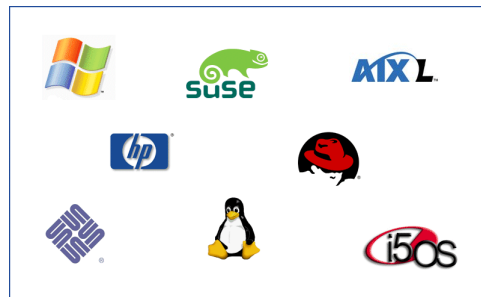




Audit tracking & SOX compliance.

REV SCHEDULER



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When you mention Audit tracking and SOX compliance with regards to Scheduling applications the normal things that are 'tracked' are the completion status of the Jobs, Scripts, Dependencies etc.,

The integral parts of any Scheduling application are the Job Event definitions as:

- These control the ERP applications and in turn update the ERP data,
- No Jobs will be run until Jobs are registered in the Scheduler,
- Any modification to the Scheduled Job will affect the data of the ERP application.

REV SCHEDULER has a built in Audit facility, for Job Events, that:

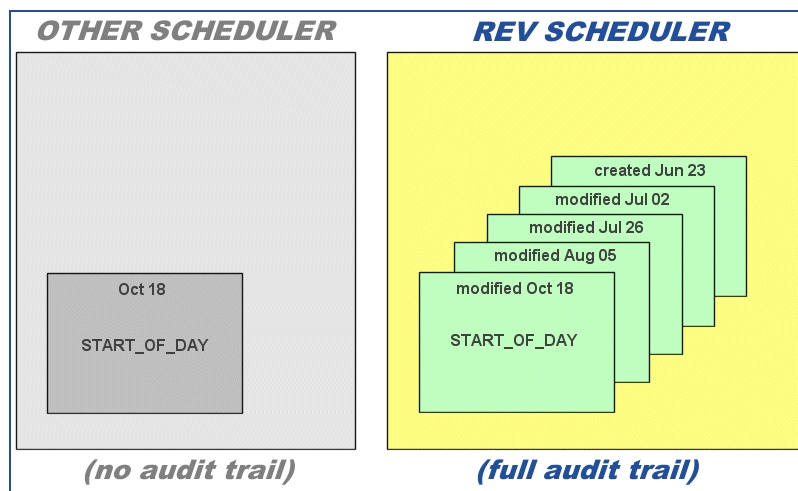
- Captures the changes made
 - All additions are captured,
 - All deletions are captured,
 - All updates contain the:
 - Before image of the data,
 - After image of the data,
- Registers who, when and how the changes were made, to the Job Events and their components.

The Audit facility is implemented in the Base Model of REV SCHEDULER and runs natively on:

- iSeries, • LINUX, • UNIX, • WINDOWS.







Using the Audit facility allows you to :

- Have greater SOX compliance as all Job Event definitions are audited and tracked,
- Know:
 - Exactly what Job Event and components were altered as you can view the data,
 - Who, when and how the alteration occurred,
- Undo changes made to Job Events,
- Undelete any Job Event components or complete Job Events.





Every Audit transaction is displayed with a color coded image for quick reference to identify the transaction types, which can be:

-  • Add new transaction,
 -  • Update transaction (Before),
 -  • Updated transaction (After),
-  • Delete transaction,
 -  • Undo Update transaction,
 -  • Undo Delete transaction,

If a Job Event or any of its components are updated the Audit facility will log:

- Before image of the data (prior to the update),
- After image of the data (after the update),

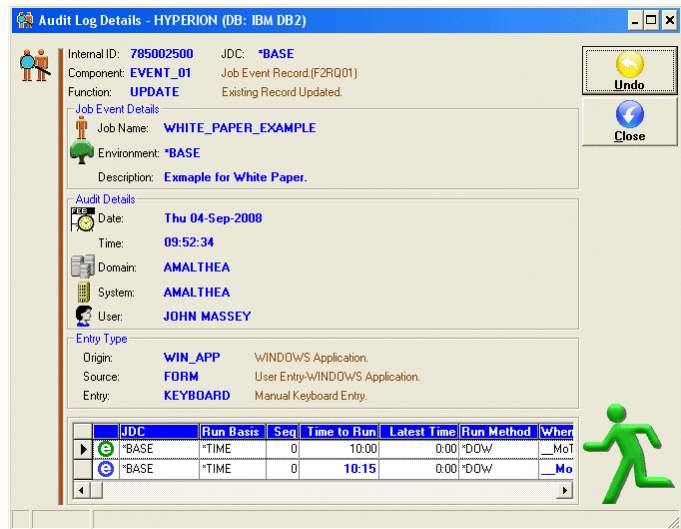
These details can then be used to Undo the update and reset the data.

If a Job Event or any of its components are deleted the Audit facility will log the image of the data prior to the delete.

These details can then be used to Undo the delete and restore the data to the original value.

The Audit transaction also contains the:

- Date and time of the entry,
- Job Event name at the time of the entry,
- Domain, System, User that created the entry,
- Number/User/Job if the entry was created from the 5250 interface,
- Entry type details which contains the Origin, Source and Entry type,
- Image(s) of the data and if this is an update any data that has changed in the after image is displayed in Blue.



The screenshot shows the 'Audit Log Details' window for 'HYPERION (DB: IBM DB2)'. It displays the following information:

- Internal ID: 785002500, JDC: *BASE
- Component: EVENT_01, Job Event Record, (F2RQ01)
- Function: UPDATE, Existing Record Updated.
- Job Event Details:
 - Job Name: WHITE_PAPER_EXAMPLE
 - Environment: *BASE
 - Description: Example for White Paper.
- Audit Details:
 - Date: Thu 04-Sep-2008
 - Time: 09:52:34
 - Domain: AMALTHEA
 - System: AMALTHEA
 - User: JOHN MASSEY
- Entry Type:
 - Origin: WIN_APP (WINDOWS Application)
 - Source: FORM (User Entry-WINDOWS Application)
 - Entry: KEYBOARD (Manual Keyboard Entry)

At the bottom, there is a table with columns: JDC, Run Basis, Seq, Time to Run, Latest Time, Run Method, and Wher. The table contains two rows:

JDC	Run Basis	Seq	Time to Run	Latest Time	Run Method	Wher
*BASE	*TIME	0	10:00	0:00	*DOW	_Mo
*BASE	*TIME	0	10:15	0:00	*DOW	_Mo

Even if a Job Event name changes it will all be logged and can be Undone.

The Audit facility data is in a table, within the REV SCHEDULER database, so you can also run external data queries or SQL statements to gain additional views of the Audit transaction data if required.



The Audit facility logs all the transaction and these can then be viewed in 2 different ways:



- All Audit transactions for a Job Event will display all the Audit entries for a Job Event from initial creation up to the present,

Job Event Audit Log - HYPERION (DB: IBM DB2)

White Paper Example 2 - Triggered

Job Event Audit Log

Date	Time	Job Name	JDC	Component	Op.	Origin	Entry Type	Who
Mon 08-Sep-2008	12:33:39	WHITE_PAPER_EXAMPLE2	*BASE	EVENT_00	+	5250_APP	KEYBOARD	QPAD
Mon 08-Sep-2008	12:33:39	WHITE_PAPER_EXAMPLE2	*BASE	EVENT_01	+	5250_APP	KEYBOARD	QPAD
Mon 08-Sep-2008	12:34:13	WHITE_PAPER_EXAMPLE2	*BASE	JSCRIPT	+	WIN_APP	DRAG&DROP	AMAL
Mon 08-Sep-2008	12:34:57	WHITE_PAPER_EXAMPLE2	*BASE	JDEPENDNCY	+	WIN_APP	KEYBOARD	AMAL
Mon 08-Sep-2008	13:37:05	WHITE_PAPER_EXAMPLE2	*BASE	EVENT_00	e	5250_APP	KEYBOARD	QPAD
Mon 08-Sep-2008	13:37:05	WHITE_PAPER_EXAMPLE2	*BASE	EVENT_01	e	5250_APP	KEYBOARD	QPAD
Mon 08-Sep-2008	13:37:54	WHITE_PAPER_EXAMPLE2	*BASE	JSCRIPT	e	5250_APP	KEYBOARD	QPAD
Mon 08-Sep-2008	13:38:01	WHITE_PAPER_EXAMPLE2	*BASE	JSCRIPT	e	WIN_APP	KEYBOARD	AMAL



- Audit transactions for a date (or date range) will show every Audit log entry for all Job Events (and their components) that fall between the From and To date.

Job Events Audit Log - HYPERION (DB: IBM DB2)

Date Range
From: << CURRENT >>
To: << CURRENT >>

Job Events Audit Log - HYPERION (DB: IBM DB2) (Monday, 8 September 2008 - Monday, 8 September 2008)



Date	Time	Job Name	JDC	Component	Op.	Origin
Mon 08-Sep-2008	13:37:54	WHITE_PAPER_EXAMPLE2	*BASE	JSCRIPT	e	5250_APP
Mon 08-Sep-2008	13:38:01	WHITE_PAPER_EXAMPLE2	*BASE	JSCRIPT	e	WIN_APP
Mon 08-Sep-2008	13:39:20	WHITE_PAPER_EXAMPLE3	*BASE	EVENT_00	+	5250_APP
Mon 08-Sep-2008	13:39:20	WHITE_PAPER_EXAMPLE3	*BASE	EVENT_01	+	5250_APP
Mon 08-Sep-2008	13:40:46	WHITE_PAPER_EXAMPLE3	*BASE	JSCRIPT	+	WIN_APP
Mon 08-Sep-2008	13:41:27	WHITE_PAPER_EXAMPLE3	*BASE	JDEPENDNCY	+	WIN_APP
Mon 08-Sep-2008	13:41:45	WHITE_PAPER_EXAMPLE3	*BASE	EVENT_00	x	WIN_APP
Mon 08-Sep-2008	13:41:45	WHITE_PAPER_EXAMPLE3	*BASE	EVENT_01	x	WIN_APP
Mon 08-Sep-2008	13:41:45	WHITE_PAPER_EXAMPLE3	*BASE	JDEPENDNCY	x	WIN_APP
Mon 08-Sep-2008	13:41:45	WHITE_PAPER_EXAMPLE3	*BASE	JSCRIPT	x	WIN_APP
Mon 08-Sep-2008	13:42:16	WHITE_PAPER_EXAMPLE3	*BASE	EVENT_00	x	WIN_APP
Mon 08-Sep-2008	13:42:16	WHITE_PAPER_EXAMPLE3	*BASE	EVENT_01	x	WIN_APP



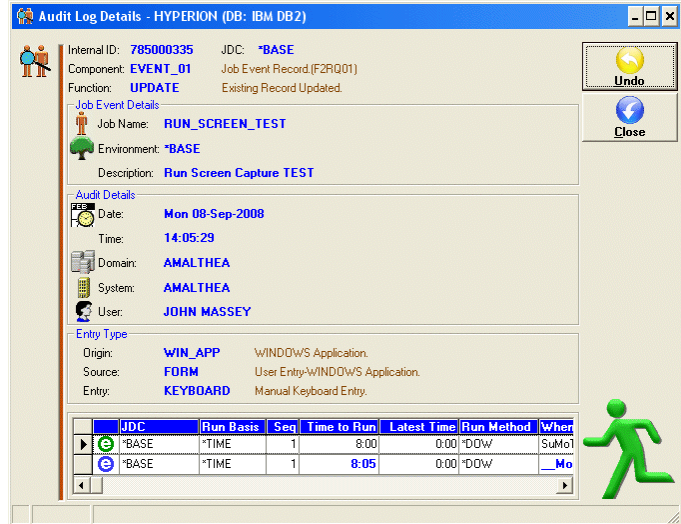
If a change is made to a Job Event or any of its components it is all logged and the data can be rolled back or the update Undone.

If we change the Time to Run and the Day a Job Event will be run the Audit form, when we drill down from either of the 2 views of the data, would look like the following:

There are 2 images of the data:



-  • Before image,
-  • After image.

The updated or altered data is displayed in Blue for easy recognition.

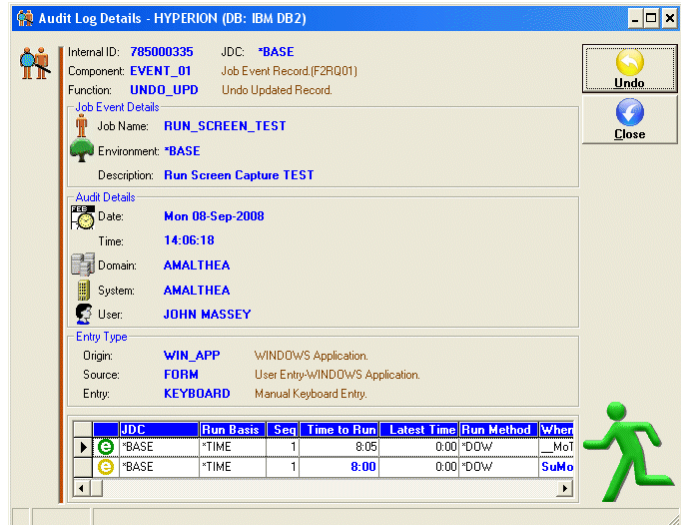


If we then click on the Undo button the data is rolled back and this Audit transaction is also registered, for the Undo of the update.

There are 2 images of the data:

-  • Before image,
-  • After image (Undo).

The updated data is displayed in Blue for easy recognition.



As all transactions are logged data can be quickly and simply rolled back or Undone and even Undo an Undo can be performed.



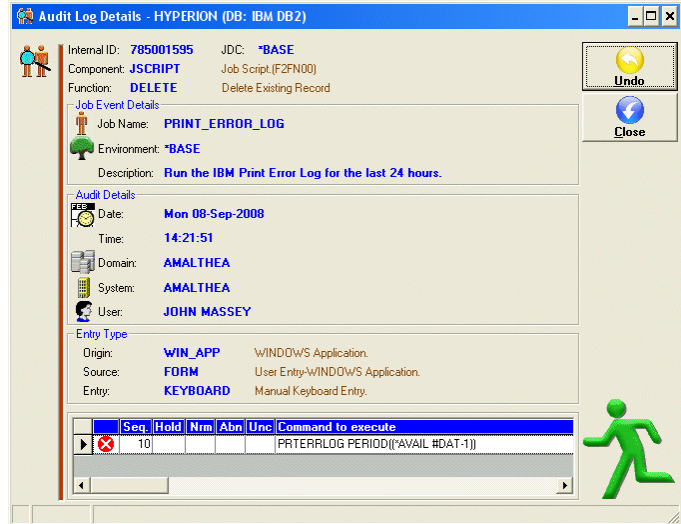
If a Job Event or any of its components are deleted it is all logged and the data can be rolled back or delete Undone (Undelete).

If we delete a Job Event component (in this example a Job Script sequence), when we drill down from either of the 2 views of the data, would look like the following:

There is 1 image of the data:



• Delete image.

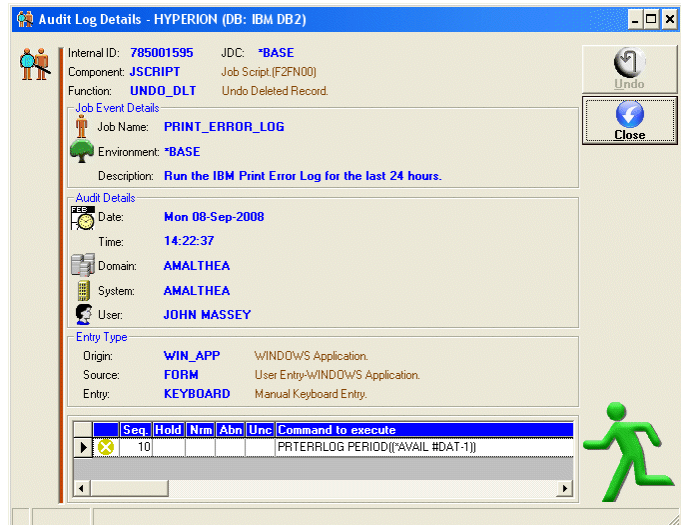


If we then click on the Undo button the data is rolled back and this Audit transaction is also registered, for the Undo of the delete (Undelete).

There is 1 image of the data:



• Undelete image.

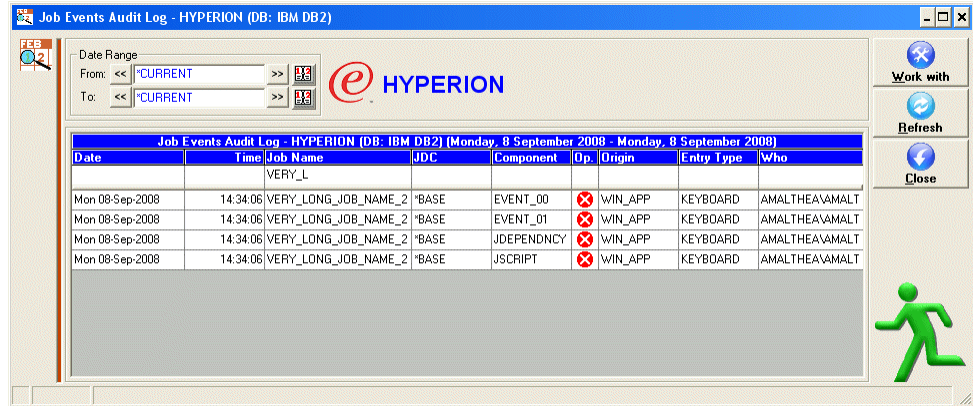


As all transactions are logged data can be quickly and simply Undeleted.



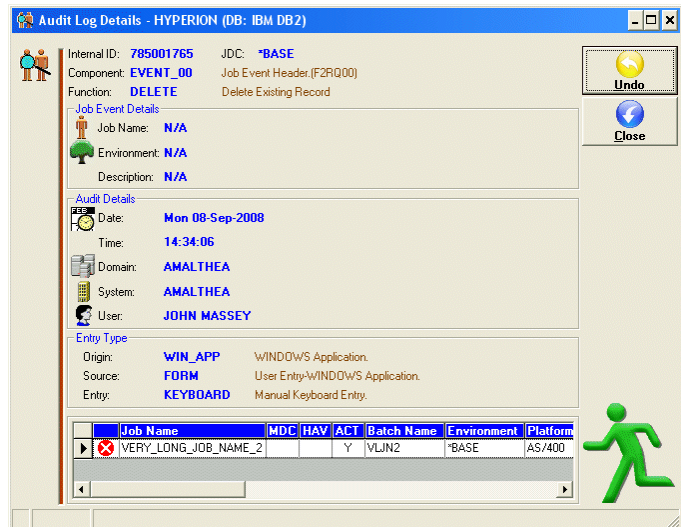
If a complete Job Event it is all logged and the data can be rolled back or Undone (Undelete).

When a complete Job Event is deleted an Audit log entry is made for every component that exists, for the Job Event.

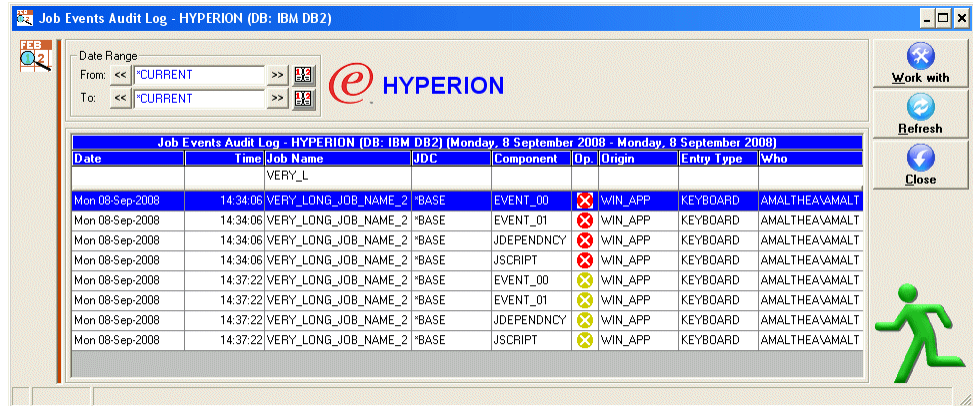


If we delete a Job Event component, when we drill down from the Audit by date view of the data, would look like this.

To restore or Undelete a complete Job Event you must only select the Job Event Header record (EVENT_00) and the Job Event and all its deleted components will be restored.



The Job Event and all the components Undeleted are all logged in the Audit facility.





Learn more about using Audit Tracking that will give you greater SOX compliance, using REV SCHEDULER by:

- Watching the Flash presentations at

<http://www.revsoft.com/videos.php?selected=sch#revsch>

- View the Publications at

<http://www.revsoft.com/publications.php>

- Book a Web-Ex with a RevSoft technician at

<http://www.revsoft.com/webex.php>

- Read about REVSCHEDULER at

<http://www.revsoft.com/products.php?product=revsch>