Spare Ribs	30	8	2	10 Cartons x 20 Boxes	2
2	2 American Cheese	12	1	1	24 - 12 oz-Box	17
4	3 Seedless Cherries	20	1	2	12 - 550 ml-Box	13
5	4 Canned Cherries	10	5	2	48 - 6 oz-Bottles C	53
6	5 Canned Peaches	18.5	11	2	36 Cartons	2
7	6 Concord Grape Spread	52	3	2	12 - 8 oz-Bottles	120
8	7 Organic Pears	30	3	7	12 - 1 lb-Packages	15
9	8 Hot Sauce	41	3	2	12 - 12 oz-Bottles	6
10	9 Mashed potato	97	4	6	18 - 500 g-Packages	29
11	10 Salt Bread Orig	31	4	8	12 - 200 ml-Bottles	31
12	11 Hamburger	21	5	4	1 kg Paket	22
13	12 Pizza Crust	38	5	4	10 - 500 g-Packages	86
14	13 Hershey Bar	14	2	4	Case OF 24	45
15	14 Soy Beans	26.25	6	7	40 - 100 g-Packages	35
16	15 Garden Salads	15.5	6	2	24 - 250 ml-Box	39
17	16 Pork	17.45	7	3	32 - 500 g Cartons	29
18	17 Pork Chops	50	8	6	20 - 1 kg-Dozen	0
19	18 Corn Bread	62.5	7	8	16 kg Pakets	42
20	19 Buttermilk Biscuits	9.2	8	3	10 Cartons x 12 Stack	25
21	20 Sir Rodney's Marmalade	81	8	3	30 Cartons	40
22	21 Sir Rodney's Scones	10	8	3	24 Packages x 4 Stack	3
23	22 Chicken	21	9	6	24 - 500 g-Packages	104
24	23 Turkey	9	9	5	12 - 250 g-Packages	61
25	24 Guacomoli	4.5	10	1	12 - 355 ml-Dozen	20
26	25 Milk	14	11	1	20 - 450 g Bottles	76
27	26 Eggs and Ham	31.23	11	3	100 - 250 g-Boxes	15
28	27 Butter	43.9	11	3	100 - 100 g Stack	49
29	28 Sauerkraut	45.6	12	7	25 - 825 g-Dozen	26
30	29 Bratwurst	123.79	12	6	50-Boxes x 30 racks	0
31	30 Meat	25.89	13	8	10 - 200 g Bottles	10
32	31 Spagetti	12.5	14	4	12 - 100 g-Packungen	0
33	32 Miller Light	32	14	4	24 - 200 g-Packages	9
34	33 Corona	2.5	15	4	500 g-Packages	112
35	34 Budweiser	14	16	1	24 - 12 oz-Boxes	111
36	35 Guinness Ale	18	16	1	24 - 12 oz-Boxes	20

# IMS data (via ODBC) in a Microsoft Excel Spreadsheet

Complete your sessions evaluation online at [SHARE.org/AnaheimEval](http://SHARE.org/AnaheimEval)

# Ivory and BPMN(ActiveVOS)



**Systems on the mainframe**

ActiveVOS - CreditAccounts/bpel/CreditIncreaseRequest.bpel - ActiveVOS Designer

Process Name: CreditIncreaseRequest  
Target Namespace: http://CreditIncreaseRequest

# Issues with Services on the Mainframe



- SOAP/XML Processing on the GPP = More MIPS
- New Compiled programs running on GPP = More MIPS
- More installed programs/products = More Support \$\$\$
- No zIIP or zAAP use the IFL

# IMS and Ivory

- Service Enable IMS transactions
  - Including Support for IMS Conversational
  - Support for MFS as service definition
  - LTERM Name if needed
  - Composite Service Support
  - MFS Mod 3
  - Outbound Support to any remote system
  - REST Support for IMS
  - JSON Support
  - JCA Support for IMS
  - Message “chunking”

# IMS and Ivory Other Implementations

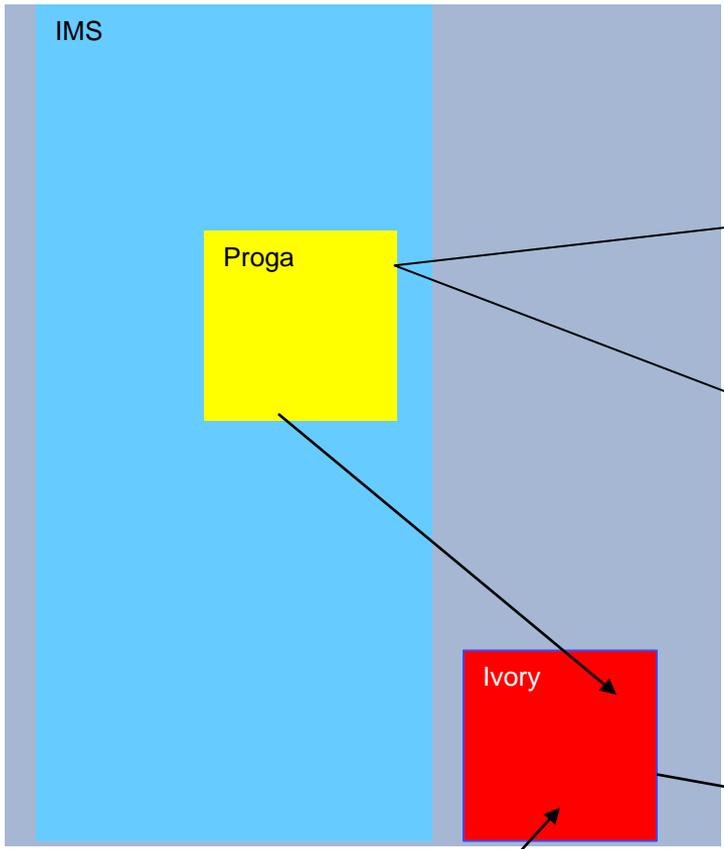
- Batch Support
  - Enabling IMS Batch jobs to call external services
  - Server can be linked in for performance
  - All necessary code and linkage created
- Complete IMS Outbound Support
  - IMS transactions enabled to call external services (like WAS, SAP, Oracle, Sharepoint etc)

# Calling Distributed Services from IMS



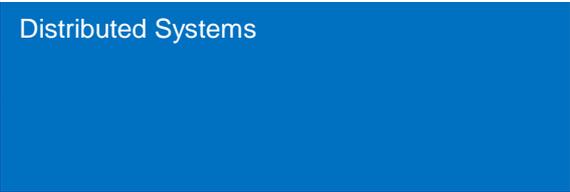
- Import the WSDL from the remote server
- Map the Inputs and outputs required
- Correctly map WSDL data-types to mainframe data types
- Correctly map into COBOL or PL/1
- Create a calling structure for the IMS program
- Implement the Service/program

# IMS and Outbound

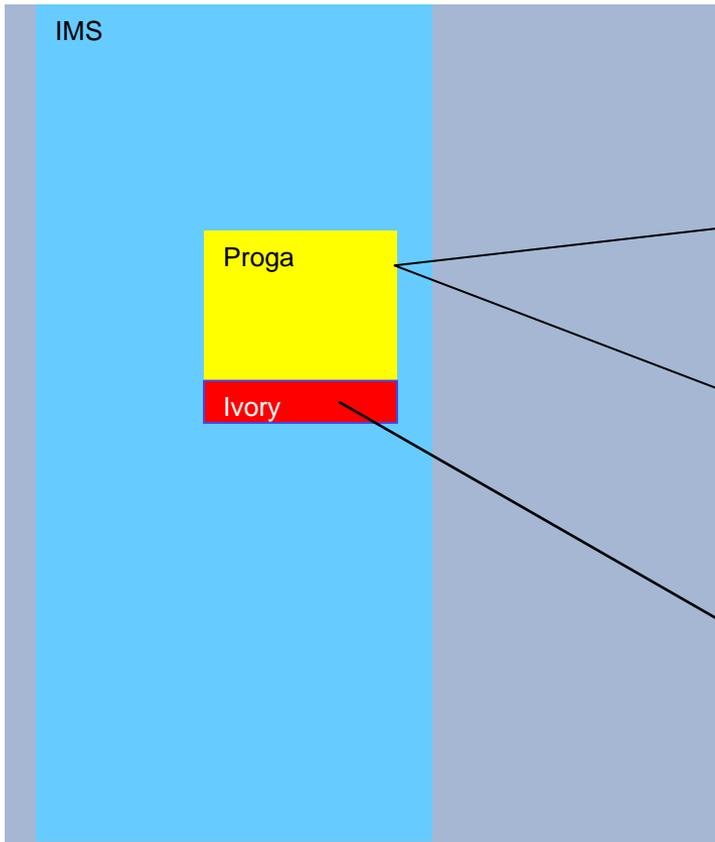


Running on z/os started task, IFL

```
01 IVORYH.  
.....  
02 COPYBOOKS PIC X(60).  
02 DUSTYIN REDEFINES COPYBOOKS  
05 LASTNAME PIC X(30).  
05 FIRSTNAME PIC X(30).  
05 STOCKSYMBOL PIC X(30).  
02 DUSTYOUT REDEFINES COPYBOOKS.  
  
05 NUMBEROFSHARES PIC S9(9) COMP-5.  
05 SHAREPRICE PIC X(30).  
05 CREDITLIMIT PIC X(30).  
05 ACCTNUM PIC X(30).  
  
CALL 'GIICALZ' USING IVORY-TOKEN, IVORY-CALL-INIT  
RETURNING RC.  
  
CALL 'GIICALZ' USING IVORY-TOKEN, IVORY-CALL-PROCESS,  
IVORYH, IVORY-LENGTH  
RETURNING RC.  
  
CALL 'GIICALZ' USING IVORY-TOKEN, IVORY-CALL-TERM  
RETURNING RC.
```



# IMS and Outbound



```
01 IVORYH.  
.....  
02 COPYBOOKS PIC X(60).  
02 DUSTYIN REDEFINES COPYBOOKS  
05 LASTNAME PIC X(30).  
05 FIRSTNAME PIC X(30).  
05 STOCKSYMBOL PIC X(30).  
02 DUSTYOUT REDEFINES COPYBOOKS.  
  
05 NUMBEROFSHARES PIC S9(9) COMP-5.  
05 SHAREPRICE PIC X(30).  
05 CREDITLIMIT PIC X(30).  
05 ACCTNUM PIC X(30).  
  
CALL 'GIICALZ' USING IVORY-TOKEN, IVORY-CALL-INIT  
RETURNING RC.  
  
CALL 'GIICALZ' USING IVORY-TOKEN, IVORY-CALL-INLINE,  
IVORYH, IVORY-LENGTH  
RETURNING RC.  
  
CALL 'GIICALZ' USING IVORY-TOKEN, IVORY-CALL-TERM  
RETURNING RC.
```

Distributed Systems

## **Real World:**

- Bank (Banking Application)
- Insurance (Mobile Insurance Application for agents)
- Manufacturing (Automobile Engineering)
- Finance (Stock trading, financial tools)
- International Bank (Credit card processing, ATM)

# Deploying to Linux on System Z



GT Software Ivory Studio - imsvolv (Web Service)

File Edit View Tools Window Help

Properties

**Base**

- GTZDEV Ivory CICS Server
- CA-WORLD Deploy
- CA-WORLD FTP
- CICS/CAA
- CICS/DEMO BMS/TS
- CICS/DEMO zdev
- Transaction
- devserver
- Dusty zserver
- GT INTL
- GTINTL (outside ip)
- GTINTL CICS
- GTZDEV Ivory CICS Server
- GTZDEV z/OS Server
- IMSSDA Server
- IvorySVR
- IvorySVRC
- MVS
- OUT\_CICS/DEMO
- OUT\_ZLINLUX
- OUT\_ZSR/DEMO
- IMS Error Text Work Variabl

**Advanced**

- Input Data Offset
- Output Data Offset
- Conversation State
- LTERM
- Format Name Work Variable
- Propagate MFS Null Charac

**OTMA**

- OTMA Control Region
- Authenticate
- Return Code Work Variable
- Reason Code 1 Work Variab
- Reason Code 2 Work Variab
- Reason Code 3 Work Variab
- Reason Code 4 Work Variab
- IMS Error Text Work Variabl

**IMS Connect**

- Tom's VPN
- Host
- Port
- Datastore
- User Exit
- Authenticate
- Windows Server (DRIVERS3)
- Z/OS server
- zdev IDEAL
- zLinux test
- ZSRV/DEMO

**Node ID**

The unique identifier for this LINK Point node.

Explorer | Toolbox | Properties

**Output**

Loading project: C:\Program Files\GT Software\Ivory\_Studio\version4.2\samples\Ivory\_Projects\IMS\IVIN0\ImsIvory.svp

Ready

67%

**Diagram - imsvolv**

IMS Transaction Processing

This sample Web Service will process the IVIN0 service transaction via the OTMA services of Ivory.

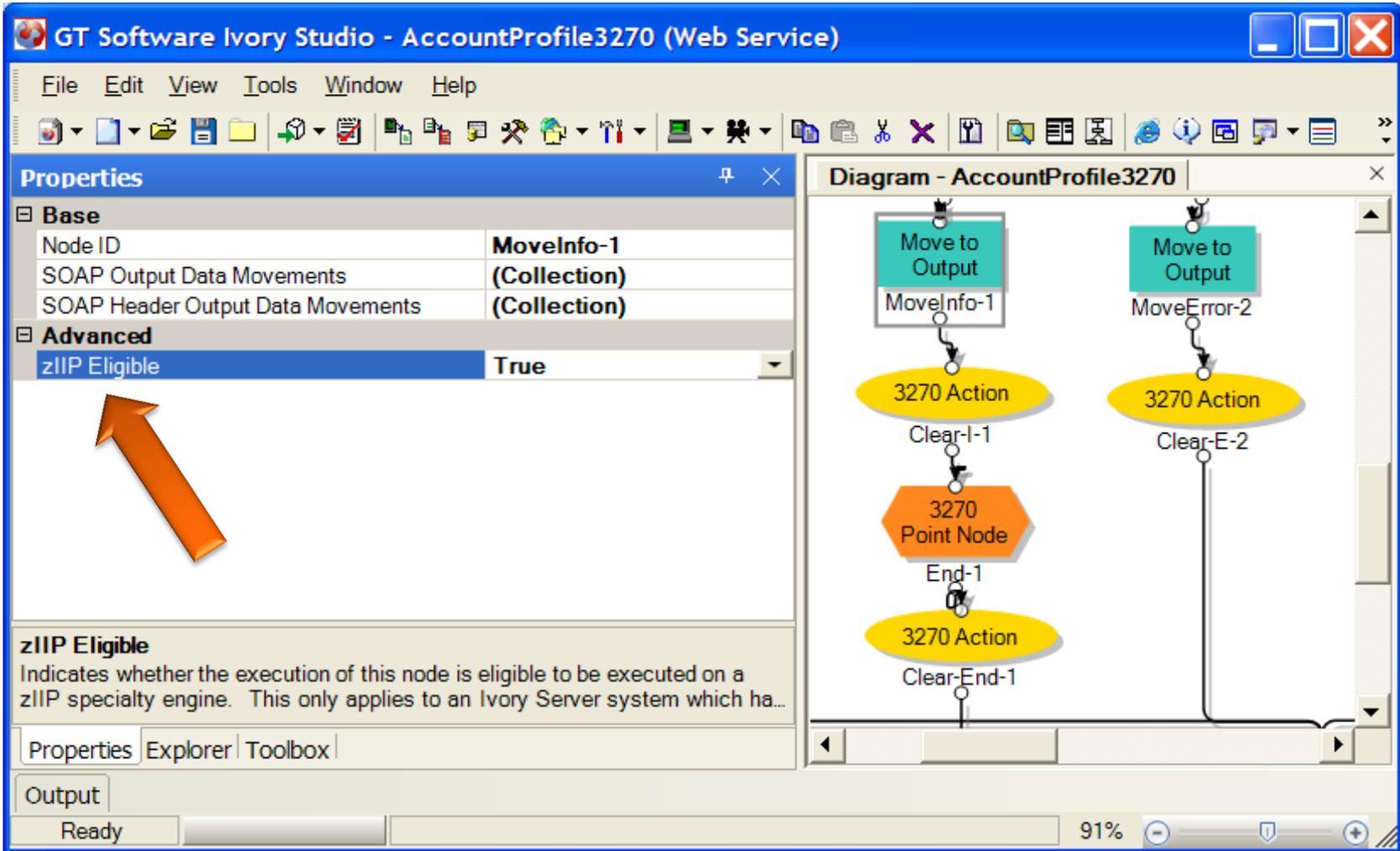
The IMS/DC application provides a name address system and this Web Service will expose 4 of the commands allowed. Read (Display), Add, Update and Delete are the operations exposed.

The IMS Point nodes define the transaction to access and optionally the IMS control region.

The IMS nodes are very much like the CICS Link nodes. Each set of nodes provide a setup (Point), a movement and execution. Any of the S270, Link or Web service nodes can be used along with the IMS nodes.

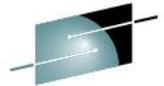
Deploying Project to Ivory Server on System Z

# Ivory uses the zIIP



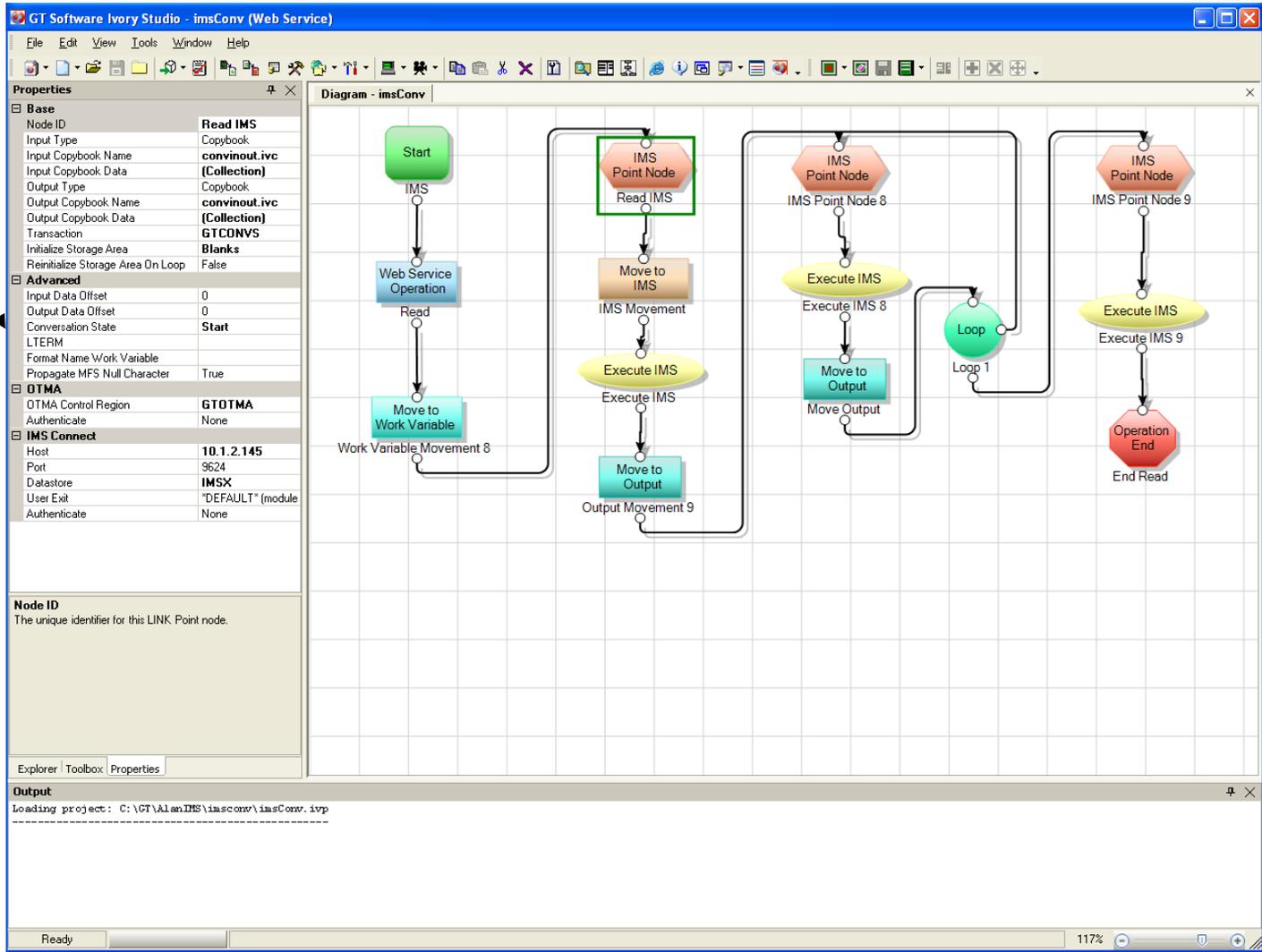
The screenshot shows the 'GT Software Ivory Studio - AccountProfile3270 (Web Service)' window. The 'Properties' pane on the left is expanded to the 'Advanced' section, where the 'zIIP Eligible' property is set to 'True'. An orange arrow points to this property. Below the properties, a text box explains that 'zIIP Eligible' indicates whether the execution of this node is eligible to be executed on a zIIP specialty engine. The 'Diagram - AccountProfile3270' pane on the right shows a flowchart with two parallel paths. The left path starts with a 'Move to Output' node (MoveInfo-1), followed by a '3270 Action' (Clear-I-1), a '3270 Point Node' (End-1), and another '3270 Action' (Clear-End-1). The right path starts with a 'Move to Output' node (MoveError-2), followed by a '3270 Action' (Clear-E-2). Both paths converge at the bottom.

# IMS Conversational as Service Easy!



**SHARE**  
Technology · Connections · Results

Conversation State

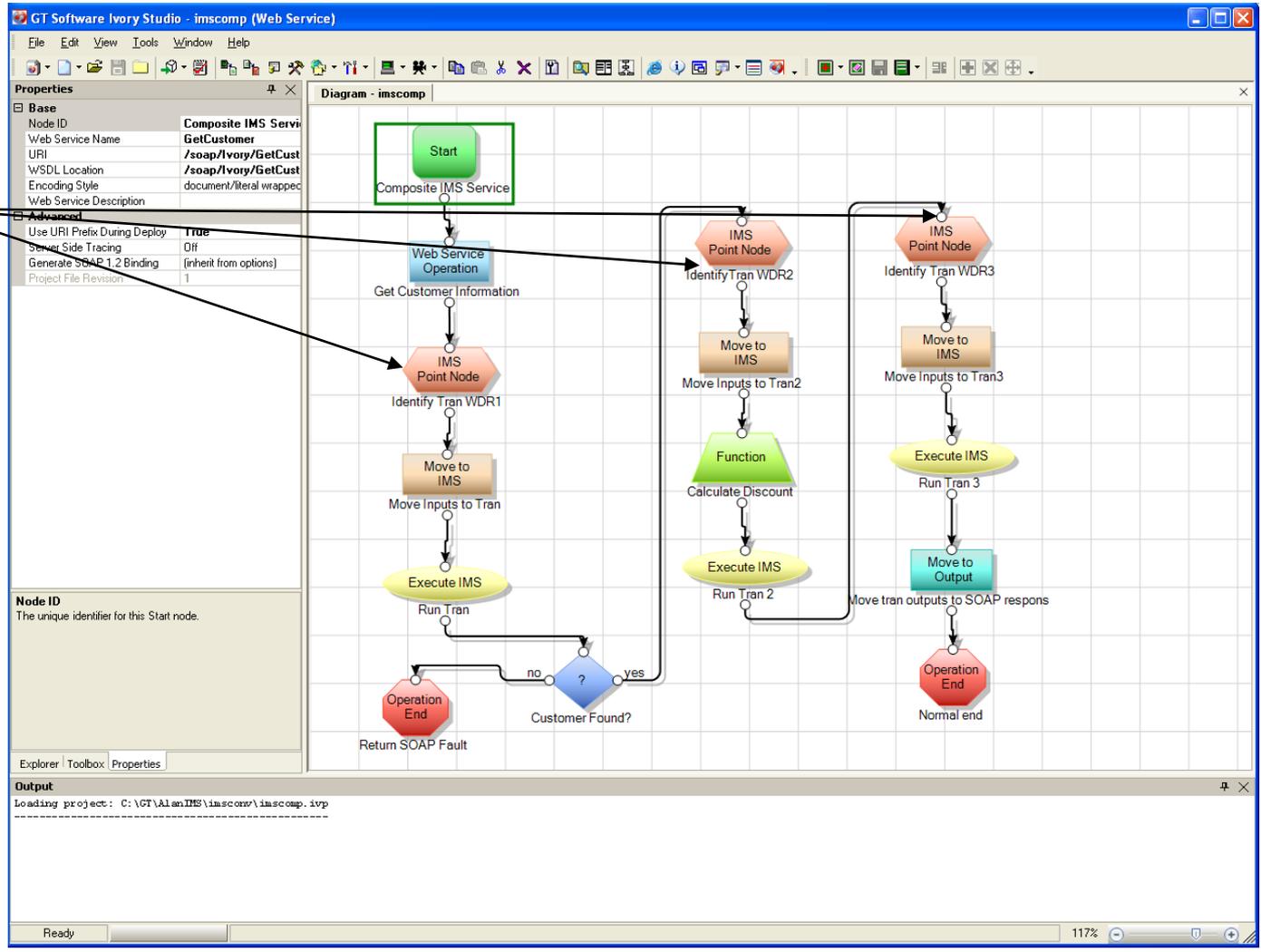


# IMS Composite as Service

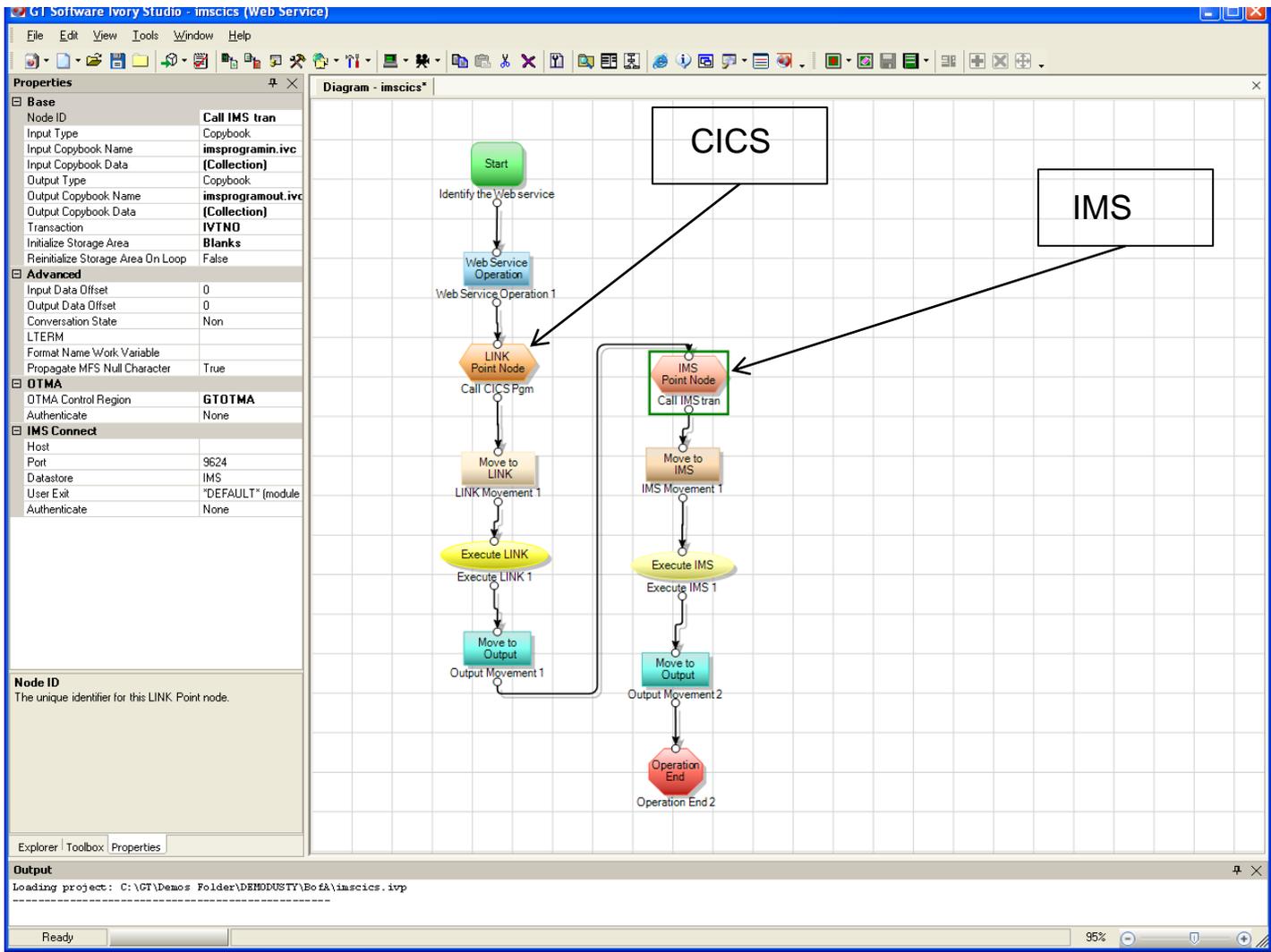
# Easy!!!



Multiple IMS Transactions



# IMS & CICS in the same Service Easy!



# Custom code, MQ and IMS

# Easy!



GT Software Ivory Studio - delegatIMS (Web Service)

File Edit View Tools Window Help

**Properties**

<b>Base</b>	
Node ID	IMS Point Node 2
Input Type	Copybook
Input Copybook Name	imsprogramin.ivc
Input Copybook Data	(Collection)
Output Type	Copybook
Output Copybook Name	imsprogramout.ivc
Output Copybook Data	(Collection)
Transaction	IVTNO
Initialize Storage Area	Low Values
Reinitialize Storage Area On Loop	False
<b>Advanced</b>	
Input Data Offset	0
Output Data Offset	0
Conversation State	Non
LTERM	
Format Name Work Variable	
Propagate MFS Null Character	True
<b>OTMA</b>	
OTMA Control Region	GTOTMA
Authenticate	None
<b>IMS Connect</b>	
Host	
Port	9624
Datastore	IMS
User Exit	"DEFAULT" (module G
Authenticate	None

**Diagram - delegatIMS\***

Start

Identify the Web service

Web Service Operation (mod=1)

Web Service Operation (mod=1)

Web Service Operation (mod=1)

Delegate Point Node 1

Delegate Point Node 2

Delegate Point Node 2

Move to Delegate (Delegate Placement 1)

Move to Delegate (Delegate Placement 2)

Move to Delegate (Delegate Placement 2)

Execute Delegate (Execute Delegate 1)

Execute Delegate (Execute Delegate 2)

Execute Delegate (Execute Delegate 3)

Switch

Case 1

Case 2

Case 3

Move to Output (Headerbound)

Move to Output (Subentry)

Move to Output (Cyclic Placement 2)

Operation End 1

Operation End 2

Operation End 2

GET MSG MESSAGE DIV?

TRUNCATED MESSAGE?

Connector 1

Connector 2

Function

Verify IMS

Move to Output (getmsg)

Operation End 3

Function

Function 2

IMS Point Node 2

IMS Point Node 2

Move to IMS (IMS Placement 1)

Execute IMS (Execute IMS 1)

Move to Output (getmsg)

Operation End 4

Operation End 4

IMS MESSAGE?

Extract command and parms from IMS message before posting IVTNO IMS transaction

**Output**

Error parsing COBOL project file Could not find file 'C:\GT\Demos Folder\MSstuff\imsprogramout.ivc'.

Ready

56%

2012

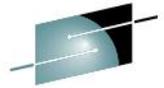
# IMS Calling external services

# Easy!!



The screenshot shows the GT Software Ivory Studio interface. On the left, the Properties pane is expanded to show details for a 'Callable Service Operation 1'. The 'Base' section includes fields for Node ID, Callable Service Operation (HRTIBMPOC), Generated Source Name (HRT00), and various collections. The 'Reference WSDL' section shows the WSDL Location and Reference Web Service (HRT\_IBM\_POCSERVICE). The 'Advanced' section includes storage types and error handling options. The main diagram area, titled 'Diagram - calltest', displays a vertical flowchart: Start (green rounded rectangle) -> Identify the Callable service (text) -> Callable Service Operation (blue rounded rectangle) -> Web Service Client Point Node (yellow diamond) -> Move to Web Service Client (brown rounded rectangle) -> Execute Web Service Client (yellow oval) -> Move to Output (cyan rounded rectangle) -> Operation End (red rounded rectangle). The bottom status bar shows 'Ready' and '100%' zoom.

- IMS transactions calling SAP processes
- IMS transactions calling Tandem processes
- IMS transactions calling Oracle processes
- IMS transactions calling Microsoft Sharepoint
- IMS Batch jobs calling distributed services



**SHARE**  
Technology • Connections • Results

**ImS**



Complete your sessions evaluation online at [SHARE.org/AnaheimEval](http://SHARE.org/AnaheimEval)

**SHARE**  
in Anaheim

2012