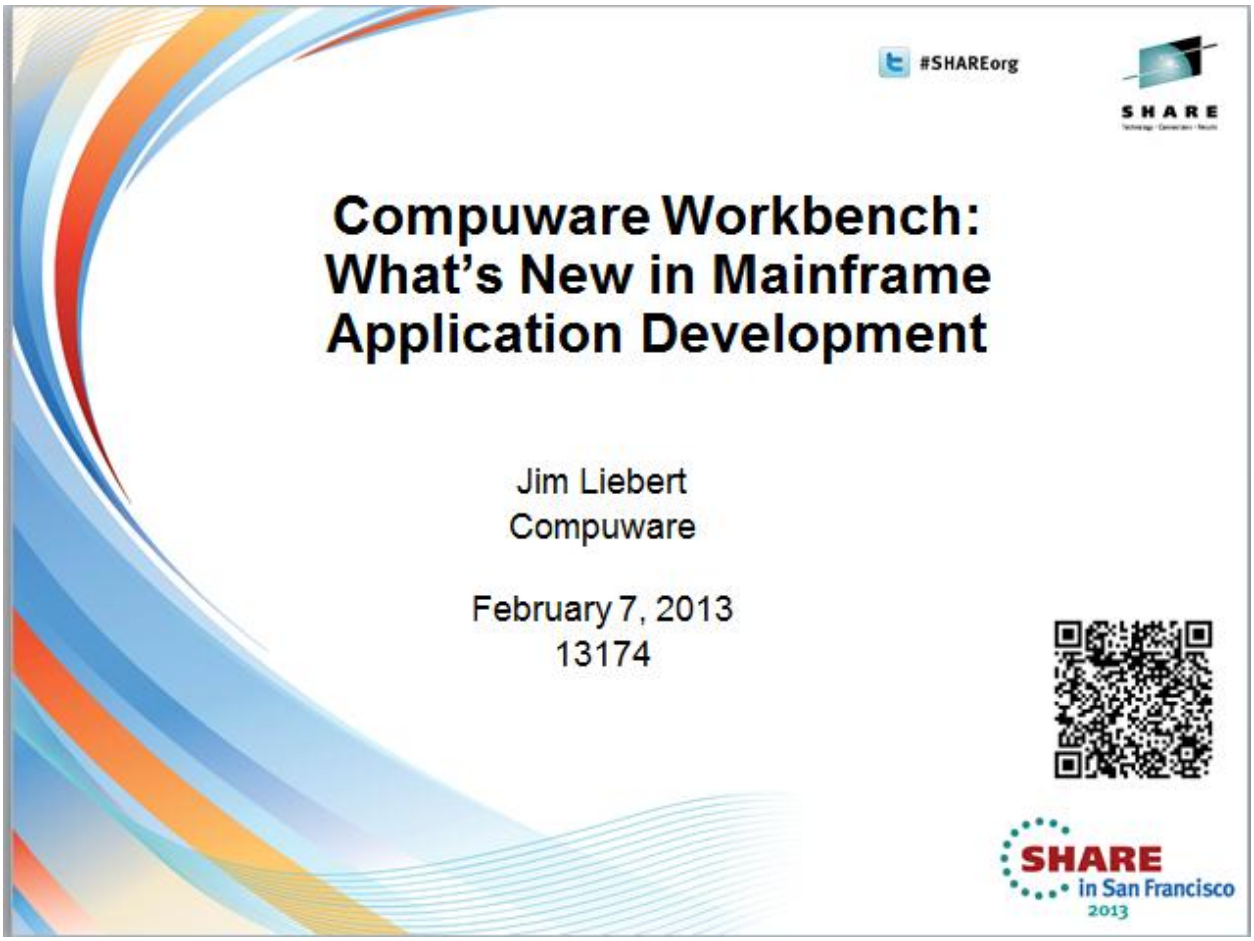


www.LinkedIn.com/in/jimliebert

Jim.Liebert@compuware.com

Table of Contents

Introduction

The Compuware Workbench is a modernized development environment for mainframe application development. It provides an access point for many of the common tasks of a mainframe programmer and was developed so the programmer could accomplish much of their day to day processing without leaving the Workbench.

Why the Compuware Workbench was built

The Compuware Workbench was built due to the changing dynamics of the mainframe IT work force. The new generation of mainframe programmers are most proficient when working with a sophisticated IDE and the learning curve for the classic mainframe ISPF based development has proven very steep.

The Compuware Workbench is built on the Eclipse Framework. This provides some built-in advantages. There is a large community of programmers already comfortable with the Eclipse framework; Eclipse is extensible (individual sites or third party software can extend the capabilities of the Workbench); Eclipse is flexible – the Compuware Workbench can be run standalone (as a Rich Client Platform in Eclipse terms) or as plugins to an existing Eclipse environments – with IBM's RDz being the most prevalent on the mainframe landscape.

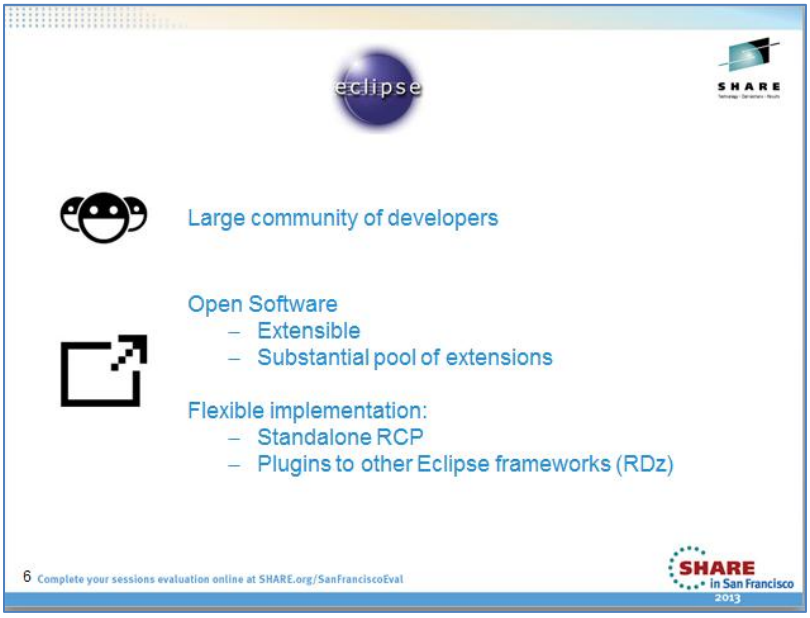


Figure 1 Eclipse benefits

What the Compuware Workbench does

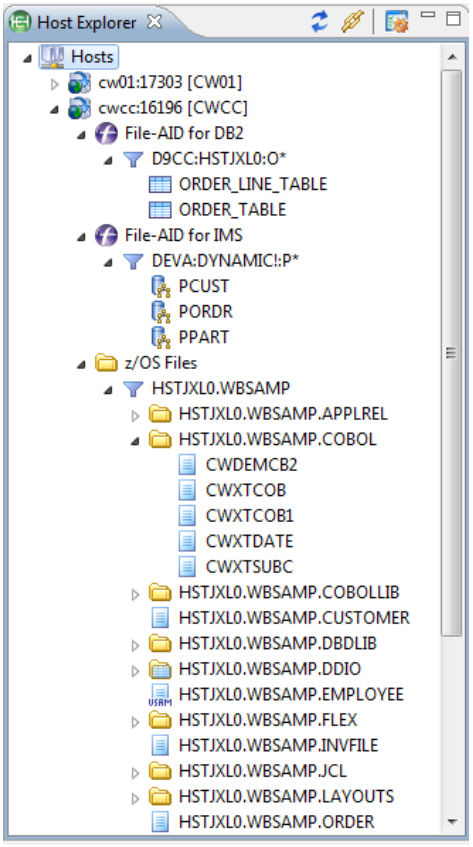
The Compuware Workbench combines the most popular features of the industry leading Compuware products (File-AID, Xpediter, Abend-AID, Strobe and Hiperstation) with some fundamental capabilities from ISPF and includes other capabilities unique to Eclipse.

z/OS File Access and Manipulation

The Host Explorer View (available in the Host Explorer or File-AID Data Editor perspective) provides the access point for z/OS files. It uses a filter approach similar to ISPF 3.4

Figure 2 shows a sample Host Explorer View. Going from the top towards the bottom we can see:

- Connections to two LPARs (cw01 and cwcc)
- Access to two DB2 tables



- Access to three IMS databases
- Access to several z/OS files
  - One PDS opened to show five members
  - Two sequential datasets
  - One VSAM file.

From here we can right click to allocate datasets like those listed, to recall migrated datasets, to delete datasets, or to submit jobs for execution. We can also use drag and drop to copy sequential datasets or members.

Finally we can right click to invoke the File-AID Data Editor to edit and browse sequential, VSAM, DB2 or IMS data or right click on programs to invoke the Compuware Editor powered by SlickEdit.

Figure 2 Host Explorer

Intelligent Source Code Editing

The Compuware Workbench provides an editor powered by SlickEdit that brings intelligent source code editing to mainframe programs.

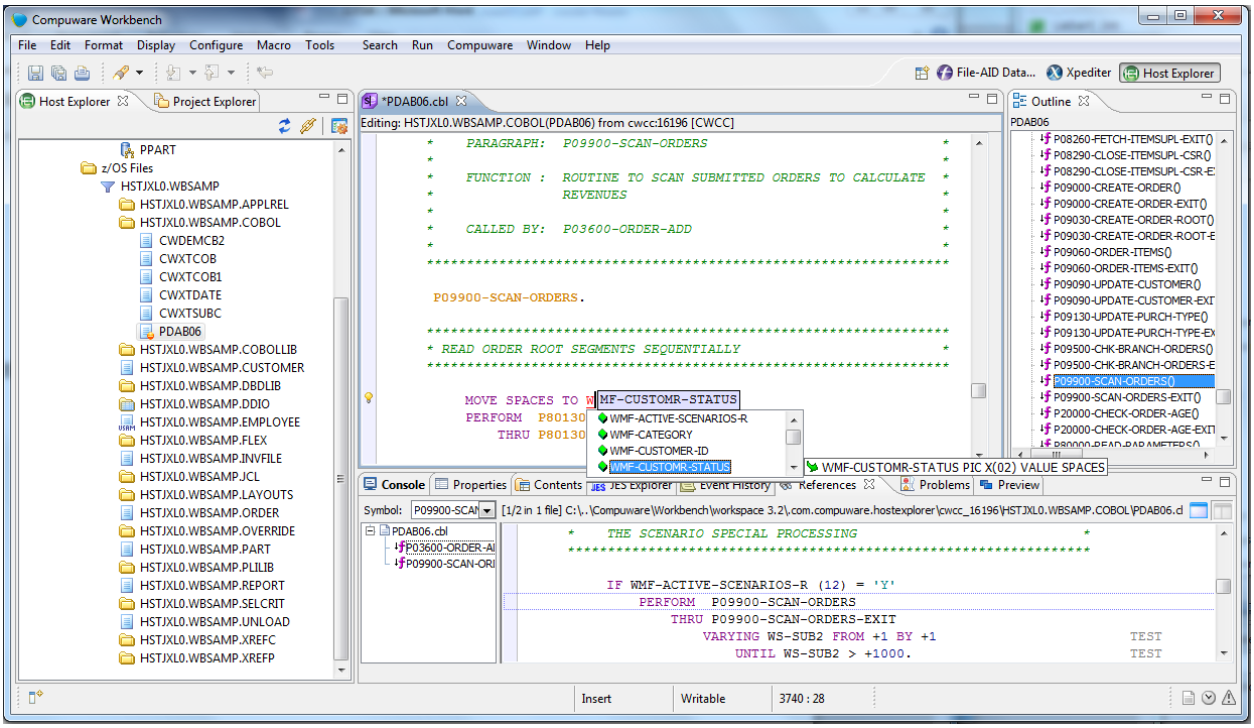


Figure 3 Compuware Editor Powered by SlickEdit

Figure 3 shows an edit session of a COBOL program PDAB06. Note the Outline View on the right to provide easy navigation through the program. The Reference View on the bottom gives a unique "dual view" into the code – the editor shows the source of paragraph P099900-SCAN-ORDERS while the read-only Reference View shows an example of a PERFORM of that paragraph.

In the editor notice code is being added – and the Editor has provided a drop down list of all the variables that match what was typed (in this case a W). Scrolling down the list and the Editor shows the definition of that variable. You can also get help on the syntax of any verb in the language.

This intelligent editing is particularly beneficial to a programmer that may be new to COBOL or new to the program being edited.

Data Edit and Browse

The Compuware Workbench also takes advantage of the back-end File-AID products (MVS, DB2 and IMS) to provide edit and browse capabilities.

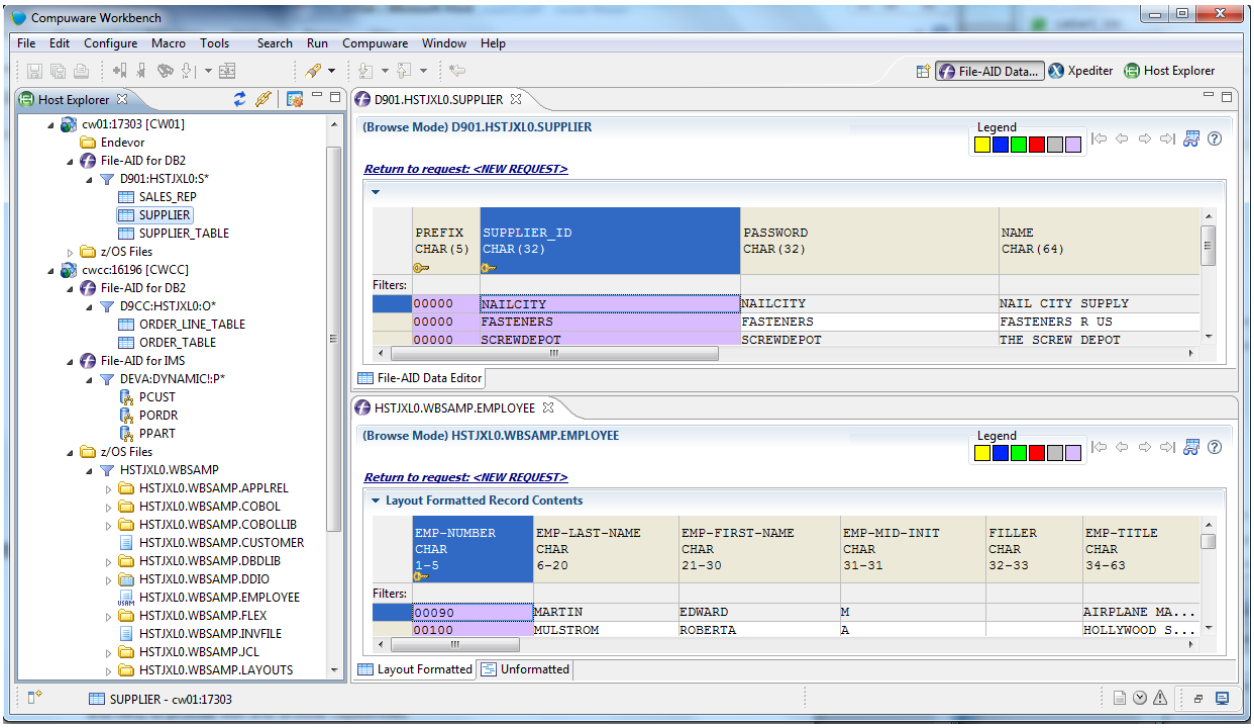


Figure 4 File-AID Data Editor

Figure 4 shows the File-AID Data Editor with two edit sessions. The top one is editing a DB2 table (SUPPLIER) on the LPAR CW01 while the bottom session is editing a VSAM file on the LPAR CWCC. These two systems do not share any DASD.

Note the consistent “data is data” spreadsheet look and feel. You can manipulate columns and fields with simple right clicks, including the ability to export data to Excel.

The File-AID Data Editor also supports File-AID/MVS cross references (XREF) files, meaning you can edit and browse more complicated datasets. It also supports data that is mapped by COBOL ODO structures or PL/I REFERS.

Job Submission and Review

The Compuware Workbench also provides for job submission and review.

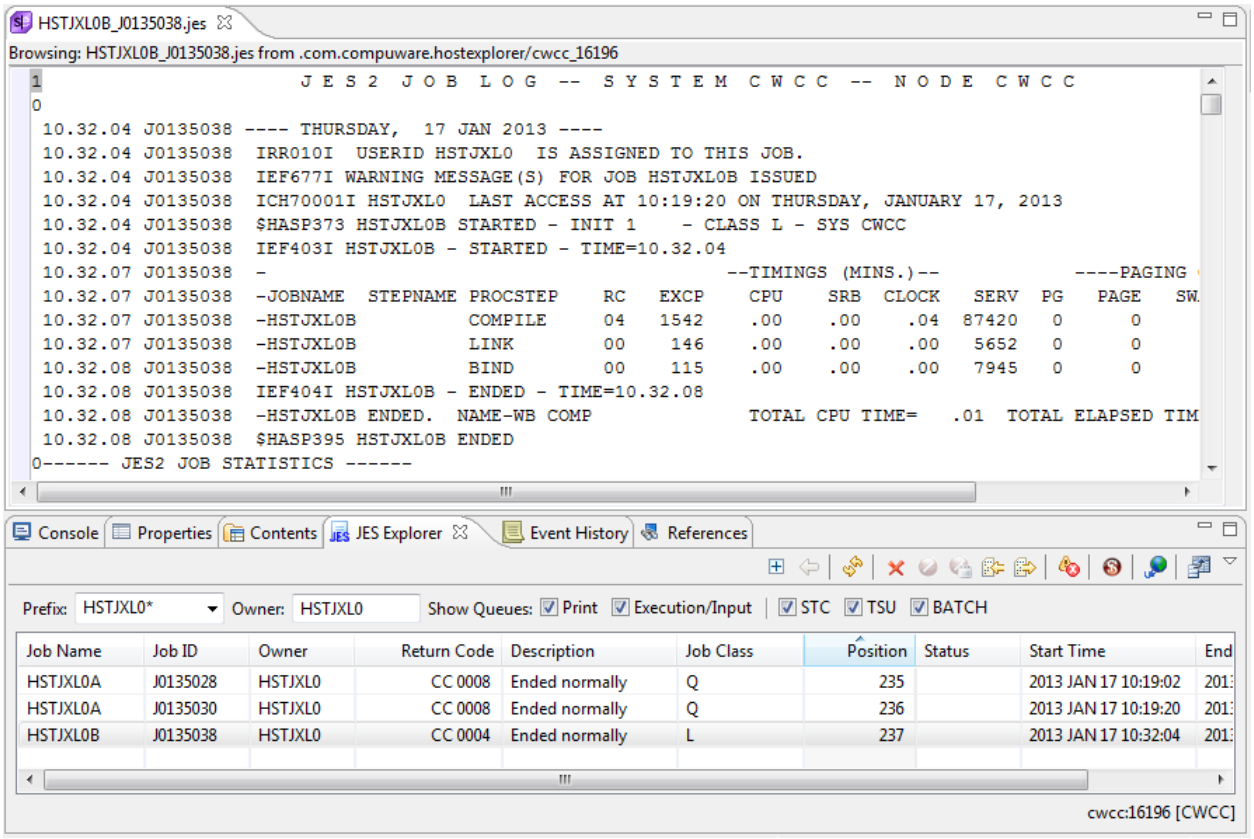


Figure 5 JES Explorer

Figure 5 shows the JES Explorer View (on the bottom) listing all the jobs that match the provided prefix and owner. From here you can open them up for browsing (as the figure shows the browse of the output from the job id J0135038). You can also expand the output, similar to a "SDSF ?" command, you can purge the output, you can perform compile diagnostics (if the job involved a Compuware Language Process driven compile) that will open up the problems view if there were compile errors, and you can even start up a Strobe ADD ACTIVE or ADD QUEUED for that job.

Debugging

The Compuware Workbench includes Xpediter/Eclipse which uses the Xpediter product family to provide Eclipse based debugging for mainframe batch, CICS, IMS, TSO programs and DB2 stored procedures.

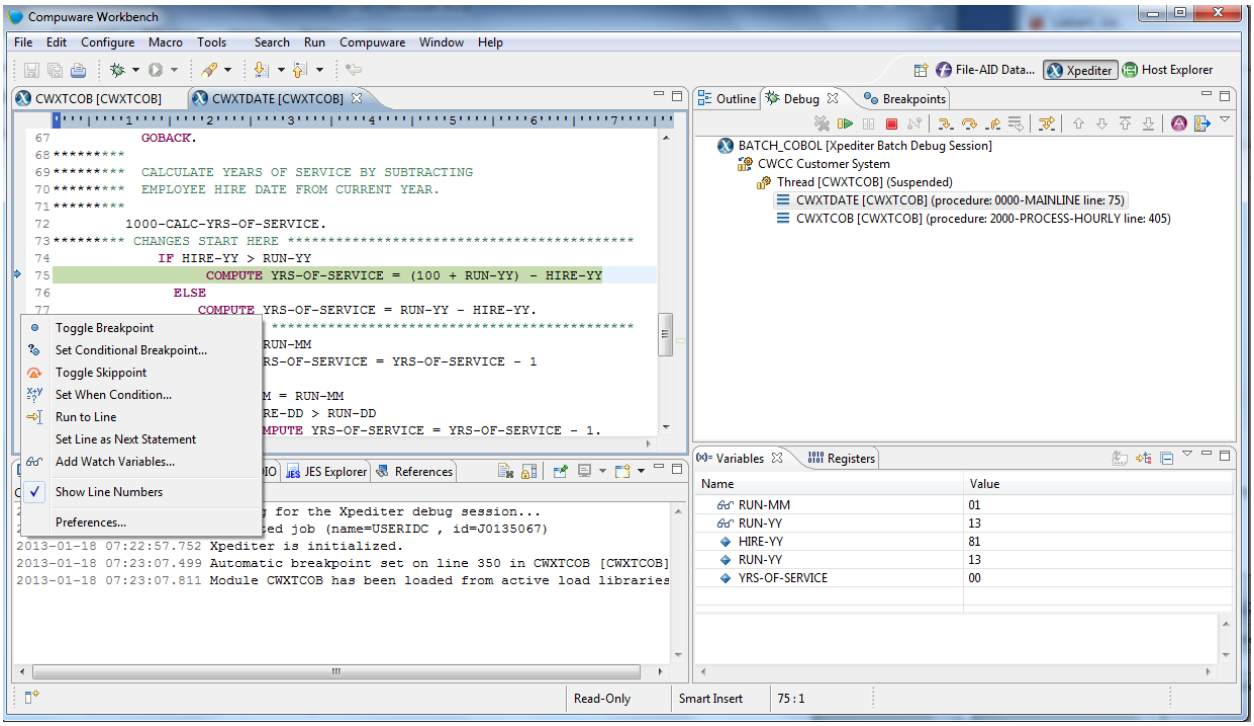


Figure 6 Xpediter/Eclipse

Xpediter/Eclipse provides an Eclipse look and feel to classic Xpediter debugging and includes both Xpediter features such as Monitor/Reverse and sophisticated trapping and Eclipse features such as Step Over and Step Return.

Figure 6 shows an active Xpediter/Eclipse debug session. The controls in the Debug View on the top right allow for single stepping (“GO 1”) or executing (“GO”). The icons in the Variable View show that that we have added two variables to the Watch list. The context menu in the Editor View on the top left (which is there because we did a right click on the gutter) shows the available debugging commands.

Xpediter/Eclipse provides for mainframe debugging with a look and feel instantly comfortable to traditional Java programmers.

Abend Analysis

The Compuware Workbench uses the Abend-AID Web Interface to provide a full-function version of Abend-AID to the Eclipse user.

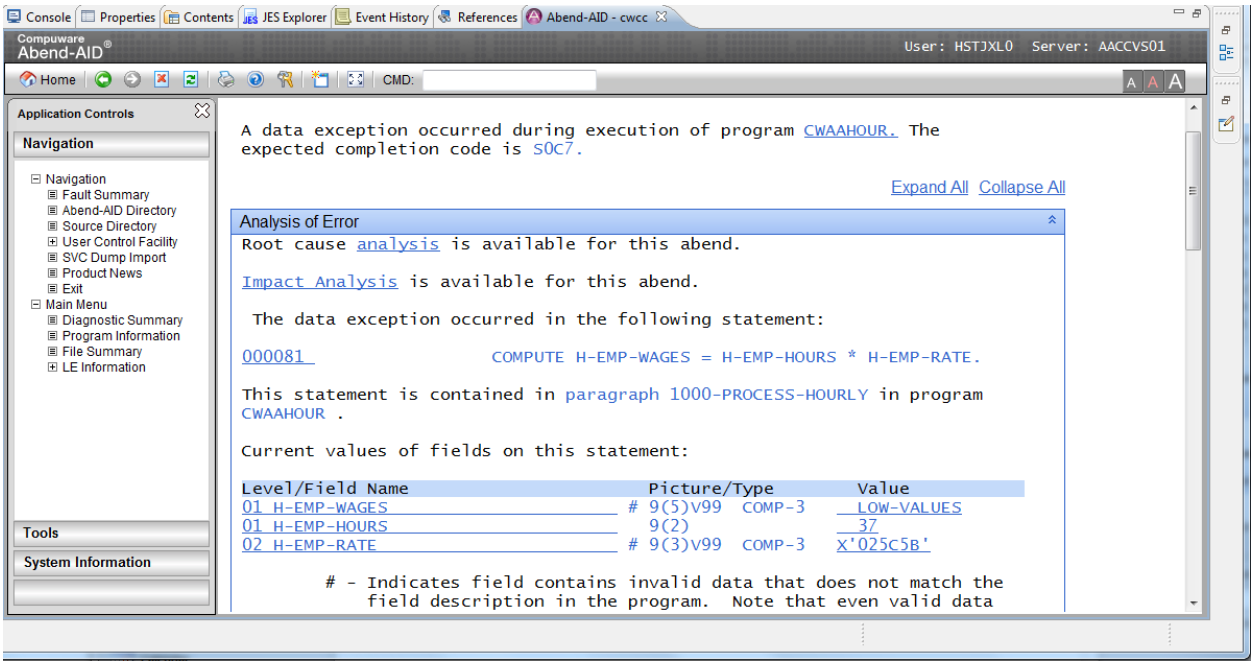


Figure 7 Abend-AID Web Interface

Leveraging the web access point gives the user all of the functionality that Abend-AID provides with its more traditional CICS and VTAM access. In addition there is a hot key link between Xpediter/Eclipse to Abend-AID to allow for extra analysis during a debugging session.

Application Performance Management

The Compuware Workbench uses iStrobe to bring in application performance analysis.

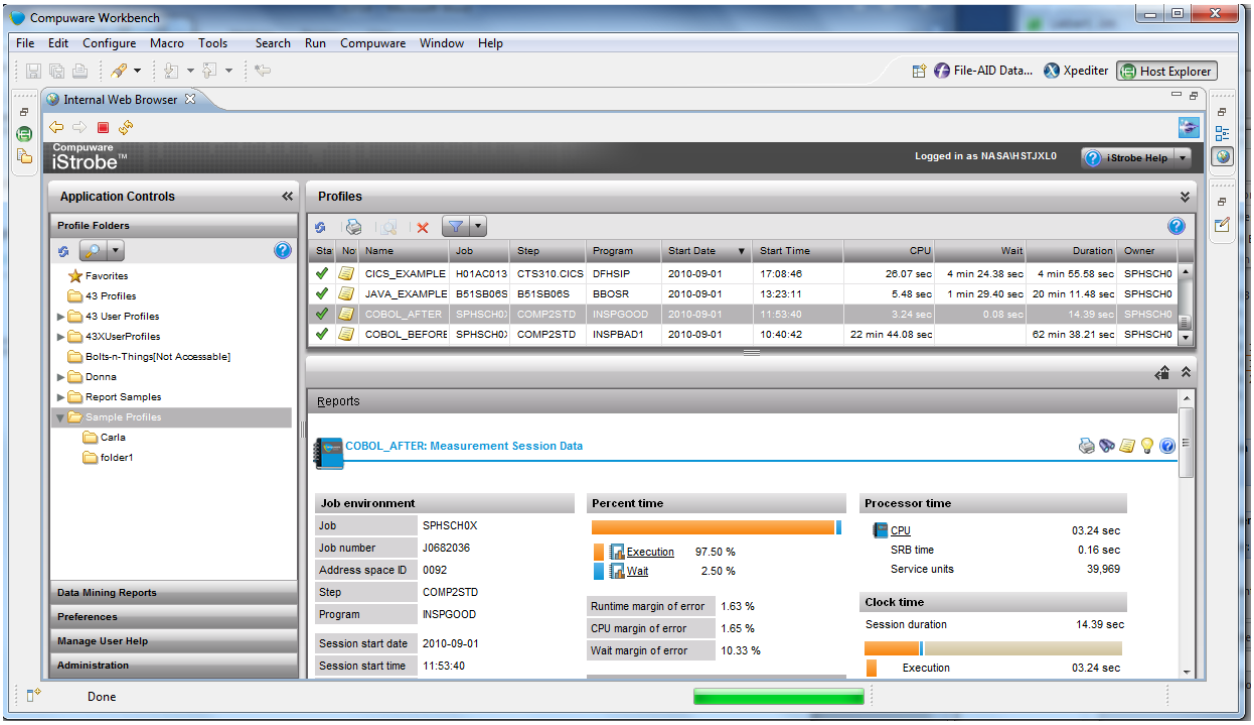


Figure 8 iStrobe

In addition the Compuware Workbench provides a link from the JES Explorer to add a Strobe measurement request based on either a running or completed job.

More Information

Demonstration videos showing The Compuware Workbench in action are available from the Compuware website here.

Training videos that provide more insight into The Compuware Workbench are available here (registration required).