



## FLEXIBILITY IS WHAT MATTERS WHEN IT COMES TO JOB SCHEDULING

### Challenge

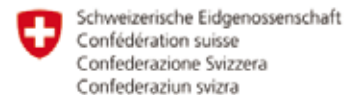
When it came to choosing an appropriate job scheduling solution, the former Federal Office of IT and its successor, the Federal Office of IT, Systems and Telecommunication (FOITT), with its much greater service provision load, attached great value to maximum planning flexibility and automatic job control for batch processes.

### Solution

To begin with, Entire Operations from Software AG's Entire Systems Management product line was implemented on a mainframe computer. In the context of bringing together IT services that were previously provided locally and consolidating them at the newly established FOITT, the Federal office investigated various alternatives and decided to also use Entire Operations for job scheduling in the new client-server environments.

### Benefits

- Automated batch processing based on defined events rather than rigid time schedules
- High degree of reusability and flexible options for combining individual job networks form new batch processes
- Identical operator guidance in mainframe and Unix environments
- Excellent performance even in large server farms with several hundred applications
- The availability of system resources is automatically taken into account
- Easy to learn
- High degree of automation with unattended round-the-clock operation
- Remote access for on-call personnel following automatic console messaging by pager or mobile/SMS



More than 500 employees are providing IT Services at the Federal Office of IT, Systems and Telecommunication (FOITT) in Bern for the Federal Department of Finance, the Department of Environment, Transport, Energy and Communication as well as for the Federal Chancellery. In addition FOITT is delivering added services such as cross-sectional Internet services, security, computer science trainings or telecommunications for the entire public federal Government.

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**“With Entire Operations we have found a job scheduling solution for our batch processing which is particularly impressive in terms of its flexibility and the wide range of options for event control.”**

Beat Münch | Application Integrator in the area of production planning | Swiss Federal Office of IT, Systems and Telecommunication (FOITT)

## Job Scheduling for eGovernment

The wide range of tasks performed by the FOITT is reflected by the several hundred applications which are operated in a z/OS mainframe computer network and a Unix/Linux server farm with 575 individual computers. Here, Entire Operations is implemented on 50 individual computers and 20 additional clusters. This environment has been created as local IT services for the federal administration were consolidated at just a few offices.

The z/OS mainframe computer is mainly used to run solutions based on Adabas/Natural while Unix/Linux environment solutions are supported which have been realized with technologies from other manufacturers. One thing that all these dialogue applications have in common is that they are also used in extensive batch processes, often unnoticed by end users. In addition to data backups and file transfers, this also includes reporting and calculation processes, sometimes taking hours, which may involve numerous databases and – in the server farm, also computers, explains Beat Münch, who works in the production planning team of the FOITT as an application integrator responsible for implementing applications and integrating them into batch processing.

Particularly tough demands exist with regard to planning and controlling batch processing as it is necessary to take account of various dependencies between individual batch jobs as well as the availability of system resources. On top of this, the job scheduling needs to be able to respond flexibly to the requirements of user departments, for instance if a special report is required.

## A uniformed Job Scheduling

“Our job scheduling was initially based on a pure time control function. This resulted in repeated clashes and processing conflicts, which then had to be dealt manually. We most certainly could not speak of ‘unattended operation’, states Münch, recollecting the early 1990s as possibilities for making job scheduling more efficient on the mainframe platform used at the time were being considered. The decision to use Entire Operations was also paid off later when it came to setting up the Unix server farm. Here, Entire Operations runs on two master nodes with the same functionality and operator guidance as in the z/OS mainframe computer network.

Münch considers the main advantage of Entire Operations to be the extensive options for event-controlled batch processing. For example, job networks can be defined as logically connected units of individual processing steps. This has resulted in completely unattended operation in the FOITT computer centre. In the few cases in which manual intervention is required, a message is sent to the pager of an on-call employee. This employee can then, for example, log onto the system environment from his home PC.

In addition, Münch states another strength of Entire Operations as being the outstanding options for parameterisation of job networks and generated JCL using calendars, schedules and symbol tables. “As we limit individual job networks to a maximum of five to ten jobs, we are able to achieve a particularly high degree of flexibility. We can reuse these job networks for all sorts of different tasks,” says Münch. Today, the z/OS platform is used to execute 300 job networks with around 2000 individual jobs each day, while 200 job networks with 1,200 individual jobs are executed daily in the server farm. What’s more, these figures could be increased. Münch has observed a tendency at the FOITT for the potential of batch processing with Entire Operations to increasingly be taken into account during the development of dialogue applications.

## KEY COMPONENTS

### Entire Operations

Entire Operations is part of the Entire System Management (ESM) portfolio for operations automation in distributed environments. ESM provides full control over computer center resources and services, enables automatic scheduling of tasks and event-controlled batch-processing and optimizes the output organization and print processes and supports additional output channels such as e-mail or portals.

Take the next step to get there – faster.

### ABOUT SOFTWARE AG

Software AG’s 4,000 global customers use our software to improve business processes and drive an agile IT infrastructure. Our customers’ goals are to reduce costs and increase flexibility and efficiency. We help them do this by optimizing and governing their operations and aligning IT with the business goals.

Our leading Business Infrastructure Software portfolio is used for data and system integration and modernization. It fosters new levels of IT agility through SOA and allows the rapid creation of new business processes with BPM.

Our forty-year history of success ensures our customers have a reliable platform for driving future business results – faster.

Software AG – Get There Faster

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SAG\_FOITT\_RS\_Nov09