Rev Scheduler
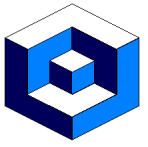
Powerful Scheduling made easy

Run scheduled jobs in an unattended environment throughout your Enterprise to increase:

• Throughput,   • Accuracy,   • Efficiency.

Native on all platforms

Run REV SCHEDULER natively on:

• AIX,   • AS/400   • HP-UX,

• LINUX,   • SOLARIS,   • WINDOWS.

You control the database locations

The ONLY platform that must have a Local database is iSeries as very i5OS installation has a DB2 instance.

On every other platform you are in total control of the database locations - which can be Local or Remote - at RevSoft we do have a simple rule 'A Mission Critical server should have a Local database.'

Same Job Scheduler on all platforms

As REV SCHEDULER is exactly the same model on all platforms:
 • The same Windows .net User Interfaces are used for all platforms:

   • Scheduler Definitions - to define Jobs, Calendars, Security, LDAP, Environments etc.,,

   • Host & Enterprise Operations - to manage as well as see and hear all jobs as they are running,

   • High Availability - to manage and check the Integrity of the production and fail over Jobs,

   • Save & Restore - to Save & Restore Jobs and Options and your site or DRP sites,

   • Engine - to configure, add systems and migrate data.
 • One education plan fits all,
 • Dependencies can be accessed across all platforms,
 • Group jobs can be run across all platforms and in this way the scheduled jobs run in exactly the same manner as the business process flows.

Only install User Interfaces where required

As the User Interfaces are very specific as to their functions you only need to install them where they are required - instead of using one large cumbersome interface where only a small portion is required.

30 long System Name

The iSeries System Name is up to 8 characters in length but in RevSoft you can use an Alias Name that can be up to 30 characters in length.
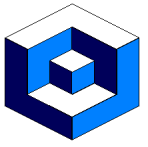
If a server has a System name of S1234567 it can be seen as (in RevSoft) as CUSTOMER_NAME_PROD.

Major Features

• 20 Long Job Names,
• Audit,
• Calendars,
• Dependencies,
• Environments,
• Group Jobs,
• High Availability,
• Job Day Codes,
• Job Sheets,
• Multiple Run Jobs,
• Operations Panels,
• Run Sheet,
• Screen Capture & Run,
• Security/LDAP,
• Variables.

20 long Job Names

How many times have you had to abbreviate a business process name to become a scheduled job name and fit in 10 characters ?

In REV SCHEDULER the Job Event name can be up to 20 characters long - so it can be the business process name and not an abbreviation.

In REV SCHEDULER you can change the Job name and all the:
 • Dependencies,
 • Group Structures,
will still remain intact and fully operational.

Audit

The Audit function in REV SCHEDULER logs every change that is made to a Job Event or any of its components.

Using the Audit facility:
 • Updates can be undone,
 • Deleted components can be undeleted,
 • Deleted Job Event can be undeleted.

All Undo of updates and all undeletes (of components or complete Job Events are also logged in the Audit facility.

An Undo can also be undo - so in effect an Undo of an undo - and this is also logged.

Any time that a Job Event or any of the components are updated the Audit facility logs the:
 • Before update image,
 • After update image,
of the data and this allows for the rollback or undo to be performed (which is also logged).

Any updated data is very easy to recognize as it is displayed in Blue.
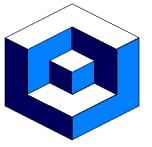
All other data is still displayed in Black.

All Operational Options are also now audited:

• Calendars,	• Environments,	• Security,
• Tailoring Options ,	• User Values,	• User Defined Variables.

Calendars

In RevSoft all Calendars are user defined and can be any of 3 calendar types:

- 📅 Gregorian (standard 12 months),
- 📅 13 @ 4 weekly periods,
- 📅 454 type (can be 445 or 544).

Calendars are populated by user defined Day Codes - such as DAILY, WEKLY etc.

Job Event can then be defined to be available to run based upon the Frequency of the Day Code in the Calendar - such as Every, Last, First occurrence of the Day Code DAILY in the Calendar WORK_DAYS.

You use calendars in a *LIST - e.g.
- Every DAILY in the Calendar EXAMPLE,
- Not on Every *USAH in the Calendar HOLIDY_USA.

Seq	Cond	CP	Type	CP	Selection Data
10	IF	EQ	📅		EV DAILY EXAMPLE
20	AND	NE	📅		EV *USAH HOLIDY_USA

Dependencies

👥 Not all Job Events to be executed by the REV SCHEDULER run strictly by time and a Dependency Roster can:
- Pass a Job for execution,
- Only accept Dependency Roster records between time ranges.
- Trigger a Job to be executed immediately.

👨 iSeries batch jobs that are not Scheduled jobs can also be used by setting on the User Job Monitor.

✅ A Condition is a user created object and is set by a command RJSETCON.

Job Event completion, Conditions and User Jobs can be used across systems and platforms.

Dependency records can be set to expire:
- Today (same day only),
- Yesterday (same day or prior day),
- Never.

In this example we have a Job that is dependent up on Jobs running on remote servers:
- AIX,
- iSeries,
- LINUX,
- SOLARIS,
- WINDOWS.

Seq		Cond	Job Type	Name	JDC	Net System	Comp. Status	Expiry
10	📷	IF	AIX_EVENT	END_OF_DAY_AIX1	*ANY	PORTIA	N	*NEVER
20	📷	AND	AIX_EVENT	END_OF_DAY_AIX2	*ANY	TITANIA	N	*NEVER
30	🐧	AND	LINUXEVENT	END_OF_DAY_REDHAT1	*ANY	GALATEA	N	*NEVER
40	🐧	AND	LINUXEVENT	END_OF_DAY_REDHAT_IN	*ANY	TRITON	N	*NEVER
50	🐧	AND	LINUXEVENT	END_OF_DAY_SUSE	*ANY	PROTEUS	N	*NEVER
60	🪟	AND	WIN_EVENT	END_OF_DAY_WIN1	*ANY	AMERICAS	N	*NEVER
70	🪟	AND	WIN_EVENT	END_OF_DAY_WIN2	*ANY	OCEANIA	N	*NEVER
80	@	AND	AS_EVENT	END_OF_DAY_ISERIES1	*ANY	REVSOFT_QANDA_V5R1	N	*NEVER
90	◆	AND	SOL_EVENT	END_OF_DAY_SOLARIS	*ANY	PANDORA	N	*NEVER

Rev Scheduler
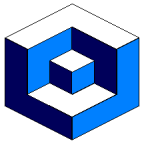
Environments

All Environments are user defined and every Job Event must be registered to an Environment.

Using the shipped Environments you can immediately have:
  • *BASE,   • *DEVELOP,   • *Q&A,
and you can promote your Job Events through the Environments.

Only Environments that are started can execute the available Job Events.

Environments can be security defined so you can control the users who can:
  • See the Job Events,
  • Update the Job Events,
  • Add new Job Events to the Environment,
  • Force Run a Job Event in the Environment.
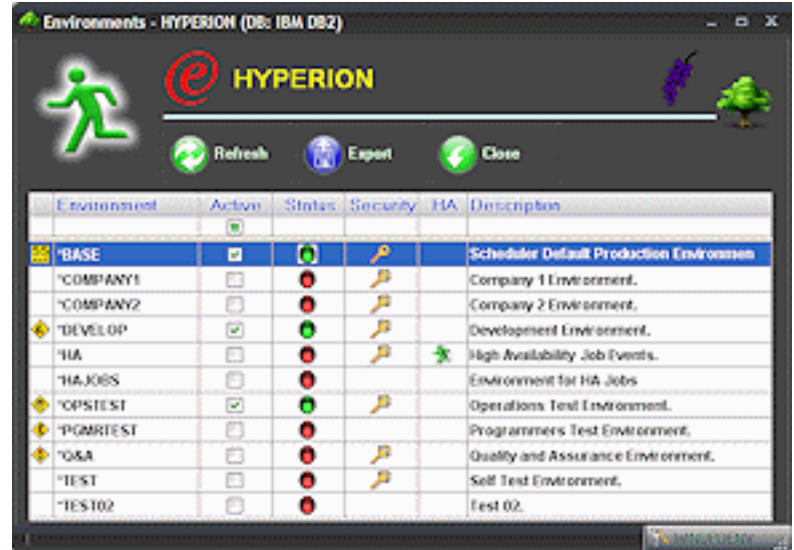
If an Environment is selected for High Availability
all Job Events that are contained in that Environment are automatically 'shadowed' to the Fail Over system(s).

Group Jobs

Group Jobs can execute Child Jobs on:
  • Local System,
  • Networked Systems.

Each Child Job can also be defined to:
  • Monitor for messages,
  • Have Intra Group Dependencies,
  • Branch to another Group sequence based on the completion status.

Intra Group Dependencies follow a standard Dependency structure and can use Boolean connector - IF, AND, OR structures.
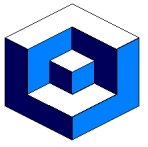
In this example the Child Jobs run on:
  • AIX,
  • Red Hat,
  • SUSE LINUX,
  • WINDOWS server,
  • *LOCAL iSeries server.

Rev Scheduler

High Availability

Some companies have multiple HA machines as their applications are mission critical to the continuity of their business.

The HA function with REV SCHEDULER operates totally independently of the HA solution implemented for the ERP application and all the replication (Shadowing) is performed by REV SCHEDULER and REV VIEW.

Job Events can be selected for High Availability by:
• Individual Job Event,
• Environment being selected for HA.

The shadowed Job Events are dormant and will not be available for execution the RJACTHAV command have been executed.

The HA Integrity checker compares the Job Events (on both systems) in real time and will highlight any irregularities.
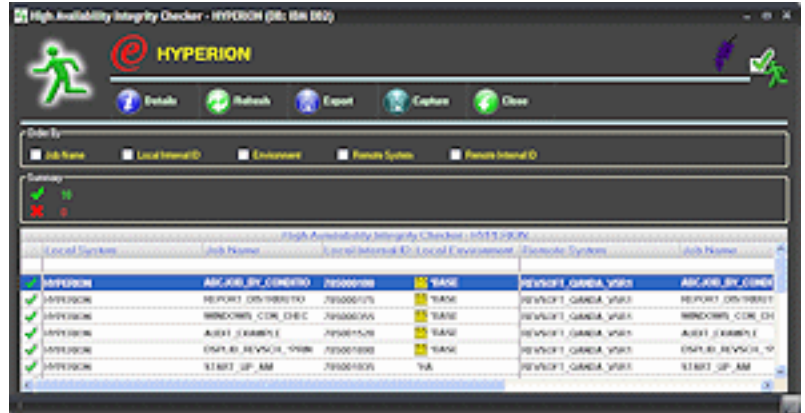
The cut-over for HA only takes seconds as the command RJACTHAV will only update a field in the database.

Job Day Codes

Each Job Event, in REV SCHEDULER, can be defined to have different Job Day Codes (JDC) or 'flavors' of the same Job Event.

Each JDC can be seen as a different flavor of the same Job Event e.g. Chocolate, Strawberry etc., and can be up to 10 characters in length such as DAILY, WEEKLY, MONTHLY etc.,

A simple example is as follows:
• Job Day Code *BASE runs on Monday through Thursday by Time at 16:45 with components of:
  • Job Documentation,
  • Recovery Text,
  • Job Scripts.
• Job Day Code ENDOFWEEK runs on Friday by Trigger when a Dependency Roster is satisfied.
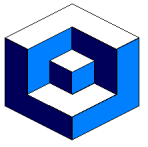
This Job Day Code will also 'inherit' the components defined in the *BASE JDC.

This is all still only 1 Job Event with the same Job Name, Environment etc., but has varying Job Day Codes or flavors.

Rev Scheduler

Job Sheet

📛 The Job Sheet has all the Job Event and components in an easy to understand .pdf format and can be used to:
• Build document archives for Job Events,
• Give Audit staff Job Event details in an:
  • Easy to understand,
  • Transportable,
format,
• Send to users to sign off on:
  • A new Job Event,
  • Updates to the Job Event.

The Job Sheet can be executed from the REV SCHEDULER Definitions .net interface.

Multiple Run Jobs

♻ Job Events can be defined to execute multiple times and we refer to these as Multiple Run Job Events.

Multiple Run Jobs can be defined to be executed:
• At regular timed intervals,
• At Pre-set specific times that are not regular timed intervals.

Multiple Run Job Events can be executed over the midnight boundary and into the next day.

When a Multi Run Job Event is executing the Operations Panels (Host & Enterprise) also show the Last execution number and time of execution.

| Job Event	JDC	Hld	Frc	SR	G	M	S	D	N	O	T	E	P	Exc	Mlt	Last	Entry	Start
		■																
		■																
RUN_EVERY_HOUR	*BASE	☐				♻ 🖳								1	11	10:01	0:01	0:01
FONTERRA_TEST_03	*BASE	☐				♻ 🖳								1	31	10:36	9:36	9:36

Double clicking on the Multiple Run image on the Operations Panels (Host & Enterprise) will show:
• All the scheduled execution times - and dates in case it does execute over the midnight boundary,
• The completion status of all the executed multi run executions.

Seq	Run Date	Run Time	CC	CC - Status
1	Tue 07 Dec 2010	0:01	✔	NC - Normal Completion
2	Tue 07 Dec 2010	1:01	✔	NC - Normal Completion
3	Tue 07 Dec 2010	2:01	✔	NC - Normal Completion
4	Tue 07 Dec 2010	3:01	✔	NC - Normal Completion
5	Tue 07 Dec 2010	4:01	✔	NC - Normal Completion
6	Tue 07 Dec 2010	5:01	✔	NC - Normal Completion
7	Tue 07 Dec 2010	6:01	✔	NC - Normal Completion
8	Tue 07 Dec 2010	7:01	✔	NC - Normal Completion
9	Tue 07 Dec 2010	8:01	✔	NC - Normal Completion
10	Tue 07 Dec 2010	9:01	✔	NC - Normal Completion
11	Tue 07 Dec 2010	10:01	✔	NC - Normal Completion
12	Tue 07 Dec 2010	11:01		
13	Tue 07 Dec 2010	12:01		
14	Tue 07 Dec 2010	13:01		
15	Tue 07 Dec 2010	14:01		
16	Tue 07 Dec 2010	15:01		
17	Tue 07 Dec 2010	16:01		
18	Tue 07 Dec 2010	17:01		
19	Tue 07 Dec 2010	18:01		
20	Tue 07 Dec 2010	19:01		
21	Tue 07 Dec 2010	20:01		
22	Tue 07 Dec 2010	21:01		
23	Tue 07 Dec 2010	22:01		
24	Tue 07 Dec 2010	23:01		

Rev Scheduler
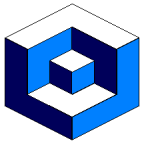
Operations Panels

When Job Events are defined and executing you need to have a mechanism to control and manage the entire 'Schedule' of Job Events and this is performed by the Operations Panels.

This will show all the Job Events that are due to run on a date or the date range.

As jobs are running they will:
 • Change colors,
 • Play Sounds,
to reflect the current status of the Job Events.

From the Operations Panel you can:
 • Force Run,
 • Hold,
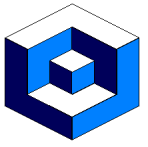 • Investigate and Manage,
Job Events.

There is also a Network Operations Panel to allow you to control and manage Job Events on networked machines.

The Operations Panel will be the panel most used by the operations personnel within your corporation to control the Job Events under the control of REV SCHEDULER.
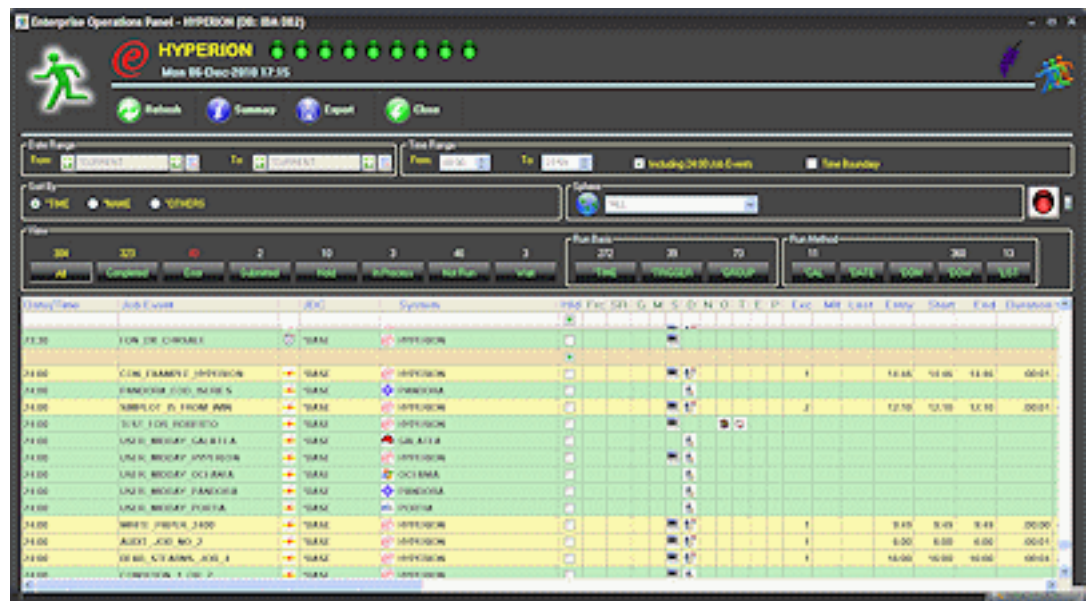
Rev Scheduler

Run Sheet

 The Run Sheet that has all the Job Event execution details in an easy to understand .pdf format and can be used to:
 • Build execution archives for Job Events,
 • Give Audit staff Job Event execution details in an:
        • Easy to understand,
        • Transportable,
format,
 • Send to users to show Job Event execution details.

The Run Sheet can be executed on any platform and can be executed:
 • From the REV SCHEDULER Operations .net interface,
 • By command line in a Job Script in REV SCHEDULER on a Windows server using the RJRUNSHEET command line.

Screen Capture & Run

Not all Jobs that are to be run unattended are always Batch type jobs.

The Screen Capture and Run applications can:
 • Capture and store all the details,
 • Run all of that as a Batch job in REV SCHEDULER just as though the user was manually entering all the options, data and pressing the keys on the keyboard.

You can also define:
 • Dates to be 'masked' over values on the captured screens,
 • Compare the values on the screens and:
        • Press a function key to allow the data to be compared again,
        • Insert data into other areas on the screen.

 All screens executed are captured and can be reviewed.

A Collection Book can be generated and this contains the complete Screen Collection including all the:
 • Screens,   • Keys pressed,
 • Data entered   • User modifications.

A Run Book can be generated and this contains the complete execution of the Screen Collection including all the:
 • Screens executed,
 • Keys pressed,
 • Data entered,
 • User modifications,
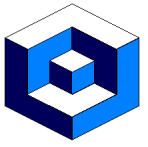 • Dates and Times.

```
Display ID  . : QPADEV0005      REV SCHEDULER    ENT-10.2E Date . . : 12/07/10
User Profile  : QSECOFR        Screen Run Panels           Time . . : 10:48:16
Program Name  : RJVT61R          HYPERION(HYPERION)         Panel . :     3.1
Collection  . . QPGMR
Description . . Test for QPGMR.

Type options, press Enter
  5=Display

Opt Scn Comp Key.......  S/R Act. Sample Screen Data
     1       . . ENTER   S  300  Sign On System . . . . . :HYPERIONSubsystem .
     2       Terminal    S  300  {Set Screen Type}
     3                   S  C00  {Message Light Off}
     4                   S  B00  {Message Light On}
     5       . . ENTER   S  300  rMAINOS/400 Main Menu    System:HYPERIONSelec
     6       . . ENTER   S  300  Work with Active JobsHYPERION    12/07/1004:
     7       . . ENTER   S  300  rMAINOS/400 Main Menu    System:HYPERIONSelec
     8       . . ENTER   S  300  Display System StatusHYPERION    12/07/1004:2
     9       . . ENTER   S  300  rMAINOS/400 Main Menu    System:HYPERIONSelec
    10                   S  300  Sign On System . . . . . :HYPERIONSubsystem .
                                                                      Bottom
F1=Help   F5=Refresh  F12=Cancel          F17=Position to
F14=Spooled Files     F15=Work with job   F16=History Log
```

Security

The security function in REV SCHEDULER can be implemented in up to 2 levels:
 • Module level.　　　　　 • Environment level.

Module Level

 Using Module Security you can define Users who are authorized to:
 • Command or Menu option,
 • Selection options from panels.
All security is defined by:
 • User Profile,
 • *PUBLIC,
 • User defined Authorization groups..

Environment Level

 By setting the security at Environment level any:
 • Existing Job Events,　　　 • New Job Events,
for the Environment are automatically secured.

Setting the security at Environment level allows for the security to be:
 • Controlled,　　　　　　 • Managed,
in one central location.

LDAP Interface Security

 REV SCHEDULER now has full support for LDAP (Lightweight Directory Access Protocol) which is an Open Systems protocol to allow programs to look up information from a server.

In this way LDAP can be a central security repository that will contain the security definitions for some of all of the servers where REV SCHEDULER is operational.

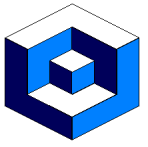The LDAP Interface can support security checking for both of the:
 • 5250 Interface or terminal sessions,
 • Windows Interface.

The LDAP security also supports keyword values for:
 • *PUBLIC_SYSTEMS - these are Systems other than the Systems specifically defined,
 • *PUBLIC_USERS - these are Users other than the Users specifically defined.

Rev Scheduler

Variables

There are two types of variables that can be used in REV SCHEDULER:
- System variables - built in to the software,,
- User defined date variables.

When variables are used there is also a Preview that allows you to view the:
- Defined value:

SNDMSG MSG('This is from #EVTJOBNAM(#EVTJDC) on #EVTMM/#EVTDD.') TOUSR(*SYSOPR),
- Execution value:

SNDMSG MSG('This is from AMWAY_#EVTVAR_TEST(*BASE) on 12/06.') TOUSR(*SYSOPR).

The variables can be used in the:
- Job Scripts,
- Local Data Area,
- Messages,
- Monitor Scripts,
- Post Job Scripts.

All variables (System and User Defined) can all be identified by the # character.

Date variables can be defined to be:
- A number of days, weeks, months and years,
- Forward to or Prior to today,
- Constructed in the required date format.

e.g.   1 week forward from today in MMDDCCYY format,
        1 day prior to today in CCYY/MM/DD format and this will include the separators.

There are also User Defined variables for:
- Calendar Dates - #CAL,
- Data Area values - #DTA,
- End of Month- #EOM,
- Generic Mask values - #MSK,
- Program values - #PGM,
- Start of Month - #SOM.

Some of the System shipped variables are as follows:

• #EVTJOBNAM	- Job Event Name,	• #SYSNAME	- System Name,
• #EVTSTRD	- Start Date,	• #SYSJOBNAM	- i5OS Job Name,
• #EVTST	- Start Time,	• #SYSUSRNAM	- i5OS User Name,
• #EVTEND	- End Date,	• #SYSNB	- i5OS Job Number,
• #EVTENDT	- End Time,	• #SYSJOB28	- Job/User/Number,
• #EVTSBMD	- Submitted Date,	• #SYSDOW3	- Day of week - MON, TUE etc.,
• #EVTSBMT	- Submitted Time,	• #SYSMTH3	- Short month name - JAN, FEB etc.,
• #EVTRUNENV	- Environment,	• #SYSDATE	- 6 long date in System Format,
• #EVTRUNBAS	- Run Basis,	• #SYSTIME	- Time in HHMMSS format.