arvato BERTELSMANN

Product Description

1. Intended use and areas of application

„streamworks" is a software solution from arvato Systems to help you define your IT-based back-ground processes and carry them out in a controlled and automated way. You can plan, maintain, control and monitor your entire IT Workload from a central location using „streamworks". This 'IT Workload' can include many different individual program or script calls spread out over the entire IT landscape.

The „streamworks" philosophy stems directly from the arvato Systems data centers: Easy to learn and use, yet able to handle complex tasks. Made for heterogeneous IT landscapes with a high amount of individualized software and the maximum degree of automation and standardization at the customer's request.

„streamworks" is especially useful for IT operations for which one or several of the following points apply:

- The IT workload is entirely or partially organized in the form of batch processes.
- The daily amount of processes carried out is so high, due to the quantity or number of repetitions, that it is necessary to centrally control and monitor them.
- The business processes running in batch format need to be better synchronized with the IT operational processes (IT housekeeping).
- Many and/or complex dependencies need to be mapped between individual process steps.
- The IT infrastructure landscape or application landscape is heterogeneous.
- There are narrow time frames for processing the batch processes.

Content

2. Scope

- Central creation of IT process chains (streams) by connecting individual process steps (jobs) that may contain different program calls
- Connecting all business-related infrastructure components (servers) to the central engine via agents
- Defining dependencies between dedicated, virtual, and cloud-powered applications and infrastructure platforms
- Automated, regular or event-based implementation of process chains on all connected servers
- Central monitoring of all system components, agents, jobs and error alerts
- Comprehensive reports and statistics
- Logging and exporting all audit-related data

3. Use

- **Central documentation:** Access to all business- and mission-critical scripts, programs and (batch) processes from a single location.
- **Flexible orchestration:** Carry out batch processes on all hardware and software platforms.
- **High quality: P**ermanently reduce error rates as well as time and cost requirements for pro-jects and daily business.
- **Reduce employee workloads:** With „streamworks" you no longer have to perform standard tasks regularly and manually.
- **Integration:** You can integrate existing central software solutions (monitoring and alerting, middleware, EAI, IT automation) into numerous interfaces.
- **Focus on the business cycle:** The process steps taking place during a business day will be integrated into a virtual production day. You can determine the start and end times separately while maintaining the sequences required from a business perspective.
- **An eye to the future:** You can plan, modify and control future production days in advance during business hours. Daily production plans are generated from the master data during preparation.
- **Flexibility:** You can carry out ad hoc changes flexibly and transparently. Up-to-the-minute changes have no effect on the master data and are logged in full.

4. Benefits

- High-quality software and consulting due to our many years of experience in our own IT operations.
- Minimal training and operating costs are required, thanks to the standard Windows components in the front-end and back-end.
- Working with templates and inheritance of central settings save time in everyday business.
- Automatic error handling results in a high degree of automation, which reduces the operational workload.
- A comprehensive set of data on workload analytics is provided, which allows continuous improvement in quality.
- High security standards and comprehensive logging help users with compliance and audit requirements.

5. Architecture, components and interfaces

Based on the most up-to-date software technology, the modular and expandable structure of the „streamworks“ architecture comprises the following components:

- Central database
- Processing server
- Application server
- User client and agents

All central „streamworks“ components run on a Windows operating system, but agents are available for numerous other operating system platforms and applications. Databases and processing and application servers can be operated on physical or virtual hardware and the user client is terminal server-capable. All software, including standard setup routines and *.msi packages, is installed within four hours. Encryption is used for all communication between „streamworks“ components, which in turn use signed certificates to authenticate themselves to the master components.

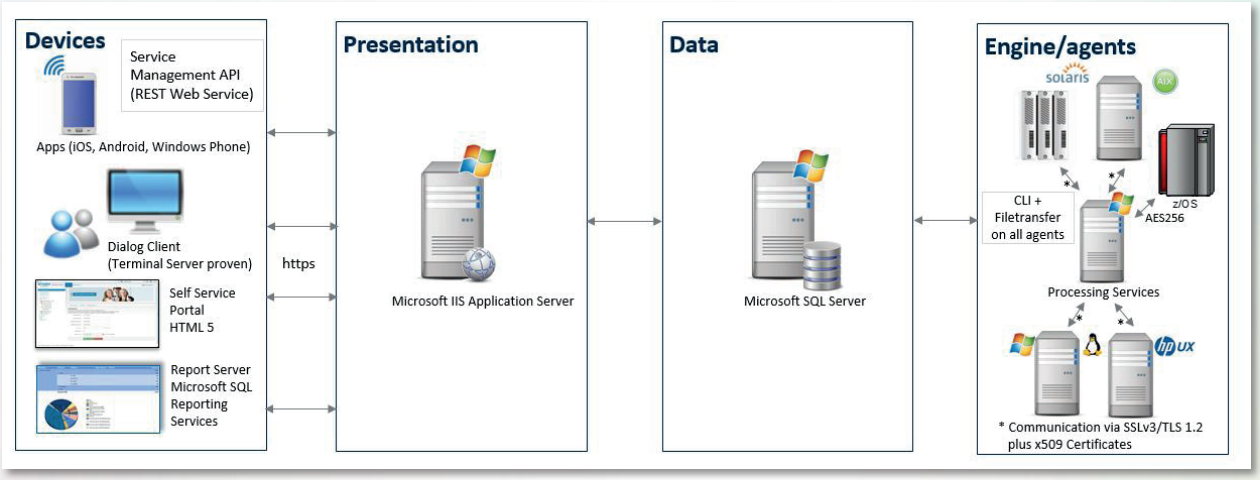


Fig. streamworks Components

Central data storage and data security

„streamworks“ offers the highest degree of data security with its central data storage. All master data, runtime data and messages are stored permanently in the Microsoft SQL Server database. High availability can be achieved through the use of Microsoft cluster technologies, virtualization solutions (e.g., VMware vMotion) or synchronous data mirroring. The processing server is made up of several Windows services that take over all agent communication, job implementation and central tasks for „streamworks“ applications. The processing services can be installed multiple times and can thus be set to any scale for an increasing system load. The streamlined „streamworks“ agent acts as a guest on an active computer so it needs only minimal processing power, RAM and disk space. The agent receives data on the job start date from the processing service, reports back on completed jobs and sends regular vital signs, or 'heartbeats,' to the central services.

Central access for all end devices

The application server, a Microsoft IIS, controls communication with user clients and mobile access options such as smartphone apps or the self-service portal, which the user can use to monitor and control the „streamworks" production.

Scalability

The „streamworks" architecture is scalable and can be implemented with single-server solutions or even multi-server operations with multiple application servers and database clusters. It doesn't matter whether there are fewer than 100 or more than 100,000 jobs per day waiting to be processed.

User client

„streamworks" provides a graphical user interface following the standard Windows design. The intuitive, easy-to-learn interface and the ability to customize configuration options win you over the first time you login. Several different tab-based or graphical display options are available: Even complex job networks are displayed clearly. This makes it easier to learn to use the program, saves time-consuming training, and guarantees simple and efficient use.

The „streamworks" user client is divided into five domains:

- Administration
- Stream design
- Runtime
- Multi-stream graphics
- Reporting

A user's individual view depends on their respective permissions. Administration, stream design, and reporting are clearly organized in the explorer, properties, and workspace panels. There are numerous functions in the runtime area instead of the explorer. There are also shortcut menus (right-click on the mouse), selection dialogs, drop-down menus, drill-down men-us and buttons that facilitate the quick location of information and allow for the definition of new streams.

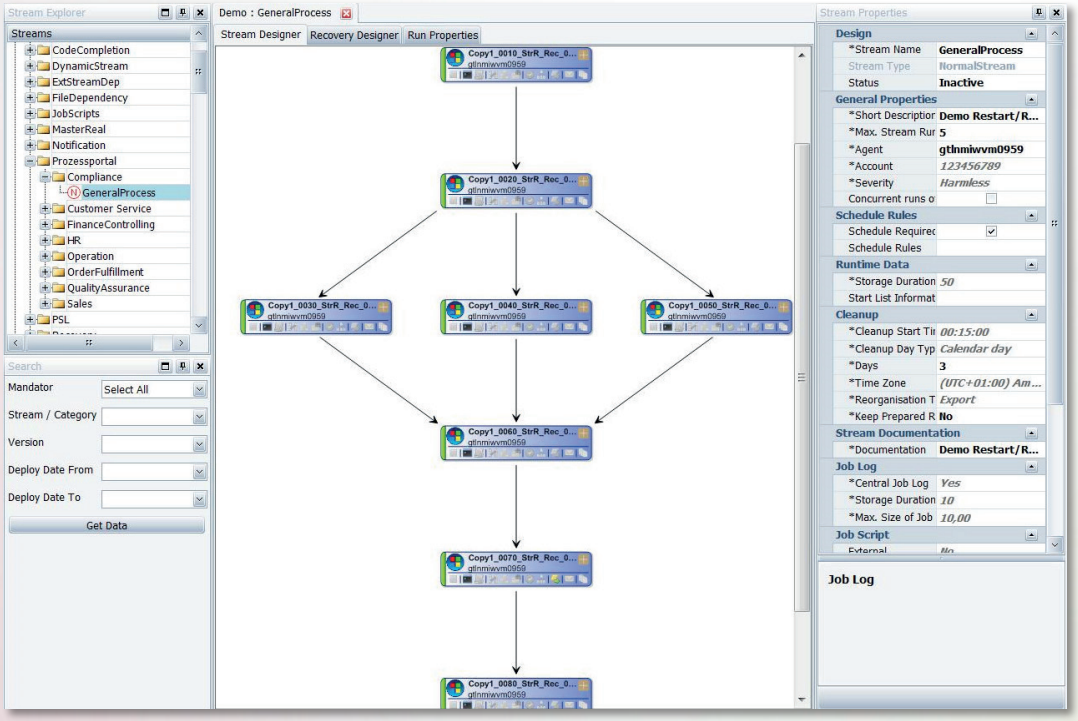


Fig. Stream Explorer

The panel style, column selection (remove/add columns), column ordering, skins (color schemes), and auto-refresh function can be stored as a layout for each user. Several layouts can be created, with one layout defined as the default (layout on login).

Apps and portal

No user should be without the „streamworks“ app, regardless of whether they work with a smartphone (iOS, Android, Windows) or a tablet. With the app, you can access your data any time, any place. In doing so, you are always informed on your IT production's progress or interruptions.

With a Web-based portal, you can access data from anywhere at any time based on your user per-missions, which allows you to control and manage streams as required. In addition to read-only ac-cess via the „streamworks“ mobile app for iPhone, Android, and Microsoft and extensive user client options, the HTML5-based self-service portal also provides a range of selected features. It is easy to use and features a clear and transparent layout.

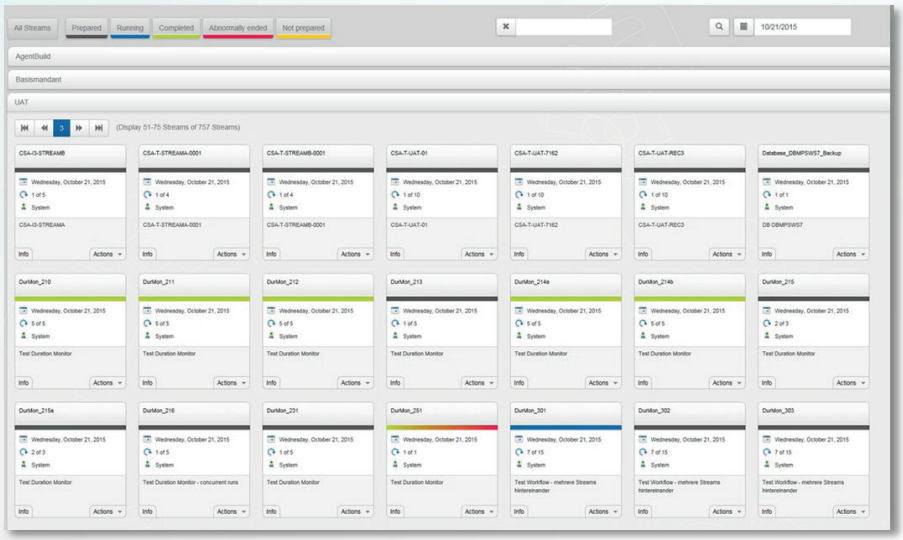


Fig. Self Service Portal

You can access the data from anywhere at any time based on your user permissions. The portal also contains information on the current progress of streams and reports with historical data.

Cross-platform automation

Workload Automation will be supported by „streamworks“ across different platforms. The stream-lined „streamworks“ agent software solution reduces the demand on resources and is available for all standard Windows, Unix, and Linux operating systems as well as mainframe OSs (z/OS, System i, BS2000). Switching between Unix, Windows, z/OS, and SAP jobs within a process chain (stream) is completely transparent and effortless thanks to standardized operations. Encryption is used when „streamworks“ agents communicate with the central processing server. Likewise, the agents use signed certificates to authenticate themselves to the master components.

„streamworks“ agent software on the different operating systems automatically records all job processing event data in log files and stores this information locally on the systems. Each log file contains information on the agents themselves, as well as information produced by the called script/program during implementation of a job. Examples of this are a job's start date, description, possible errors that occur, etc. This log data is indispensable for error analysis, particularly in the case of a script/program termination.

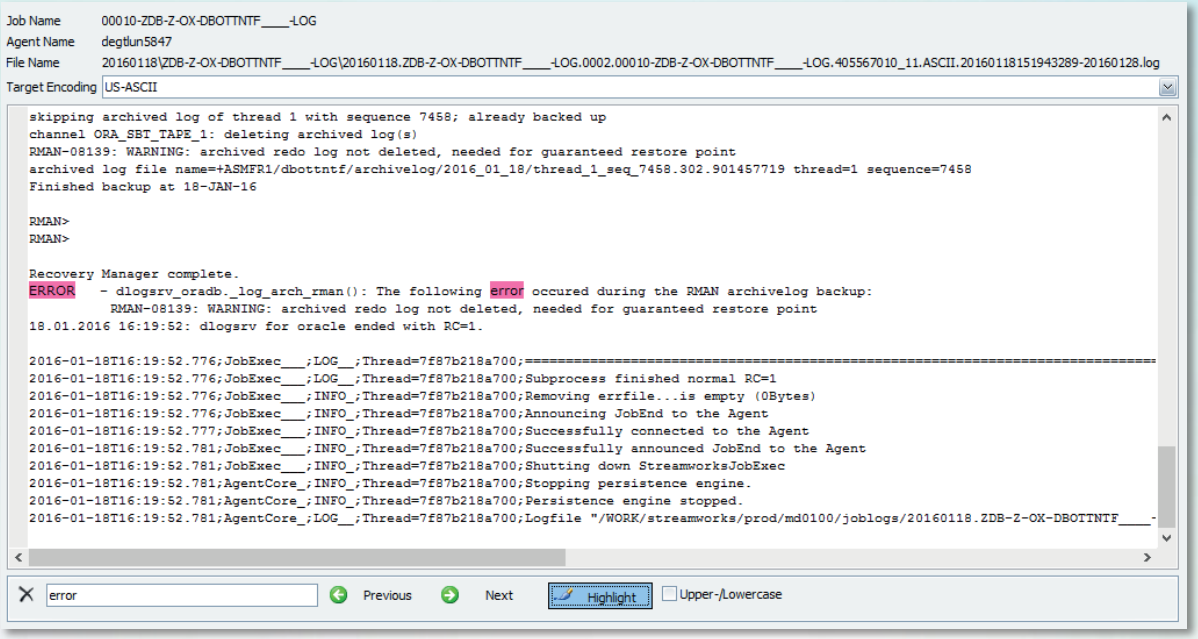
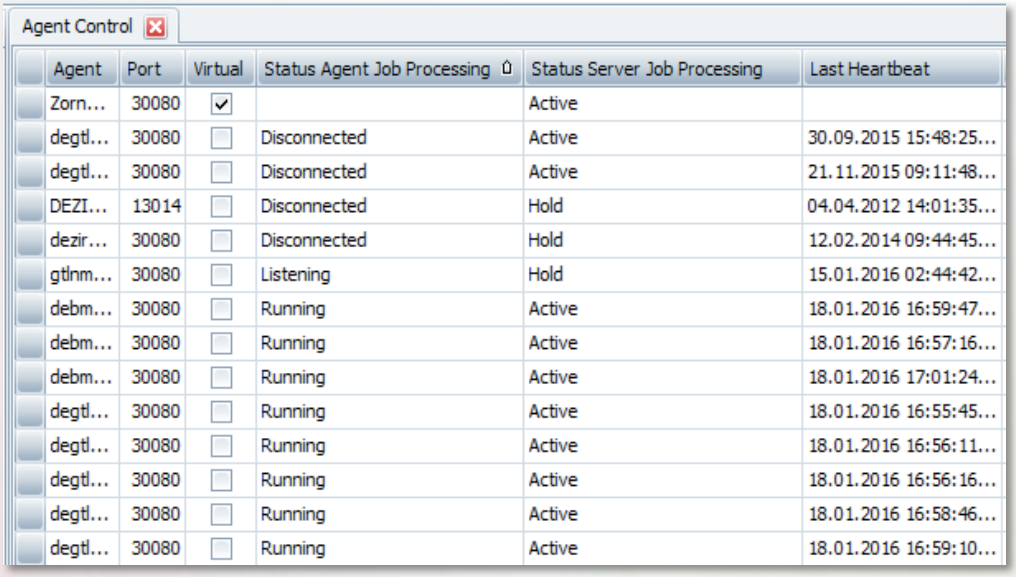


Fig. Search in the central job log

„streamworks" offers the possibility of copying log files immediately following completion of a job to a central „streamworks" directory, separated by client. The transfer is completed asynchronously following stream implementation. There is no lag in batch processing. The local log files are then automatically deleted by the agent after a definable period of time.

Automatic monitoring of all agents

All agents are automatically monitored and the user receives a thorough overview of every agent's status (stopped, running, listening, disconnected, hold) on a main screen in the user client.



Agent	Port	Virtual	Status Agent Job Processing	Status Server Job Processing	Last Heartbeat
Zorn...	30080	☑		Active	
degtl...	30080	☐	Disconnected	Active	30.09.2015 15:48:25...
degtl...	30080	☐	Disconnected	Active	21.11.2015 09:11:48...
DEZI...	13014	☐	Disconnected	Hold	04.04.2012 14:01:35...
dezir...	30080	☐	Disconnected	Hold	12.02.2014 09:44:45...
gtlnm...	30080	☐	Listening	Hold	15.01.2016 02:44:42...
debm...	30080	☐	Running	Active	18.01.2016 16:59:47...
debm...	30080	☐	Running	Active	18.01.2016 16:57:16...
debm...	30080	☐	Running	Active	18.01.2016 17:01:24...
degtl...	30080	☐	Running	Active	18.01.2016 16:55:45...
degtl...	30080	☐	Running	Active	18.01.2016 16:56:11...
degtl...	30080	☐	Running	Active	18.01.2016 16:56:16...
degtl...	30080	☐	Running	Active	18.01.2016 16:58:46...
degtl...	30080	☐	Running	Active	18.01.2016 16:59:10...

Fig. Agent control in runtime area

Connection to IBM mainframes via z/OS agents

All the „streamworks“ functions can be used on IBM mainframes with „streamworks“ z/OS agents as well. Communication between the „streamworks“ processing server and the z/OS agents is based on the highest Advanced Encryption Standard available (AES-256). In addition, this „streamworks“ agent supports several z/OS-typical characteristics: The „streamworks“ z/OS agent has an uncatalog function. Before one or more z/OS jobs are repeated, the z/OS agent automatically uncatalogs all sequential files generated by these jobs. If necessary, files can also be excluded from uncataloging, which can be scheduled at the stream or job level. Every z/OS agent has access to its own previously filtered datasets from the System Management Facility (SMF) log data for this functionality.

„streamworks“ also supports z/OS-specific return codes (condition codes, user codes, system codes, JCL errors) up to the step and procedure step levels. Mainframe operators quite frequently use job routing in multiple computer networks (for example, JES2 MAS or JES3 systems). The „streamworks“ z/OS agent is able to transfer the start of a job and its monitoring from one agent to a second agent installed on the same computer network based on internal agent communication.

In doing so, „streamworks“ offers the best solution for batch load balancing in the IBM mainframe area.

Application integration

Alongside cross-platform capabilities, Workload Automation also requires cross-application capabilities. Terms like (Enterprise) application integration refer to the integration of standard application software, such as SAP, VMware, system management software, and file transfer process into batch processing. „streamworks“ offers this kind of integration for a wide variety of applications.

streamworks SAP automation with jexa4S and jexa4BI

Both jexa4S and jexa4BI are available as interfaces in order to link SAP® NetWeaver systems on Windows, Linux, or Unix derivatives to „streamworks.“ Planning, operating and controlling SAP batch processing through XBP 2.0 and 3.0 interfaces is incredibly easy with jexa4S. Variations can also be installed, copied, modified and deleted, in addition to implementing batch jobs in SAP. SAP batch events are maintained exactly like parent/child functions and SAP’s job interception logic. jexa4S possesses activity collections in which single blocks (BAPIs) of the XBP interface have been combined into sequences that are often required to facilitate the implementation of SAP batch jobs. For example, the creation, expansion, startup and monitoring of a job as well as the export of the job log and spool after job completion are carried out within one jexa4S call. All this can be done with only a single „streamworks“ job.

jexa4S was certified in accordance with the test catalogs prepared by SAP®. The functional range of jexa4S supports all of the functions of the XBP 2.0 and 3.0 interfaces and the SAP® Solution Manager.

jexa4BI is the SAP BI interface built in accordance with the SAP BW-SCH certification catalog. jexa4BI can implement and monitor special process chains and info packages available in SAP data ware-housing products through Remote Function Call (RFC). Activity collections in jexa4BI also replace the individual calls for SAP function modules offered for BW-SCH interfaces.

streamworks Java automatization with jexa4J

jexa4J is available for Windows and Linux derivatives for automation Java programs with „streamworks.“ jexa4J can communicate synchronously with MBeans within the Java server over the JMX remote API, taking over the implementation of the actual Java methods.

VMware vSphere and vCenter Server

„streamworks“ integrates the tools provided by VMware for managing one (vSphere) or many (vCenter Server) ESXi hosts through vCLI and PowerCLI APIs. The VMware tasks available together with „streamworks“ enable you to extensively automatize the most typical management tasks. Additionally, each task comes with a documented example call as a template.

Cloud management for Amazon EC2 and Microsoft Azure

Interfaces for easy and automatized management of public cloud instances from Amazon and Microsoft are an integral part of „streamworks.“ Numerous tasks executed by Amazon through ec2api and by Microsoft Azure through PowerShell are supported. Additionally, each task comes with a documented example call as a template.

Integrated file transfer process

Files are encrypted and transferred between „streamworks“ agents without additional software. The integrated „streamworks“ transfer solution also includes both conversion for a variety of file formats and central control of all ongoing transfers.

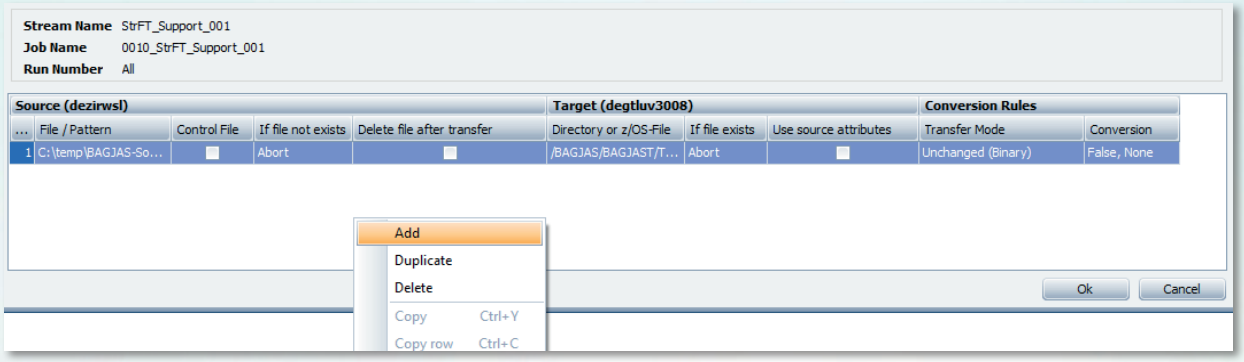


Fig. File transfer definition, multiple files possible

The numerous file transfer options common to standard FTP protocols can be defined using the same intuitive menu navigation found in all „streamworks“ jobs. When using „streamworks“ agents, you no longer need to file SSH keys or maintain FTP clients and servers on computers, which saves you a great deal of time.

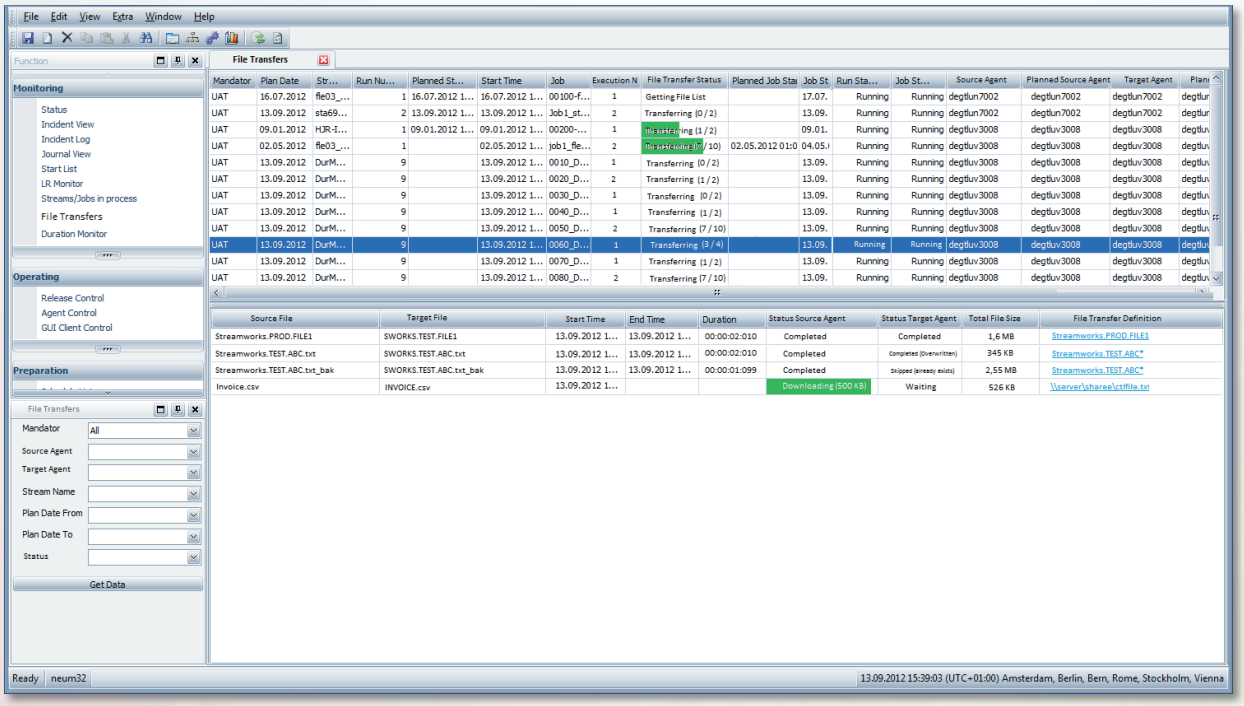


Fig. Central management of ongoing file transfers

Additional standard interfaces

- **Ticket Service:** If you need to create a trouble ticket in an external system for events in „streamworks," such as job terminations or agent problems for example, you can use the „streamworks" Ticket Service interface. In doing so, the return value, usually the number of tickets created, can be displayed on the list of incidents or in Incident View in the „streamworks" user client.
- **E-Mails and text messages:** If necessary, „streamworks" can automatically inform you via E-Mail and text message of the current processing status before and after a job has been implemented.
- **CLI:** The Command Line Interfaces (CLI) can be used to initiate numerous actions and changes in the „streamworks" runtime environment via the „streamworks" agents. The „streamworks" CLI is primarily used for the integration in application software, as the interface can be addressed directly from other programs.
- **LDAP authentication:** In addition to its own authentication functions, „streamworks" also offers the option of LDAP (Lightweight Directory Access Protocol) authentication, which is typically used in Microsoft Active Directory environments.
- **Export/Import:** All of the process definitions or master file data can be transferred between clients of one or several „streamworks" systems through the „streamworks" export/import utility in XML format.
- **External Job Script Management:** You have the choice of maintaining scheduled job scripts within or outside of „streamworks." „streamworks" provides an importable job script service for Job Control Language (JCL) or other job scripts stored outside of „streamworks" in a separate software configuration management tool for the purpose of version management.
- **REST API:** You can carry out numerous actions using the application server's REST-based Service Management API. This way, you can automatically create agents and request the status of agents, streams and jobs, for example.

6. Operation

„streamworks" users can carry out their Workload Automation from a single, central location. In „streamworks," a company's IT infrastructure is completely displayed in the form of agents, just as IT-supported business and IT housekeeping processes are displayed as streams. Dependencies, conditions and a number of rules ensure that individual streams in „streamworks" are linked in such a way that a company's entire IT operations and IT-based business processes – its workload – can be carried out transparently and automatically.

„streamworks" reveals what is possible nowadays in terms of uniform information provision for various user groups. „streamworks" offers a genuine single point of information, thanks to central data storage and a sophisticated permission concept.

„streamworks" system administrators can discover all the relevant facts in the central user client just as quickly and well prepared as in the process planner or work scheduler and application managers and the service desk can gain either a general idea or all the important details of current production with little effort. If all that wasn't enough, the multi-stream graphic display and integrated reporting engine offer access to all the information on the „streamworks" database.

6.1. Configuration and administration of system master data

In the master data or system data panel, users can configure all basic, general settings for operating „streamworks“ as well as for configuring, managing, and carrying out streams.

Clients

Following initial setup you can install additional clients within the base client in „streamworks.“ These clients can be used for various scenarios with separate data storage for users, agents and streams as a logically separate, self-contained „streamworks“ application within the „streamworks“ infrastructure.

Regardless of whether you need to keep separate customers and departments or make a distinction between testing and production environments, the „streamworks“ client concept offers an affordable alternative to operating several different automation environments. Above all, you operate a number of clients in „streamworks“ using a single user client. Users with the appropriate permissions do not need to open a new user client for each client or provide extra authentication each time.

Roles and rights

One or more highly detailed, configurable roles are assigned to users for each client in „streamworks.“ Roles are comprised of permissions for viewing or maintaining central objects, such as calendars or agents, permissions to read or modify certain streams, as well as permissions to implement single or multiple functions with these streams. Streams are not visible to those users without read or update permissions and functions that are not allowed are grayed out.

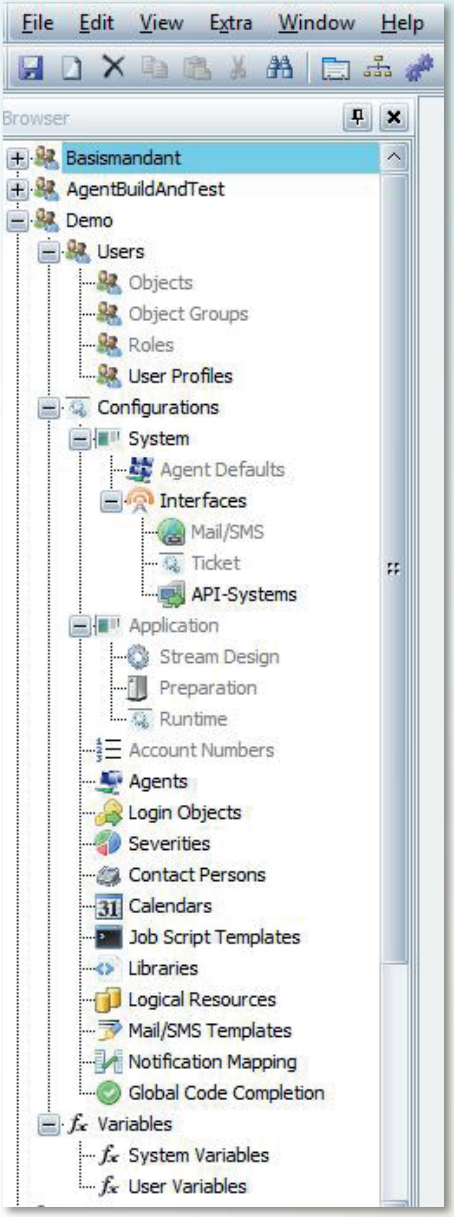


Fig. Area master data

Further settings

All other administrative system settings can also be reviewed and carried out within this menu panel. Standard values for many necessary parameters like calendars or time zones are defined once at a central location and inherited from the clients down to individual jobs, as long as they are not deliberately overwritten. Whitelists or templates, which are later available as a pull-down menu in the stream definition, are generated for other parameters like account numbers, agents or contact persons.

E-Mail and text messaging templates are centrally generated in „streamworks“ and are not tied to individual jobs. On the one hand, this allows for multiple usages of templates. On the other hand, it also allows for central and one-time maintenance of template changes compared to multiple changes for E-Mails associated with jobs. A number of system and user variables are used for the flexibility necessary in the contents of the templates.

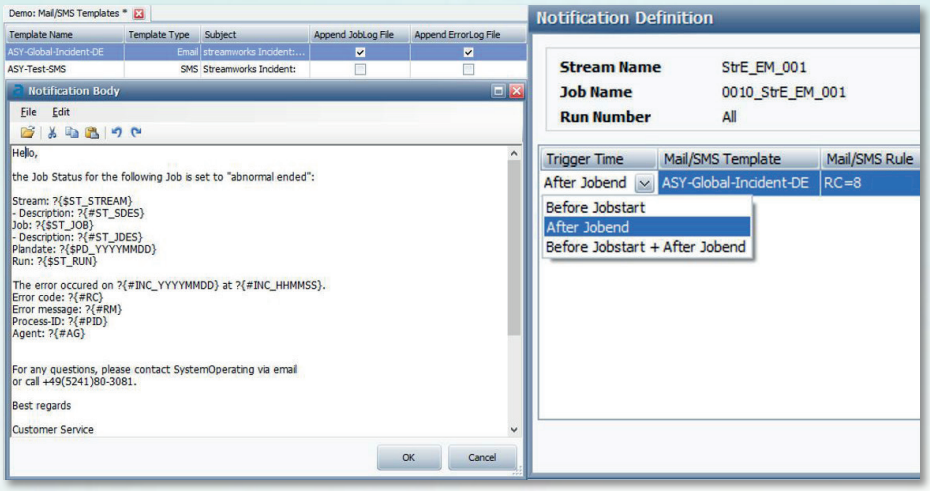


Fig. Left: E-Mail template management; right: using a template to define how to send an E-Mail in a job

6.2. Stream design and maintenance

Generating templates and setting the standards for recurring requirements

Standardization is simple and efficient with „streamworks." Templates are available for recurring requirements and you can also develop them yourself. You can find the right template in „streamworks." Whether you need to send standard E-Mails, maintain a certain structure for all Java jobs, or perform standardized backup routines for all databases, it's no problem.

Standardization of job networks using the master/real concept

Frequently used operating procedures or business processes can be standardized with this unique master/real concept. The master stream acts as a fully defined template for job networks that share the same properties and structures as backups of databases, for example.

In defining a new stream, you have the option of selecting a master stream as a template and generating a completely new job network – a 'real stream' – at the click of a button. The real stream can contain additional definitions that deviate from or expand on those in the master stream. Subsequent changes that will affect all of a template's real streams defined this way only need to be carried out once in the master stream. Afterward they are inherited by every real stream. Real stream-specific definitions are not overwritten when this occurs. The concept is a building block for efficiently managing batch changes without sacrificing flexibility.

Standard templates for better management of job scripts

„streamworks" offers you the option of defining standard templates that can appear as a default when creating new job scripts in order to keep job script management as easy as possible.

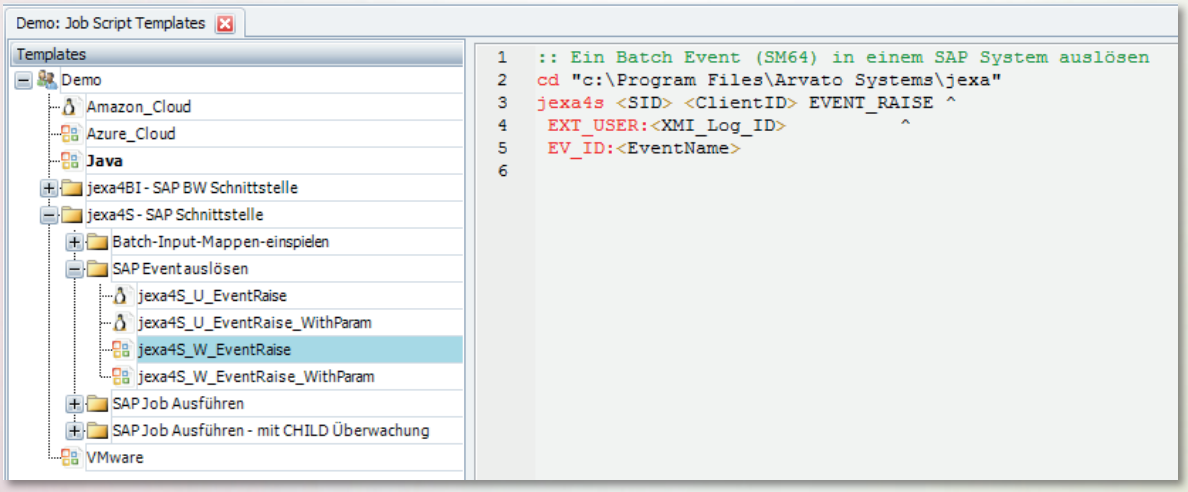


Abb. Job Script Templates

Additionally, pre-installed job script templates from the manufacturer can be used when calling Java, VMware, and cloud interfaces. These templates can also be accessed when changing job scripts and calling frequently used script passages. Changes to the template are not inherited with these job script templates.

Faster access to data

The process planner and work scheduler have central access to all defined stream master data through the stream explorer and convenient search functions. A full-text search makes locating and replacing job contents or agents in the master data incredibly easy.

Versioning for efficient change management

„streamworks" allows you to manage different versions of process chains (streams). There can be a planning version and several backup versions that are automatically generated upon activating a planning version alongside the current production version. The versioning enables you to conveniently manage batch releases, even within „streamworks" clients. In following, you can use it as an alternative to or in combination with export/import-based release management.

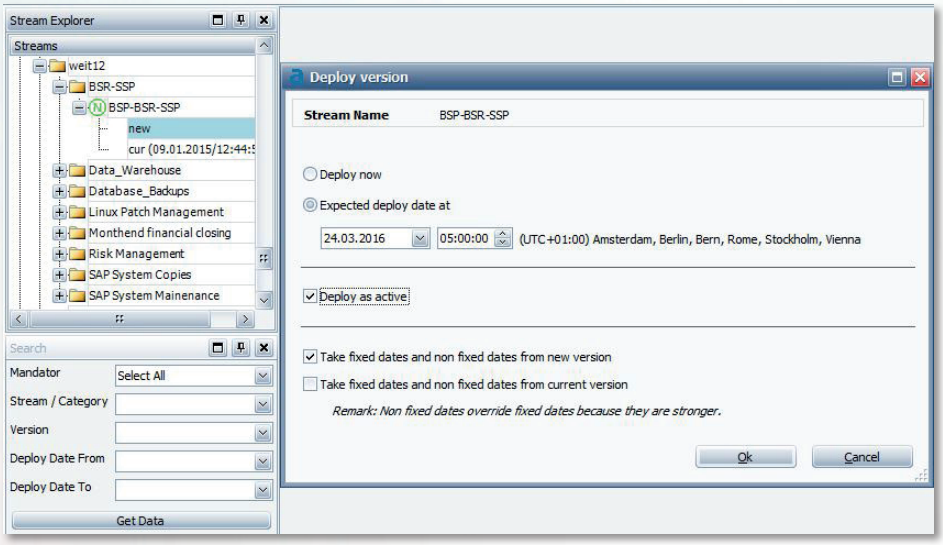


Fig. Version deployment and stream search

Should a new batch release comprise several streams, you can detect all the associated planning versions by a common flag in „streamworks." You can simply search by flag and activate all planning versions for a planned deadline simultaneously.

The backup versions can be reactivated as necessary and also provide information on a stream's change history. Should a user change a stream, „streamworks" ensures all versions of this stream are securely blocked for all other users.

Rule editors for intuitively defining process logic

„streamworks" contains numerous ready-to-use options to trigger event-driven or event-based batch processing. File and filing system events, numerous trigger events such as logical resources, predecessors and command line interface calls complement the conventional calendar and time-based management options. These events can be combined with these options to map complex requests using logical links. You or external applications can also deliver important events in „streamworks," for example by using a special dialog box to add missing parameters to a batch start and trigger the start of processing.

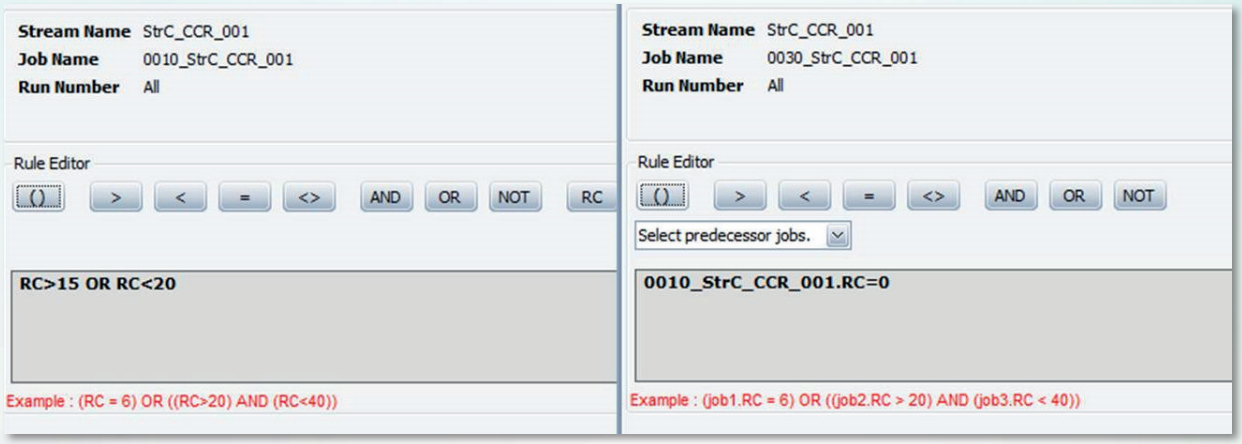


Fig. Rule editors – left: authorizing return codes; right: dependency definition

Using complex results with the job log parser

„streamworks" gives you the option of incorporating a parser job (or analysis job) into a stream. With the help of this job type, the job log and/or job error log files from direct or indirect predecessor jobs in the stream can be searched for the availability of defined strings. The searched string is defined using Microsoft .NET regular expressions. Log files of normal and file transfer jobs can be searched. Depending on the results, return codes can be set for the parser jobs, which are then treated in customary form by the follow-up processes for the next stream/job management.

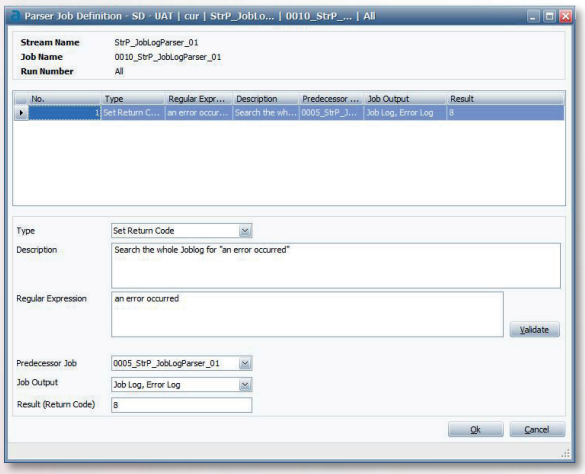


Fig. Definition of parser jobs

6.3. Runtime or plan data

There is a clear view of all information for monitoring the status of planned, ongoing, and incorrectly terminated jobs, as well as for file transfers and agents available in the user client's runtime area.

Important runtime data always in sight

The incident view offers a single point of access for monitoring and making manual changes to the Workload Automation in „streamworks." All unplanned incidents are visualized there. All the options for analysis and error handling are directly accessible via a shortcut menu.

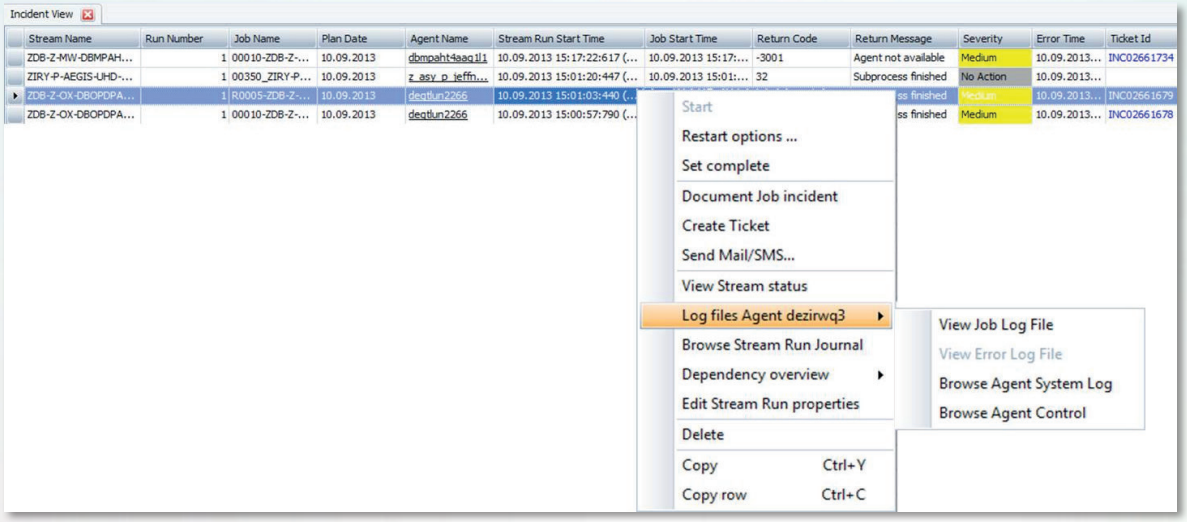


Fig. Incident View

The status of agents, fill levels, the processing of „streamworks" database queues and the assignment of logical resources can be quickly and easily determined and modified. The completion level of ongoing file transfers or runtime forecasts for planned streams are only a mouse click away.

Each stream run's historical runtime data is available for a definable number of days in the „streamworks" runtime area. Stream runs planned for the future are also available for several days based on customized definitions. Using the user client, you can: change, manually start or repeat all stream runs; view log data and stream journals; manage the documentation (of unplanned events, for example). Runtime data can be regularly reorganized using the included utility in order to prevent continuous growth of the database. In the process, the data is exported in an archivable format and can be used for auditing purposes.

Comprehensive data collection in a stream journal

„streamworks" gathers all information regarding automatic process control and manual changes or interventions in a stream journal in an audit compliant manner. This information is available via the user client and for archiving purposes each time a process is performed.

6.4. Graphic multi-stream display

The Multi-Level Stream Chart – the graphic process display in „streamworks“ – presents a visualization of external dependencies between several streams or jobs/runs. In a number of ways, these dependencies are responsible for whether a job is executed or not. Existing dependencies can be identified quickly and easily on the basis of the Multi-Level Stream Chart. There is an appropriate overview showing the precise location where this dependency is to be placed in the complex Stream structures, even for a new dependency to be defined. In the case of failure, you can use the Multi-Level Stream Chart to quickly detect and analyze the causes and effects.

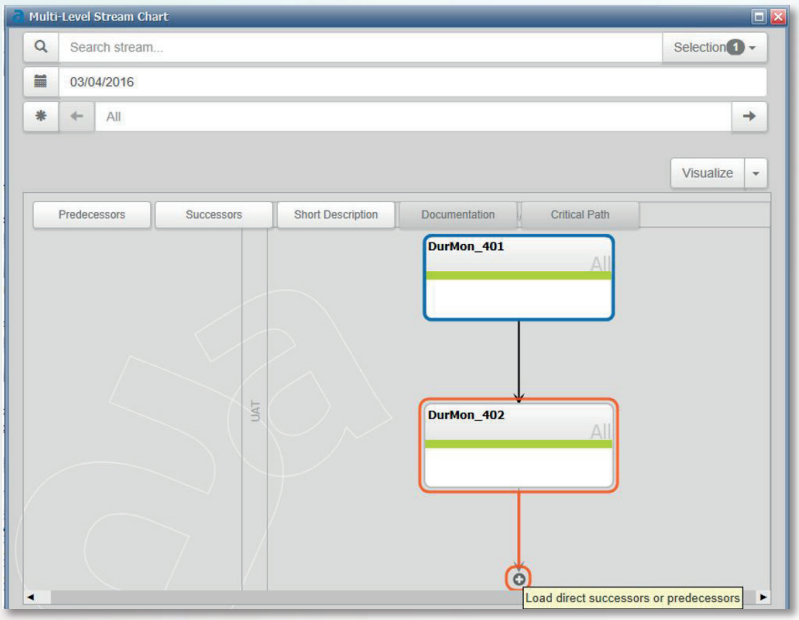


Fig. Multi-level Stream Chart entry screen with overview

Stream Search/Selection

You can do a specific and targeted search for a stream that is to be included in the selection and, thus, in the representation using an input field (1). In the case of several streams, they can be displayed or hidden individually. In addition, the search query can be specified further via the plandate and run selection (2, 3). Using the Visualize button (4), all data will be reloaded depending on the settings and/or filters and stream selection. Other actions, like printing, saving as an image, or the expansion of predecessors and/or successors, are also available at the click of a button. You can use the filter options (5) to choose if the respective properties are to be represented in the graph or not. These properties are visualized by means of boxes and borders, which differ in color, intensity, and line type.

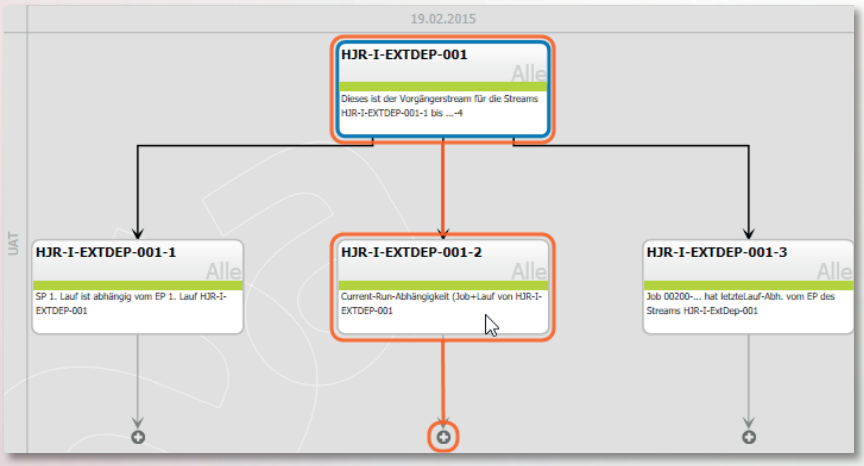


Fig. Colors and intensity of connections help differentiate between different properties

6.5. Reporting

„streamworks“ automatically provides many different reports based on Microsoft SQL Server Reporting Services (SSRS). The reports can be accessed using the user client or self-service portal. Along-side the standard reports included, the user can also define their own reports with Microsoft SSRS. Other data sources can also be used for generating reports. All results can be exported in numerous data formats (*.csv, *.pdf, *.doc).

The report server must be started separately and the connection will be configured in the system master data. Individual reports are generated in the Report Designer (the report server's reports manager) and uploaded into the „streamworks“ reports directory in the report server or sent as an E-Mail via the report server's subscription service.

7. Support and training

You will be dealing with colleagues experienced in the data center area the very first time you contact arvato Systems. We rely on in-house consultants with years of production experience for the first joint analysis of your automation requirements. A testing period is accompanied by experienced production planners who will choose and automate suitable pilot processes with you. This is how success is achieved in a short time – it instills trust and confidence in working with „streamworks“ and helps you achieve a high level of acceptance at your company.

From a trial copy to data-center-wide production operations, you'll receive competent assistance from arvato Systems, for example, when determining conventions or integrating into system management.

In constant contact

In order to remain at the forefront of technology, the software is continuously upgraded to take our customers' specific practical needs into account. Topics related to the release will be collectively discussed and adopted at regularly scheduled user group meetings.

You will soon benefit in many ways from arvato Systems' experience in working with „streamworks“ in productive use. For one thing, new releases come with the assurance that you are receiving tried and tested software. For another, a number of specialists are on hand from many different departments at arvato Systems to answer questions and advise you on a wide range of topics and not just on work automation.

arvato Systems' qualified consultants provide support for migration projects and appropriate, tailor-made tools for data conversion are provided as required.

„streamworks“ users have a direct link to arvato Systems' second- and third-level support – 24 hours a day, 7 days a week. But arvato Systems offers even more if you plan to implement „streamworks.“ We design custom, individualized service packages together with you, from the license itself up to full service.

Training

We have partnered with ATICS GmbH – an IT consulting company based in Stuttgart for training activities – to provide optimal support for working with „streamworks.“ This consultancy and training company, active in Germany, Austria, and Switzerland, has already developed a wide range of targeted training and advanced training measures. Expertise and experience at all levels and with all system platforms are consolidated using user-friendly and practical methods that are structured individually and logically with a focus on the target group.

ATICS GmbH offers „streamworks“ training courses several times a year for various target groups using its own „streamworks“ system at its training center in Stuttgart. In addition, the company offers in-house training courses at the client's own premises.

About arvato Systems

As global next generation IT systems integrator arvato Systems focuses on „Digital Transformation Solutions".

We use the technology talent and expertise of over 3,000 people at more than 25 sites throughout the world. Being a part of the arvato network and belonging to Bertelsmann, we have the unique capability to create entire value chains. Our team creates integrated, future-proof business infrastructures that help make our customers more agile and competitive, and enable them to deliver new standards of service to their customers. We create streamlined digital processes that support innovative business models. Moreover we provide operation and support services.

arvato Systems offers an exceptional combination of international IT engineering excellence, the open mindset of a global player, and the dedication of employees. We also ensure that all our customer relationships are as personally rewarding and long-lasting as they are successful.

You have questions, need information or a contact? Get in touch with us.

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