Problem Determination Tools Version 13 for z/OS
Taking It to the Next Level

Development Tools for Today and the Future!

November 6, 2013

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Agenda

- Why the IBM Problem Determination Tools?

- What are the Problem Determination Tools?

- What's in Version 13 of the Problem Determination Tools?

- Problem Determination Tools and Graphical User Interfaces

- CICS & PD Tools Solution Packs

- PD Tools Version 13 Examples

- PD Tools Multiplatform – Tech Preview

- Resources

- Summary

Top 3 Reasons Why Clients Turn to IBM's Problem Determination Tools


Business (Vendor Issues)
- Pricing Issues
  - Upgrade fees
  - Rising maintenance fees
  - Unplanned budget overages
  - Long term contracts

Technical (Product Issues)
- Ongoing enhancements
  - Integration with other products and hardware
    - Eclipse Plug-ins provide alternative/superior interface and integration capabilities
    - Subsystem and Language support simultaneous with subsystem/language delivery – all inclusive in IBM PD products
  - Product support
  - Administrative complexity

▪ Application Development Environment
- Unable to deploy new applications on the platform that best meets business needs (z/OS)
- Reuse traditional assets in the Internet world
- Security and compliance - supports highest levels of security, enable audit trails
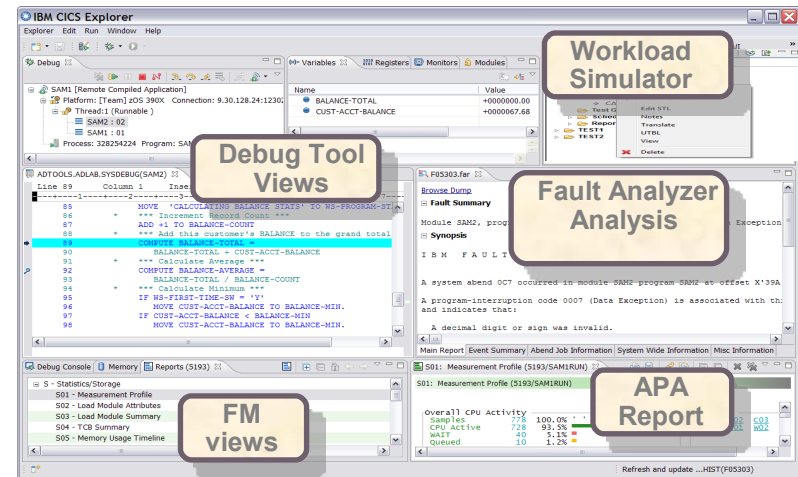
IBM Problem Determination Tools Wins Top Spot

Software Strategies Analyst Report, April 2011

- **IBM's PD Tools Suite Extends Technology Lead:**

  – IBM successfully challenged existing vendors in this segment since 2000

  – Modern, well-featured, fully integrated, inclusive, and good-value

  – The latest suite (V12) has now extended clear technology, feature and functional leadership over and above this reports findings
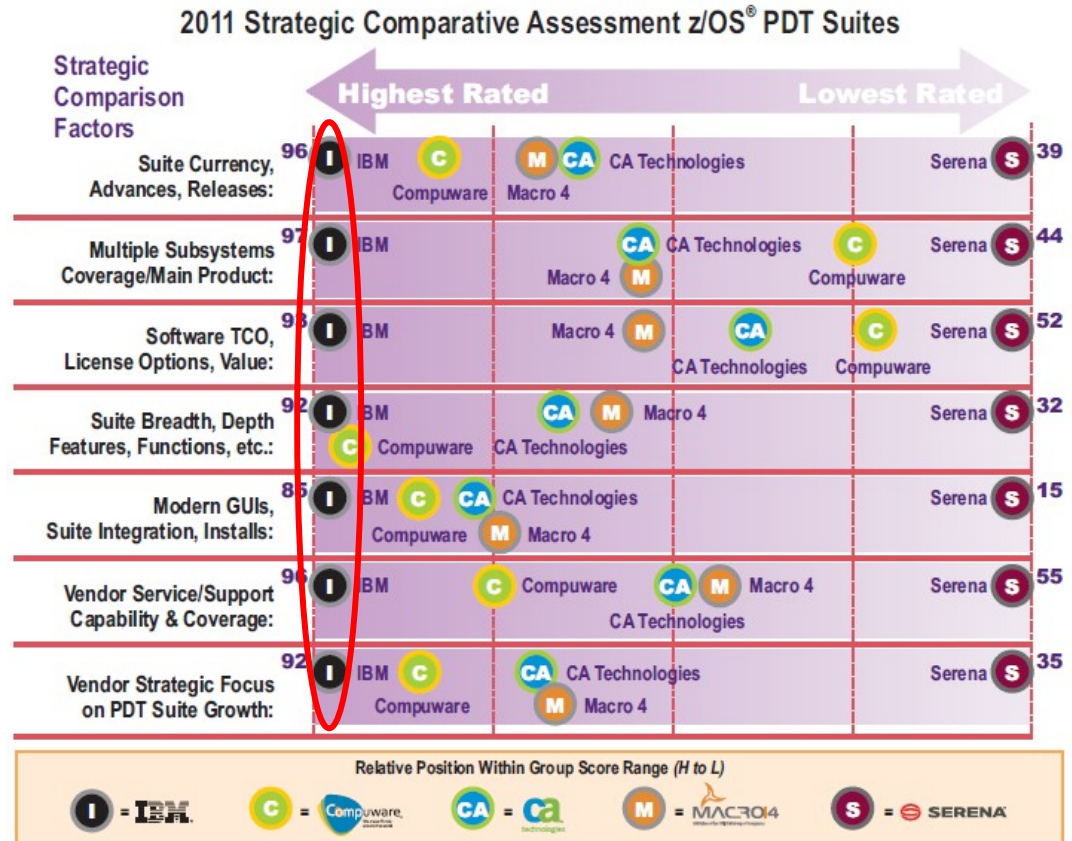
2011 Strategic Comparative Assessment z/OS® PDT Suites

Eliminate the Complexity, Gain Additional Functionality

Real Customer Example of Alternative Vendor Offerings Compared to IBM

Edit and Browse	Abend Analysis	Debugging
EB Product 1	AA Product 1	Debug Product 1
EB Product 2	AA Product 2	Debug Product 2
EB Product 3	**AA Product 3**	Debug Product 3
EB Product 4		Debug Product 4
		Debug Product 5
		Debug Product 6

Licensed Today →

Edit and Browse	Abend Analysis	Debugging
EB Product 5	AA Product 4	Debug Product 7
EB Product 6	AA Product 5	**Debug Product 8**
EB Product 7	AA Product 6	
EB Product 8	AA Product 7	
EB Product 9	AA Product 8	
	AA Product 9	
	AA Product 10	
	AA Product 11	

Functionality Available to Purchase →

Replace All That with ↑

IBM File Manager	Fault Analyzer	DebugTool

Customer references & surveys point to **IBM's Value** by providing a **better TCO** and **significant savings** over other ISVs

Type of Customer Industry	Savings	Why IBM ?
Automobile Industry	$4.7M / 2 years	**Competitive replacement for core functions. (FA,FM, DT, APA, WSIM)**
Financial Company	$5M / 3 years	**Customer became current on z/OS, DB2, CICS and unable to utilize current ISV tools. Additional functionality in core tools and in new release has confirmed decision to move to IBM PD Tools. (FA, FM, APA, DT, IPT, RDz),**
Major Energy Producer	$2M	**Multi-ISV replacement with PD Tools, DB2 Tools and Tivoli tools. Driven by TCO savings. (FA, FM)**
Major Insurance Company	TCO	**Replace competitive products on system with high CPU usage.** **TCO savings, quick conversion, quick training, liked high functionality.**
Insurance Company	TCO	**TCO savings, high function, competitive replacement.** **(APA, DT, FA)**
Bank	50%	**Entire portfolio replacement, need for platform currency. Chose IBM for multi-million dollar in savings, functional robustness, service and support.** **(FA,FM, DT, APA, WSIM)**
Financial Services	TCO	**Decrease # of tools, more flexible terms for capacity increases, and quick deployment (2 months). Achieved all objectives. (FA, FM, DT)**

IBM Problem Determination Tools

KEY PD TOOLS and Functions:

- <u>File Manager for z/OS</u> Data management tool supporting key file structures like VSAM, DB2, CICS, IMS and MQ

- <u>Debug Tool for z/OS</u> Source code debugging to improve development productivity

- <u>Fault Analyzer for z/OS</u>   Helps you rapidly pinpoint cause of failed application (program abend)

- <u>Application Performance Analyzer for z/OS</u> Monitor performance at the application level

- <u>Workload Simulator for z/OS and OS/390</u> Regression and Load testing of interactive z/OS applications

- <u>HourGlass</u> – date time manipulation

- <u>Data Set Commander</u> – less key strokes for ISPF

- <u>Migration Utility</u> – converts CA-Easytrieve to standard IBM COBOL

I ♥ PD Tools

Smarter z/OS Problem Resolution!
IBM Problem Determination Tools V13

- Key focus on **Optimization and Modernization**

- Decrease **TCO** with competitive pricing

- Latest support for **sub-systems and languages!**

- Decrease IT costs **by reducing overall application development time** while improving application performance by discovering/reducing performance bottlenecks

- Improves application reliability and **user diagnosis capabilities** - assists with fixing application logic

- Improves user ability to regulate and monitor application development activities while **simplifying quality process** and policy validation

- What's new:
  - ‣ Significant improvements to Debug Tool, Fault Analyzer, File Manager, Application Performance Analyzer, Workload Simulator, HourGlass , and Data Set Commander

  - ‣ Support for z/OS V2.1, DB2 V11., IMS V13, CICS TS 5.1, WASz 8.5, MQ 7.5, COBOL V5.1, Enterprise PLI V4.4, C/C++ for z/OS V2.1, Java V7, and RD/z V9.0

  - ‣ Java enhancements for APA, DT and FA allowing PD Tools to work in a "mixed mode" environments
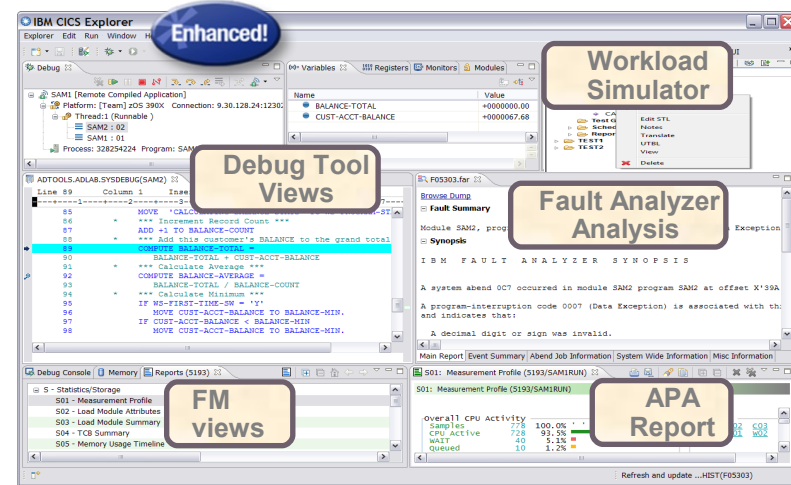
Enhanced functional application performance analysis , code quality, and problem identification **with** Problem Determination Tools (PDT) V13

Several Key Focus Areas for PD Tools V13 Function In the Optimize and Modernize Realm

Optimize

- **Dynamic Debugging of IMS Region.** Benefits to User; 1) on demand - created only when a user needs to debug a transaction and it is gone when debug is completed (2) performance - the new region is for a specific user for his debugging only. It avoids the following problems in a normal setup where only a limited number of regions are available to service all transactions, (3) Without a permanent allocations of additional regions for debug, it saves the customer in resources (additional hardware, license..), 4) Resource contention eliminated.

- **Enhanced Code Coverage and reporting** – Improves coverage capabilities and management reporting – better quality code, rapid identification of problems

- **Performance & Storage Improvements** - Quicker, while using less resource

- **Sidefile checking and reporting enhancements** – Simplifies migration to PD Tools from others

Modernize

- **Additional focus and emphasis on JAVA – APA, DT, and FA** - Provides problem determination tooling in "mixed mode" environments, allowing older applications to interact with leading edge applications.

- **Mobile/Cloud Access -Fault Analyzer web interface utilizing Dojo** – Easy client emergency access for abends on demand - easy access via cell phone, tablet, or any other device

- **Continuous enhancements to Eclipse based interfaces across PD portfolio** –

  - **File Manager Eclipse IMS GUI – Provides ability to utilize IMS from GUI**

- **Eclipse 4.2.2 platform support in alignment with IBM Explorer for z/OS and integration with RDz** – Increase in productivity when interacting between different tool products – faster ability to adapt to tools with GUI's as opposed to ISPF, additional productivity when PD Tools are used in conjunction with full blown development environment over ISPF (RDz).

Optimize

Modernize

Problem Determination Tools V13 GUIs To Meet Your Needs

- **The GUIs are available with Rational Developer for z, for a full blown application development environment, or in conjunction in a systems environment as part of the PD Tools Studio, CICS Explorer, IMS Explorer on top of a z/OS Explorer base/technology**

- Rational Developer for System z

CICS Explorer, IMS Explorer
or PD Tools Studio
with z/OS Explorer

System z Application Lifecycle

z/OS Explorer

IBM Explorer for z/OS® V2.1

CICS, IMS,DB2, z/OS Application Debugging

Debug Tool
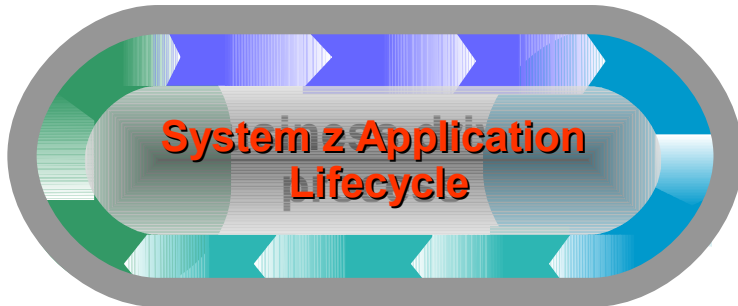
Execution Tree, Dependencies, Custom Queries, Threadsafe, Command Flow

CICS IA

Deployment, Discovery, Visualization, Cloning, Automation & Control

CICS DA

Configuration, Session and user views, Broadcast, User and Admin commands

Status Situations Topology

OM XE

Manipulate, browse z/OS data sets, z/FS, VSAM, MQ, CICS, DB2

File Manager

Session Mgr

Configuration Status Control, Test

MQ

Threadsafe, File, CPU, Response & Wait analysis, Statistics, Alerts, Graphical and Sheet views

CICS PA

CRUD, Install, History, Backout, Audit, Search, Compare, Packaging

CICS CM

CICS, IMS, DB2, z/OS Abend Reporting & Diagnosis

Fault Analyzer

Migrated file view

CICS VT

Daemon & Connection Status & Test

CICS TG

IMS DB mgt

IMS Explorer

Source code control Project & feature mgt

Rational Team Concert

CICS, IMS, DB2, & z/OS Observation Requests & Reporting

App Perf Analyzer

CRUD, Install, Control, Filter, Sort, Topology, Events, ATOM, Java, WLM, Txn Tracking, Copy/Paste, Cloud, Web apps

CICS TS

DB2 mgt

Data Studio

Develop Test

Rational Developer

3270 application performance testing

Workload Simulator

z/OS Connections, z/OS Datsasets, zFS Files, JES jobs & output

z/OS Explorer
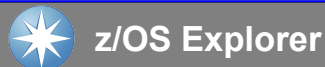
CICS TS, IMS, DB2, MQ, z/OS

CICS Interdependency Analyzer for z/OS V5.1

Application insight

What's new in CICS IA V5.1…

- Support for CICS Transaction Server V5.1, including enhanced business application analysis

- New threadsafe analysis plug-in view and report

- Improved installation and configuration

- DB2 data lifecycle management

- Native SQL language stored procedures

- Graphical visualization view of resources

CICS IA enables you to…

- Identify threadsafe / non-threadsafe programs
- Isolate and remove affinities
- Speed CICSPlex® SM workload management
- Advanced CICS command flow analysis
- Highlight CICS web service and mobile targets

http://ibm.com/software/products/us/en/cics-ianaly

NEW

Solution Packs for CICS and z/OS – convenience and affordability

Four New Tools Solution Packs

CICS Optimization Solution Pack for z/OS V5.1

Quickly optimize performance of CICS systems and applications with **CICS Interdependency Analyzer, CICS Deployment Assistant, CICS Performance Analyzer, CICS Configuration Manager**

CICS Modernization Solution Pack for z/OS V5.1

Understand deployed CICS application and system resources, connect from non-mainframe devices, and create CICS infrastructure to support the increased workload with **CICS Interdependency Analyzer, CICS Deployment Assistant, CICS Transaction Gateway for z/OS**

IBM Problem Determination Solution Pack for z/OS V1.1

Cost effective problem analysis for z/OS sub-systems and languages with both GUI & 3270 interface with **File Manager for z/OS, Fault Analyzer for z/OS, Debug Tool for z/OS, Workload Simulator for z/OS and OS/390, Hour Glass, Data Set Commander**

IBM Problem Determination Testing Solution Pack for z/OS V1.1

Reduce testing time, improve application reliability and user diagnosis capabilities, and improving user's ability to regulate and monitor testing activities with **Debug Tool for z/OS , Workload Simulator for z/OS and OS/390, Hour Glass**

Upgrade from standalone products using trade-ups
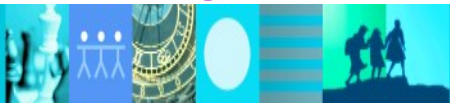
IBM CICS Optimization Solution Pack for z/OS V5.1

Business Value?

An all "in-a-box" solution that includes key product offerings to quickly achieve ultra performance tuning of CICS systems and application yielding up to a 10%* reduction in CICS CPU MIPS consumption (based on IBM internal benchmarks)
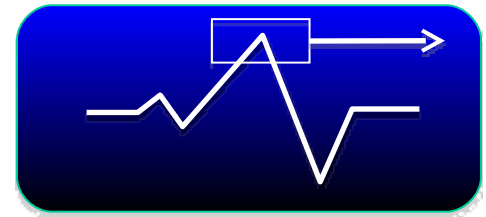
What is it?

A market leading offering which speeds up the deployment of "performance optimized" CICS systems and applications. This solution pack provides a rich tooling set that can be used to optimize within CICS regions or across a complex topology that includes multiple regions. High end user productivity is achieved using a common eclipse based interface called the CICS Explorer.

What is included?

CICS Interdependency Analyzer – Collecting active information on deployed CICS resources

CICS Deployment Assistant – Visualization and provisioning of CICS regions

CICS Performance Analyzer – In depth tuning and capacity planning for CICS regions and applications

CICS Configuration Manager – Advanced management of CICS including auditing and deployment analysis

IBM CICS Modernization Solution Pack for z/OS, V5.1

Business Value?
An all "in-a-box" solution that includes key product offerings to quickly understand and visualize currently deployed CICS applications to enable successful modernization projects, including the ability to expand user access to key CICS resources with IBM's most popular CICS connector technology.
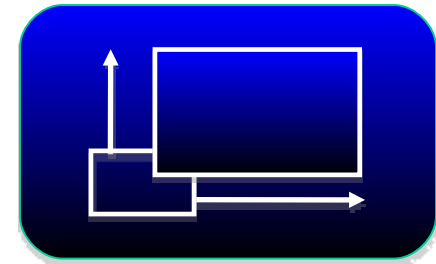
What is it?
A market leading offering providing visualization, discovery and connectivity to key CICS resources to help address key CICS modernization requirements. High end user productivity is achieved using a common eclipse based interface called the CICS Explorer.

Included Offerings:
CICS Interdependency Analyzer – Collecting active information on deployed CICS resources
CICS Deployment Assistant – Visualization and provisioning of CICS regions
CICS Transaction Gateway for z/OS – Connecting non-CICS based application servers to CICS

IBM Problem Determination Solution Pack for z/OS V1.1

Business Value?
A money saving, ideal "all in one", package which addresses and enhances client's problem analysis needs. This is a offering of tools which assist with reducing IT costs by decreasing overall application development time, improving application reliability, and decreasing user diagnosis time. This solution pack is composed of key components ideal for takeout of alternative vendor offerings in the z/OS problem analysis space.

What is it?
This solution pack provides robust tooling which allows a client to utilize problem analysis capabilities for z/OS subsystems and languages in a cost effective manner using their choice of a GUI or 3270 interface.

Included Offerings:
File Manager for z/OS Data management tool supporting key file structures like VSAM, DB2, CICS, and IMS
Fault Analyzer for z/OS Helps you rapidly pinpoint cause of failed application (program abend)
Debug Tool for z/OS Source code debugging to improve development productivity
Workload Simulator for z/OS and OS/390 Regression and Load testing of interactive z/OS applications
Hour Glass Date time manipulation
Data Set Commander Less key strokes for ISPF and boosts performance on common PDS functions

IBM Problem Determination Testing Solution Pack for z/OS V1.1

Business Value?

A money saving, ideal "all in one" testing package containing proven PD Tools to address all a client's testing needs. This set of testing tools will assist the client with reducing overall testing time, improving application reliability and user diagnosis capabilities, and improving user's ability to regulate and monitor testing activities.
The solution pack is composed of key components ideal for takeout of alternative vendor offerings in the z/OS problem analysis and testing space.

What is it?

This solution pack provides support for debugging, code coverage, simulating time changes, and generating and executing simulated workloads -all very important aspects of a robust z/OS based testing environment.

Included Offerings:

Debug Tool for z/OS - Source code debugging to improve development productivity. Code Coverage capabilities included.
Workload Simulator for z/OS and OS/390 - Regression and Load testing of interactive z/OS applications
Hour Glass - Date time manipulation

More PD Tools V13 Content and Examples

Debugging of enterprise applications
IBM Debug Version 13

- **IBM Debug Tool** can help you increase debugging efficiencies and reduce application development cycle times.

- Program testing and analysis aid that helps you examine, monitor, and control the execution of application programs on z/OS (CICS/DB2/IMS/ COBOL/PLI/ASM,C/C++/ASM/JAVA w Toolkit)

- Proven 3270-based interface and free graphical user interface.

What's new?

- Smooth debugging mixed apps JAVA/COBOL/PLI

- Improved Code Coverage

- Automatic start IMS MPP regions, dynamic routing of transactions

- IMS Startup Cross Reference table for WASz and Web started transactions

- RDz Playback

- Support for DB2 V11, IMS V13, CICS TS 5.1, z/OS 2.1, WASz 8.5,, COBOL V5.1, Enterprise PLI V4.4, C/C++ for z/OS 2.1, RDz 9.0

- A range of other enhancements to address key customer requirements
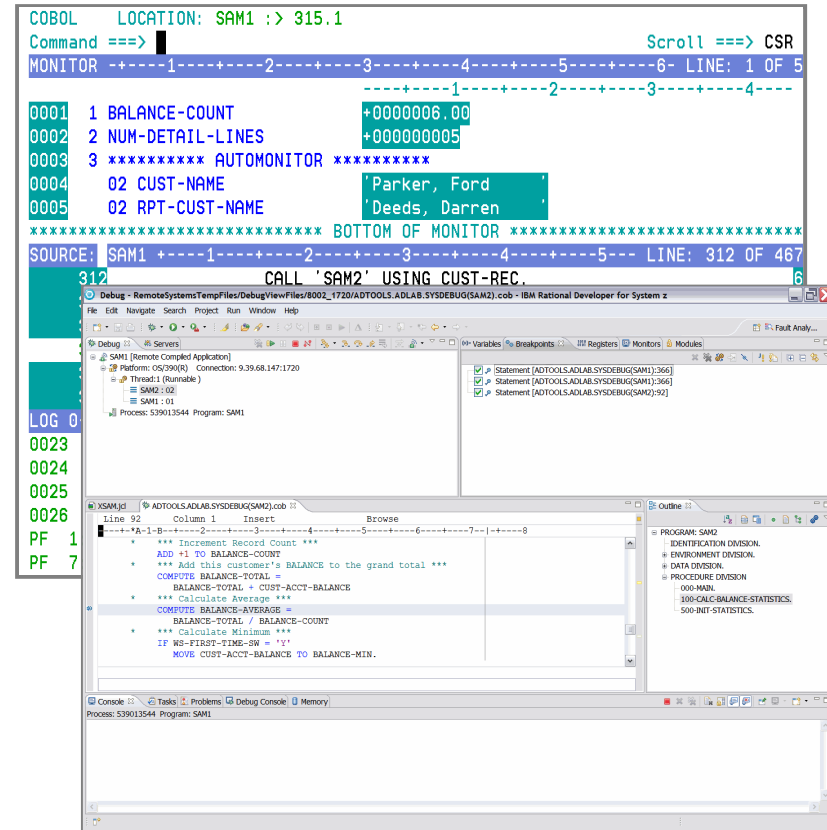
Source code debugging to improve development productivity

Pinpoint the cause of enterprise application failures
IBM Fault Analyzer Version 13

- **IBM Fault Analyzer** improves developer productivity and decreases deployment costs by helping to analyze and correct application failures quickly (CICS/DB2/IMS/MQ/COBOL/PLI/ASM/ C/C++/ASM/JAVA).

- Develop and test new and existing applications more productively, helping to reduce costs along the way.

- Proven 3270-based interface and free graphical user interface.

What's new?

- Optimize
  - Sidefile checking and reporting
  - Customer specific module and abend descriptions
  - ISPF Virtual Relief

- Modernize
  - Enhanced web interface using Dojo

- Enhanced Java support

- Support for DB2 V11, IMS V13, CICS TS 5.1, z/OS 2.1, COBOL V5, PL/I V4.4, Java V7

- A range of key customer requirements

Helps to identify the cause, analyze the failure, and fix the problem

Fault Analyzer Java and Mixed Mode

Fault Analyzer Java

© 2013
IBM Corporation

Fault Analyzer Java via Web Interface

© 2013
IBM Corporation

Manage a variety of enterprise data file structures
IBM File Manager Version 13

- **IBM File Manager** allows you to manage production, test, and development data across multiple formats and storage media.

- Create, edit, copy, browse, extract, print, and compare enterprise data (VSAM/DB2/IMS,CICS/MQ)

- Proven 3270-based interface and free graphical user interface.

  What's new?

- IMS GUI

- FM DB2 enhancements

- Batch template and update support

- UNICODE and various CCSIDs support

- Support for DB2 V11, IMS V13, CICS TS 5.1, MQ8.5, z/OS2.1, PL/I 4.4,

- DB2 Large Object (LOB) including XML columns

- A range of other enhancements to address key customer requirements

Data management tool supporting key file structures like VSAM, DB2, CICS, and IMS

Navigation to IMS Resources and Invoking FM Functions
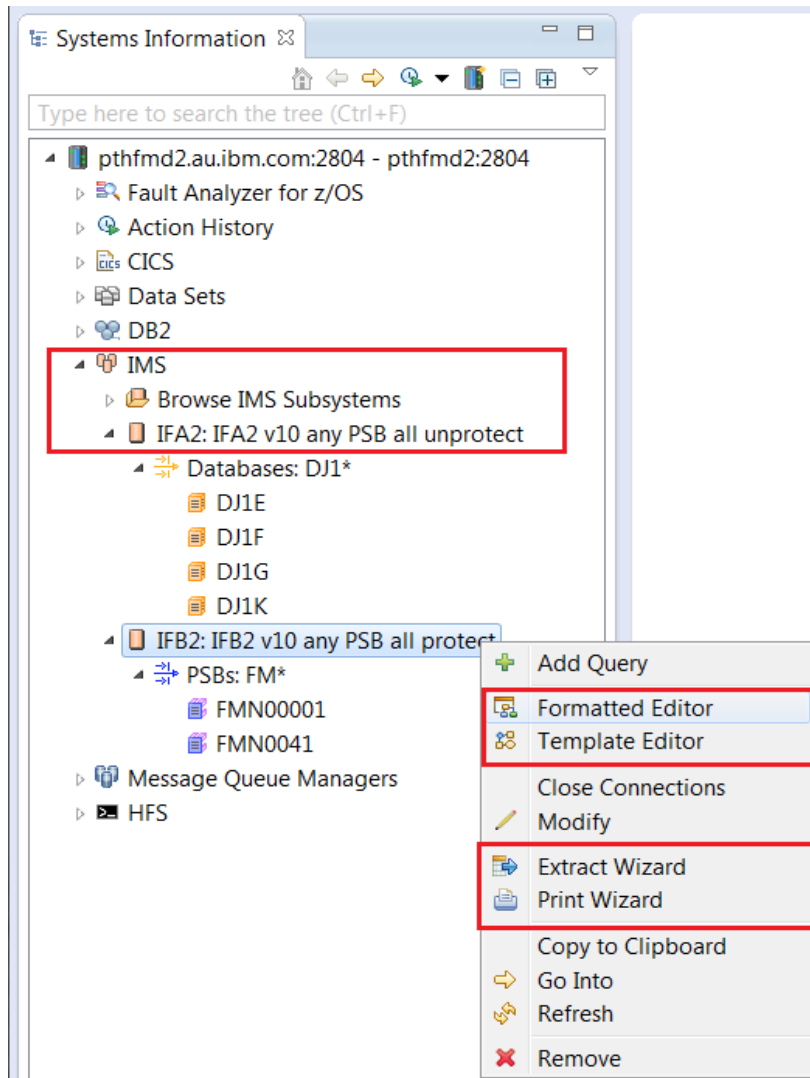
- **Navigation to IMS resources (databases and PSBs) in the consistent approach with the rest of resource types supported by FM.**

  – Expand "*Browse IMS Subsystem*" node to browse IMS subsystems that are defined in the FM options.

  – Add queries for looking up specific databases and PSBs.

- **All FM functions accessible via context menu.**

  – Formatted edit of IMS databases using static or dynamic PSBs.

  – Invocation of FM utility functions: Extract and Print.

  – Accessing databases in BMP mode as well as DL/I mode.

  – Template editor for creating/modifying FM IMS templates and views.

FM IMS Editor Invocation

- **Edit IMS databases in BMP mode as well as DL/I mode using static PSBs or dynamic PSBs.**

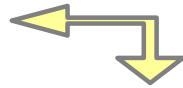- **Specify database positioning values and start an edit/view session.**

Start edit session

Pinpointing where application performance problems occur
## *IBM Application Performance Analyzer Version 13*

- **IBM Application Performance Analyzer** helps maximize the performance of your applications and improve the response time of your online transactions and batch turnaround.

- Identify constraints and improve the entire application's performance no matter where the problem resides (CICS/ IMS/DB2/MQ/COBOL/PLI/ASM/JAVA)

- Proven 3270-based interface and free graphical user interface.

What new?

- Enhanced support for WebSphere and Java
- Sampling enhancements to improve accuracy of reports
- WAS Phase 2 to support simultaneous sampling of servant regions, CICS and DB2 activity
- Support for DB2 V11, IMS V13, CICS TS V5.1, z/OS 2.1, WASz V8.5, COBOL V5.1, PL/I V4.4, Java V7
- A range of key customer requirements
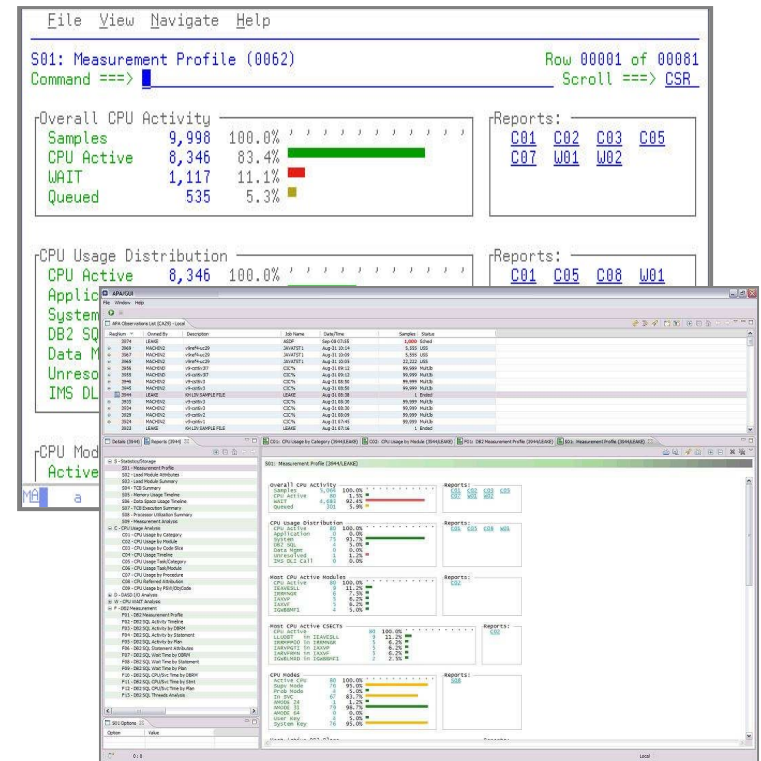
Monitor and optimize performance at the application level

APA Observation for WebSphere, Java, DB2, CICS RPC

APA observation for WebSphere, Java, DB2 & CICS RPC

- Observation 0006 reports WebSphere activity invoked from WAS controller in reports B01 to B10 (available since APA v12; unchanged in APA v13)
- APA creates a hierarchy of observations to report Java, DB2 and CICS RPC initiated from WAS servant regions (APA v12.10E APAR 73601)

APA Observation for WebSphere, Java, DB2, CICS RPC

APA observation for WebSphere, Java, DB2 & CICS RPC

- Observation 0007 reports Java activity, DB2 activity and CICS RPC calls from the WAS servant region (APA v12.10E APAR 73601)
- WebSphere controller reports B01 to B10 are carried into the child observation for user convenience

Enterprise COBOL V5

```
Load Module: COBTEST1  LIB: AGM01.CICS.LOADLIB  CSECT: COBTEST2
Mapped by:    AGM01.CICS.LOADLIB(COBTEST1) (COBOL)
Compiler:     Enterprise COBOL v05.01.00   Compile Time: 2013/02/12  13:18:04

LineNo Offset Count Source Statement

000001                     IDENTIFICATION DIVISION.
000002 000000    1    ▮     PROGRAM-ID. COBTEST2.
000003                     DATE-COMPILED. TODAY.
000004                     ENVIRONMENT DIVISION.
- - - - - - - - - - - - - - - - - - - -  21 line(s) not displayed
000026 0001D2              MOVE 0 TO RETURN-CODE.
000027 0001DA              MOVE 1 TO WS-SUB.
000028 0001E2   25         PERFORM LOOP 1000 TIMES.
000029 000216              GOBACK.
000030                LOOP.
000031 000280   12         EVALUATE WS-SUB
000032 000282    6             WHEN 1
000033 00028E   32                 MOVE 'A' TO WS-ARRAY (WS-SUB)
000034 0002AE   23             WHEN 2
000035 0002BA   36                 MOVE 'B' TO WS-ARRAY (WS-SUB)
000036 0002DA   32             WHEN 3
000037 0002E6   54                 MOVE 'C' TO WS-ARRAY (WS-SUB)
000038 000306   25             WHEN 4
000039 000312   31                 MOVE 'D' TO WS-ARRAY (WS-SUB)
000040 000332   80             WHEN 5
000041 00033E   30                 MOVE 'E' TO WS-ARRAY (WS-SUB)
000042 00035E   13             WHEN 6
000043 00036A   35                 MOVE 'F' TO WS-ARRAY (WS-SUB)
000044 00038A   40             WHEN 7
```

Enterprise COBOL v5 DWARF source mapping

- Enterprise COBOL v5 DWARF source is embedded in the COBOL v5 load module when the program is compiled with the TEST option.
- No source information files are necessary in the Mapping Repository (ISPF A04 and A05 equivalent)
- APA reads source directly from the load module.
- Alternative is to source map with compile listing. SYSDEBUG source mapping is not available.

Regression and load test interactive z/OS applications
IBM Workload Simulator

- **IBM Workload Simulator** helps eliminate the need for large amounts of terminal hardware and terminal operator time for testing.

- Ideal for stress, performance, regression, function, and capacity planning tests.

- Proven 3270-based interface and new free graphical user interface.

What's new?

- Graphical user interface (GUI) updates provides access to the power of the host product

Simulates a network of terminals and the associated messages

Date and Time Simulation for z/OS applications
IBM HourGlass V7.1 (Announce: October 1, GA: December 6)

- **IBM HourGlass** allows testing of time-sensitive application programs without dedicated individual LPARs or costly IPLs

- Provides support for popular middleware elements such as DB2, IMS, CICS, and COBOL, on the z/OS platform.

- Proven 3270-based interface and batch interface options.

What's new?

- Support for SYSPLEX synchronization

- Additional CICS, IMS invocation command options supported

- Dynamic update of repository

- JES exit to ensure time options are valid

```
------------------ IBM HourGlass: Control Overview ----------------1 of 1000
Command ===>

Cmd Sel/Stat/Disp Type  Name    Owner  Job/name User-ID  Date        Time
___     DISA    DB2   CEDB001  AGGUSR PLAN1   USRDEV   2006-01-01 M0100
___     ENAB    DB2   CEDB002  AGGUSR PLAN2   TSONAM   2006-02-01 M0100
___     ENAB    IMS   CEIM001  AGGUSR REG1    USRDEV1  2006-01-01 P0100
___     DISA    IMS   CEIM002  AGGUSR REG2    USRDEV2  2006-02-01 M0200
___     DISA    JSCD  CEJS001  AGGUSR                  2006-01-01 M0400
___     DISA    JSCD  CEJS002  AGGUSR                  2006-02-01 A1600
___     ENAB    MBAT  CEMB001  AGGUSR USRJOB1          2007-01-01 M0100
___     ENAB    MBAT  CEMB002  AGGUSR USRJOB2          2007-02-01 P0100
___     ENAB    MBAT  CEMB003  AGGUSR USRJOB3          2007-03-01 M0300
___     ENAB    MBAT  CEMB004  AGGUSR USRJOB4          2007-04-01 P0200
___     ENAB    MBAT  CEMB005  AGGUSR USRJOB5          2007-05-01 M0500
___     ENAB    MBAT  CEMB006  AGGUSR USRJOB6          2007-06-01 M0100
___     ENAB    TSOI  CETI001  AGGUSR        USRDEV    2005-11-30 M0100
___     DISA    TSOI  CETI002  AGGUSR        USRHRQ    2005-05-01 M0400
```

```
-------- IBM

SPECIFY
TO THE
CURRENT


HGCC GLOBAL DATE ===> 2011-12-14
                                FORMAT IS ccyy-mm-dd,  WHERE:
                                   ccyy = FULL 4 DIGIT YEAR
                                   mm = 2 DIGIT MONTH
                                   dd = 2 DIGIT DAY


HGCC GLOBAL TIME ===> P3000
                                FORMAT IS dhhmm,  WHERE:
                                   d = "P" OR "E" FOR PLUS OFFSET
                                   d = "M" OR "W" FOR MINUS OFFSET
                                   d = "A" FOR ABSOLUTE TIME VALUE
                                   hh = HOURS (00-23)          ASS=H,
                                   mm = MINUTES (00-59)
```

```
//STEPLIB  DD DISP=SHR,DSN=&SYSUID..ADLAB.LOAD
//         DD DISP=SHR,DSN=HRGLASS.CEE.SCEERUN
//CUSTFILE DD DSN=&SYSUID..ADLAB.FILES(CUST2FA),DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//CUSTRPT  DD SYSOUT=*
```

Simulates date and time for future and past dates, time zone shifting, etc.

Take command of your data sets to improve IT productivity
Data Set Commander V8.1 (Announce: October 1, GA: December 6)

- **IBM Data Set Commander** provides efficient tools and shortcuts to improve handling of PDS and PDSE.

- Fully automated facility to manage caching of PDS and PDSE members.

- Fully compatible replacement for IEBCOPY, enhancing capability to manage and manipulate PDS and PDSE.

- Manage PDSE member generations (versions)

- Integrated front end to ISPF. It enhances ISPF functions, including browse, edit, TSO shell, and DSLIST, UNDELETE, and provides many additional capabilities

What's new?

- Automated PDS/PDSE caching (LLA)
- Manage PDSE member generations (versions)

```
-DSC-                    LLA Monitored Libraries          Row 1 to 14 of 59
Command ===>                                              Scroll ===> CSR

Monitor State: ACTIVE
Authorization: FULL

Main commands: S Sort list  X Exit to main menu
Line commands: A Activate  D Deactivate  R Refresh  M Members  B Browse
```

```
-DSC-                    LLA Monitor Options Menu                    emNum
Command ===>                                                           10
                                                                       13
Monitor State: ACTIVE   Timer: UNIT=1s DELAY=2s AUTO=10m POLL=5m PAUSE=0s  21
Authorization: FULL                                                     7
                                                                        5
===>  _   Enter selected option as follows:                          3574
                                                                     1208
      1   Display defined LLA library groups                            9
                                                                      247
      2   Display monitored LLA libraries

      3   Display monitored load modules                           1 00072

      4   Display SYSPLEX LLA Monitors                             => PAGE

      5   LLA Monitor started task control                     ********

      X   Exit LLA Monitor control application

Press ENTER key to select or point and shoot at option number
Press END key to exit
```

```
000006 //STEPLIB DD DSN=IPT.V7R1.SIQILOAD,DISP=SHR
000007 //SYSPRINT DD SYSOUT=*
000008 //MYLIB    DD DISP=OLD,DSN=DNET187.JCL.DEMO
000009 //SYSIN    DD *
000010       EMPTY O=MYLIB
****** ********************** Bottom of Data **************************
```

Provides useful, cost-saving capability in daily handling of data sets.

PD Tools Multi-Platform Technical Preview

Why PD Tools for Multiplatforms?

- For clients using the z platform and beyond - AIX and Linux users

- Provide a consistent user experience for customers running application on z, AIX and Linux

- Clients using WebSphere MQ, Java/WAS/Liberty Profile, and TXSeries/WXTR

- Above and beyond function and capability of any others in the market

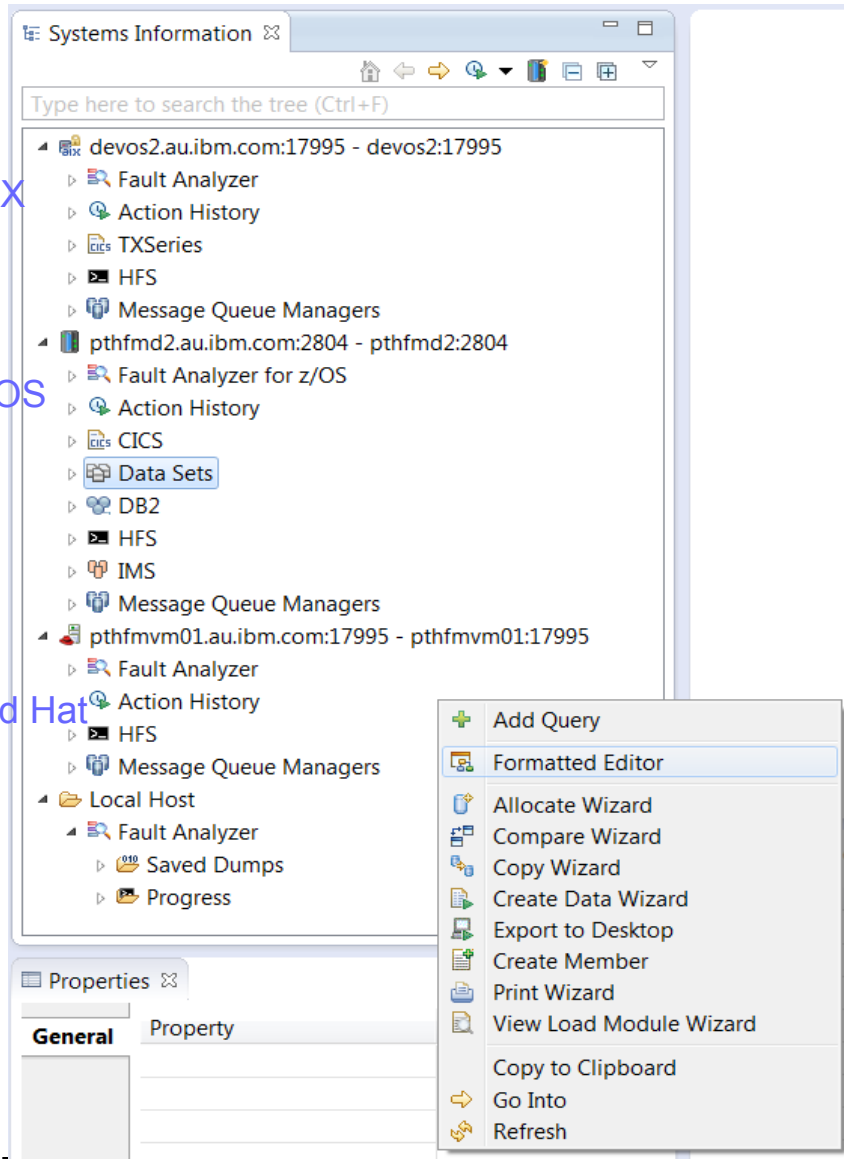- **Watch the PD Tools Website for more details on how to register and download:**
  - **http://www.ibm.com/software/awdtools/deployment/**

File Manager for Multiplatforms Features Technical Preview

File Manager for Multiplatforms Overview

AIX

z/OS

Red Hat

- Supports AIX and Red Hat operating systems on System p.

- Editing of hierarchical file system files, WebSphere MQ queues, and TXSeries resources (on AIX platform only).

- Formatted editing enabled using dynamic templates.

- Use the same navigation and look & feel of FM plug-in functions from z/OS platform.

Familiar FM functionality provided
for distributed platforms

Multiplatform Interoperability Across Platforms

z/OS edit session

AIX edit session

Red Hat edit session

IMS edit session

Fault Analyzer for Multiplatforms Features Technical Preview

Fault Analyzer for Multiplatforms Overview (Java Dump Analysis)

- Support AIX and Red Hat operating systems on System p.

- Analysis of Java dump files on a local file system.

- Supports analysis of Java dumps from IBM's Java virtual machines. While we only provide support for AIX and Red Hat, Java dumps from any supported platforms should work. Just import Java dumps to your local system.

- Some key features:
  - Importing Java dumps to your local workspace for analysis.
  - Display of Java threads in the dump and stack trace of executing program in each thread.
  - Display of general information about Java dumps (command to start the Java program, environmental values, and system information).
  - Source line display.
  - Discovery of Java run-time environments installed on your system.
  - Discovery of Java dumps on your system.
 - Discovery of Java processes running on your system and instructing to take a dump.

Fault Analyzer for Multiplatforms Overview
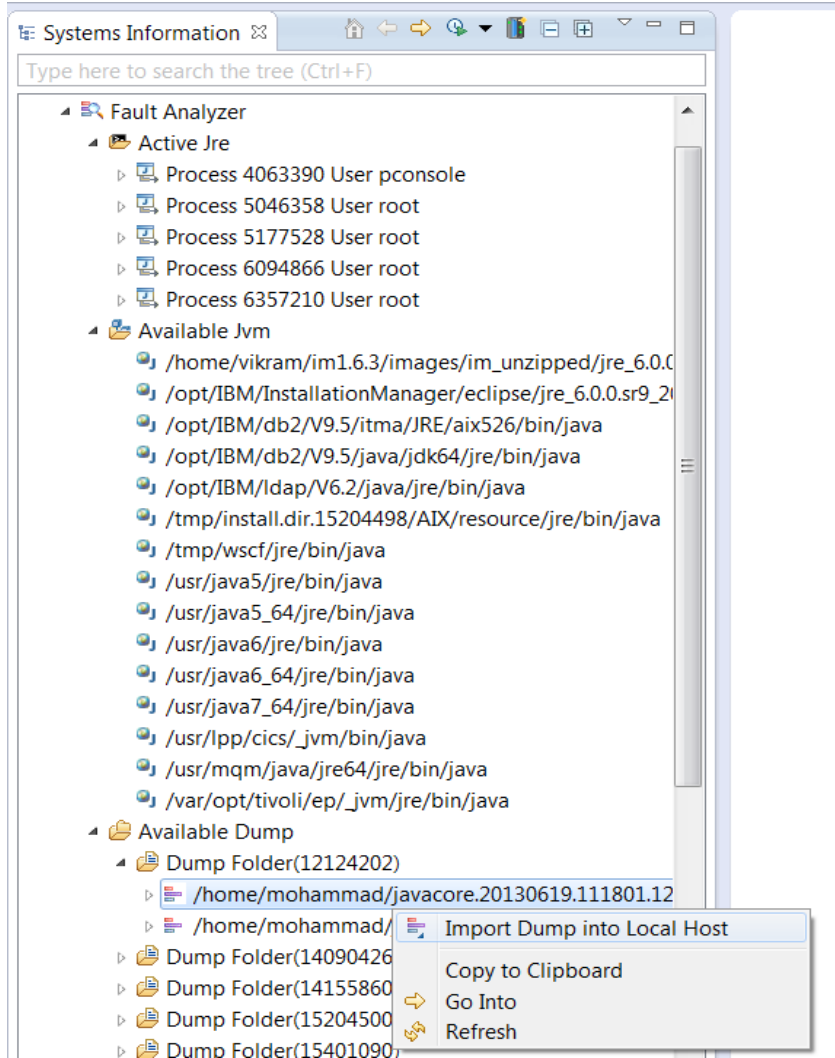
- Discovers running Java processes on your machine:
  - Instruct to take a dump.
  - Browse JAR files associated with the process and let you browse classes.

- Discover JVMs available on your system.

- Discover Java dumps on your machine.
  - Allows you to import Java dumps to your desktop for analysis.

Java Dump Analysis Overview

- Java projects in Eclipse knows everything about your Java applications:
  - Source files.
  - JAR files for dependent libraries.
  - Dependencies on other Java projects.

- We place Java dumps into your local Java project and utilize the information available during the analysis process (eg. Source display).

- The plug-in provides method for importing dumps from a remote system (AIX and Red Hat) to your Java project.

- The plug-in provides method for importing a local dump into your Java project.

- Once imported, you can kick off the analysis of Java dumps.
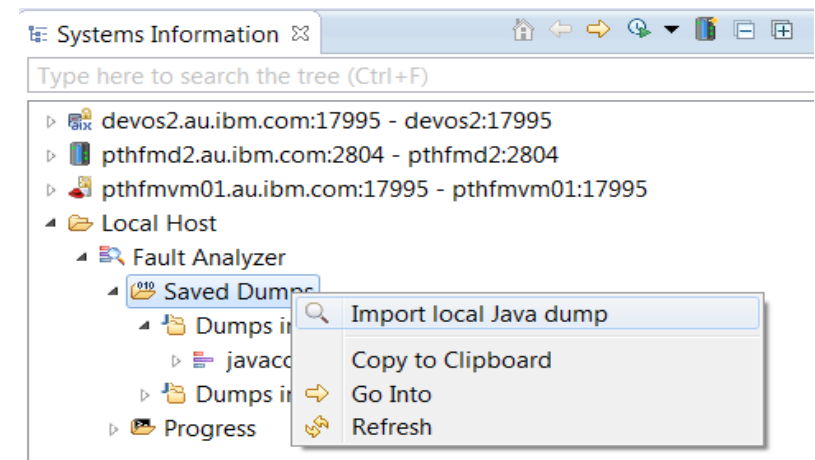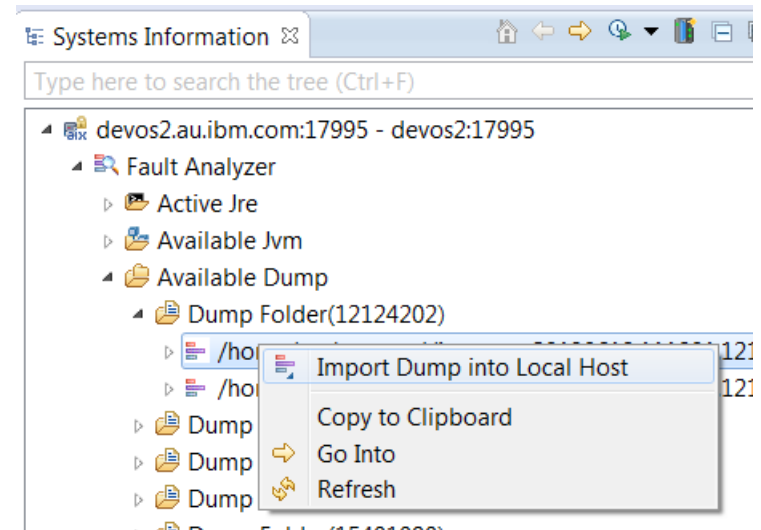
Summary

- z/OS Problem Determination and Deployment Tools that:

  - Exploits IBM's latest technology

  - Offer wide array of key features and functions

  - Provide opportunity for increased user productivity

  - Are affordably priced

  - Have flexible terms and conditions

  - Various training options (Class, Web/online - free, etc…)

- The PD Tools GUIs reduce the effort needed to learn and perform tasks

  - Interfaces for Fault Analyzer, File Manager, Debug Tool and Application Performance Analyzer and Workload Simulator

  - Add flexibility, while retaining the proven functionality of the PD Tools

  - Navigate quickly between multiple product's functionality

  - Perform complex tasks with the aid of menus and toolbars

  - Reduce the learning curve - gain maximum leverage of IT staff with minimal training expense

- PD Tools interfaces are available no additional charge once mainframe license obtained

- The traditional 3270 interfaces are also available to leverage traditional application development and maintenance skills

- Integrated Application Development, System/Sub System Environments

Questions

Thank You

PD Tools V13 and Solution Pack Resources

- **Announcement letters**
  - PD Tools Solution Packs'
  - CICS Solution Packs

- **Redbooks/Redpapers**
  - IBM Problem Determination Tools for z/OS (November 2012)
  - Modernize Your Application Infrastructure with CICS Tools V5.1

- **Analyst reports**
  - Whitepaper: PD_Tools_Competitive_Analysis_Executive_Summary (March 2011)
  - IBM CICS Tools: Discovery and Optimization for the Next Generation

- **Web Page**
  - IBM Problem Determination Tools - http://www.ibm.com/software/awdtools/deployment/

HSBC Bank Argentina S.A. - An International Bank in Argentina

Business Challenge

- Needed to reduce mainframe application development costs and quickly identify and fix root-cause issues impacting application performance and reliability

Solution	Benefits
Using IBM Problem Determination Tools, the bank's development team modernized its processes for developing back-end IBM CICS applications with Rational Developer for z. -IBM Debug Tool for z/OS -IBM Fault Analyzer for z/OS -IBM File Manager for z/OS	• Increased programmer productivity by **10%** • Significantly decreased abend-resolution time • Decreased application development costs • Improved application performance

Client Quote

"We've increased programmer productivity by 10 percent and cut development costs. Not only that, but we've experienced significant decreases in the number of transaction failures within our applications."

CICS Interdependency Analyzer for z/OS V5.1

Application insight

What's new in CICS IA V5.1…

- Support for CICS Transaction Server V5.1, including enhanced business application analysis

- New threadsafe analysis plug-in view and report

- Improved installation and configuration

- DB2 data lifecycle management

- Native SQL language stored procedures

- Graphical visualization view of resources

CICS IA enables you to…

- Identify threadsafe / non-threadsafe programs
- Isolate and remove affinities
- Speed CICSPlex® SM workload management
- Advanced CICS command flow analysis
- Highlight CICS web service and mobile targets

http://ibm.com/software/products/us/en/cics-ianaly

Drive a threadsafe report from the CICS IA plug-in

Benefits

- Understand threadsafe issues by program
- Run the report against the latest level of CICS

Run threadsafe report by region

Save as HTML report

View Summary

View detail by program