WAY4™ Scheduler R2

Contents

Introduction

This document describes WAY4™ Scheduler R2 functionality.

While working with this document, it is recommended that users refer to the following reference material from OpenWay's documentation series:

- WAY4™ Scheduler Main Technical Requirements. (Scheduler_R2_Technical_Requirements.pdf)

- WAY4 Health Monitoring Gen2. Functional Specification (WAY4_Health_Monitoring_Gen2_Functional_Specification.pdf)

The following conventions are used throughout this document:

- Warnings of possible erroneous actions are marked with the ⚠ sign

- Messages marked with the ⓘ sign contain information about important features, additional facilities, or the optimal use of certain functions of the system.

Chapter 1. Overview

WAY4™ Scheduler R2 (Scheduler) executes jobs according to preconfigured rules specified in the WAY4U application configuration file.

Scheduler has the following capabilities:

- Runs processes that require large numbers of calculations; usually on special dedicated Scheduler servers (see WAY4™ Scheduler Main Technical Requirements).

- Assures additional security of various jobs by running them using Scheduler instances installed on dedicated workstations excluded from general use and on behalf of users with the corresponding privileges.

- Executes routine or continuous operations according to schedules, the results being monitored through the process log.

- Processes the commands of external applications managing the start of WAY4 jobs. Scheduler web services are used for this purpose.

Scheduler jobs are WAY4 Manager menu items.

⚠ For more information on the use of WAY4 Scheduler together with DB Manager, please contact WAY4 customer support.

⚠ For AIX, Linux and Solaris platforms, starting operating system processes is supported as well as the operation of certain java pipes. For more information, contact WAY4 customer support.

Chapter 2. WAY4 Scheduler Architecture

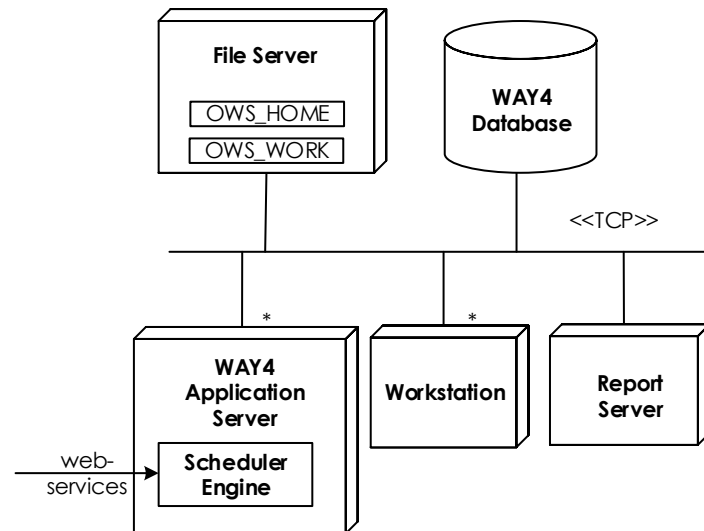Scheduler includes the following three components (see Fig 1):

Fig 1. WAY4 Scheduler architecture

1. Scheduler instance: an application installed on the WAY4 application server. Its functions are as follows:

   ▪ Analysing the list of jobs in the database to determine their readiness for execution and executing jobs.

   ▪ Tracking job execution results and registering them in the corresponding system logs.

   ▪ Sending messages by e-mail about changes in the state of a Scheduler instance or changes in the statuses of Scheduler jobs.

   These tasks are executed using data from the application's configuration file.

2. Database tables and procedures. The basic functions of this component are as follows:

   ▪ Storing job data.

   ▪ Providing access to the data and verifying data input from various workstations.

3. WAY4 Manager user menu items and forms. This component is responsible for:

   ▪ Registering users with Scheduler access privileges.

   ▪ Editing and creating jobs.

   ▪ Managing jobs.

   ▪ Monitoring Scheduler operation.

Chapter 3. WAY4 Scheduler Functionality

Scheduler functionality:

- Registering Scheduler officers.

- Creating, editing and grouping jobs.

- Supporting parallel data export-import.

- Supporting jobs with business exception handling.

- Managing job execution.

- Sending automatic messages.

- Storing job data.

Scheduler web services perform four functions:

- Executing Scheduler jobs.

- Checking the status of Scheduler jobs.

- Getting the job log.

- Stopping Scheduler jobs.

The Health Monitoring Module can be used to monitor Scheduler operation (see WAY4 Health Monitoring Gen2. Functional Specification).

Registering Scheduler Officers

Users who run Scheduler under their own login names must have certain privileges to access DB tables and user menu items. A special group of users with privileges to work with Scheduler jobs must be created.

Creating, Editing and Grouping Jobs

Jobs are created and edited in the WAY4 Manager interface.

Each job is created in a certain Scheduler instance.

For each job, the way it will be executed is specified – according to a schedule, or by a command sent by a web service. If a job is scheduled, dates and time define the interval during which the schedule is effective, and the frequency with which the job will be executed, taking holidays, weekends and working days into account.

Jobs can be grouped in batches and the order for executing them within the batch can be specified.

Supporting parallel data export-import

Scheduler supports execution of certain pipes in parallel mode, i.e. when several pipes are run simultaneously.

Supporting jobs with business exception handling

It is possible to change the sequence in which actions are executed depending on the results of items executed earlier. This is made possible by BPM service functionality for business exception handling.

Process synchronisation is supported – demarcation of access (in time) to a resource or wait for the execution of an Event.

During execution of a job, Scheduler allows the use of SQL queries to check conditions, and the further logical branching of menu items depending on the results of executing a stored procedure or function.

Managing job execution

Users can start job execution, prohibit/resume job execution, and assign the error status to a job.

Automatic message sending

Messages about changes in the status of a Scheduler instance or Scheduler job can automatically be sent by e-mail.

Storing job information

All information about scheduled jobs and jobs that have been executed is stored in database structures and job logs. Web services are used to access job logs.

Chapter 4. WAY4 Scheduler Use Cases

The following are examples of the most common Scheduler jobs:

- Daily procedures.

- Periodic generation of reports.

- Periodic import of external files, such as banking system files.

- Start (scheduled) of configuration and management scripts on servers with WAY4 applications working on WAY4 Application Server.

- Execution of processes requiring a large number of calculations, on dedicated workstations.

Chapter 5. Interaction with other Products and Systems

The following products are required for Scheduler:

- WAY4 Application Server

- WAY4 Manager

The Health Monitoring Module can be used to monitor Scheduler operation (see WAY4 Health Monitoring Gen2. Functional Specification).