

CUSTOMIZABLE REPORTING

JAWS is the premier Workload Automation Analytics solution enabling you to analyze your workload environment from a business, real time, predictive, and historical perspective. JAWS' historical data repository adds value in any workload environment by allowing users access to unlimited historical data for reporting through JAWS' built-in reporting engine. JAWS applies sophisticated analytics and heuristics to your workload data with no performance impact to the scheduling engine. This means that not only is better data available for reporting, but that reporting itself is more efficient, more accessible, and more powerful than ever before with JAWS.

Easy to Use Interface

No scripting or querying experience is required to design a custom report in JAWS. Admins, application developers, business users, managers, and CIOs can all easily design and receive JAWS reports.

Business Area Filtering

JAWS gives you the flexibility and security to manage users, reports, and jobstreams by business area, providing intelligent visibility into the data that each of your unique users need.

Report on Past, Present, Future

Reports can be generated to view historical data, provide updates on your real-time environment, or predict future runs and executions.

Role-Based Access to Critical Data

Each JAWS report can be leveraged to provide valuable data according to user roles, eg. SLA reports for line of business users and management, Jobstream Detail and Termination Status reports for Application Developers, Processing Load reports for Admins, and forecast reporting for Operations.

Unlimited History

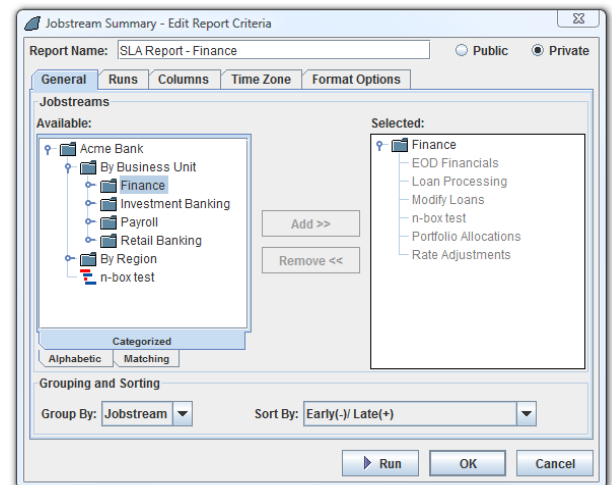
JAWS' historical reporting is limited only by the amount of history you chose to maintain. Most workload automation users maintain less than a week of data as anything longer would have a serious performance impact on the engine. Not the case with JAWS as we maintain in a separate database. More history means better compliance, access to valuable trending data, and the ability to better analyze your current environment.

Multiple Formats

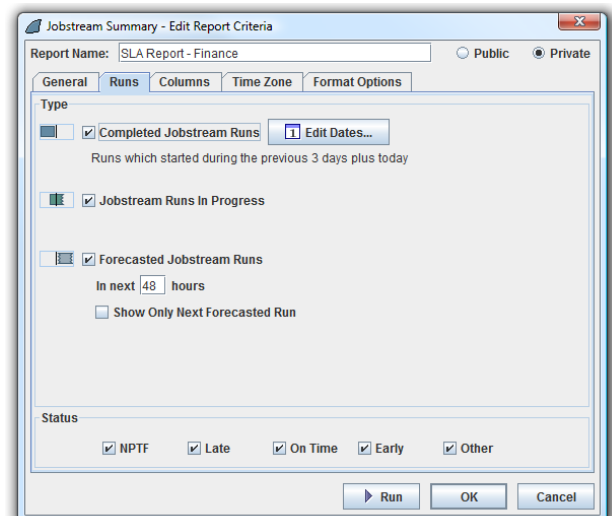
Produce your reports in PDF for easy viewing, HTML for web hosting, or CSV or XML to make JAWS workload analytics available to leverage in other applications.

Automatic Scheduling and Delivery

Take advantage of the flexibility provided by the JAWS Command Line Interface (CLI) to automate the delivery of reports.



JAWS Reports can be easily filtered by Business Area, allowing users to access data relevant to their applications and deliverables. Users can also be limited to specific Business Areas by JAWS Administrators.



JAWS gives you better access to historical data than ever before, but the benefits don't end there. Run reports to take snapshots of your real-time environment, or to predict the impact of forecasted runs.

Jobstream Summary (SLA) Report

The Jobstream Summary report is designed to provide statistics on the runs of one or more entire jobstreams for a particular date or a range of dates. The Jobstream Summary report is an excellent Service Level Assurance (SLA) report because it specifically details how a particular jobstream performed against its custom defined late criterion.

The SLA report below has been sorted by Early(-)/Late(+) in relation to the late time for the jobstream as a whole. You'll notice that this jobstream is consistently late, but by a slim margin. As indicated in column three, Designed Delay is consistently present in this jobstream. This could be corrected by isolating the job that is responsible for this delay, and removing the Designed Delay from the jobstream. JAWS has the unparalleled ability of revealing not only the cause of this jobstream consistently completing late, but also guiding you to the individual job(s) that impact the jobstream as a whole, as you'll see below.

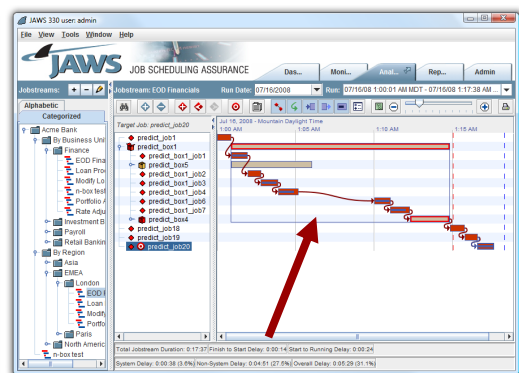
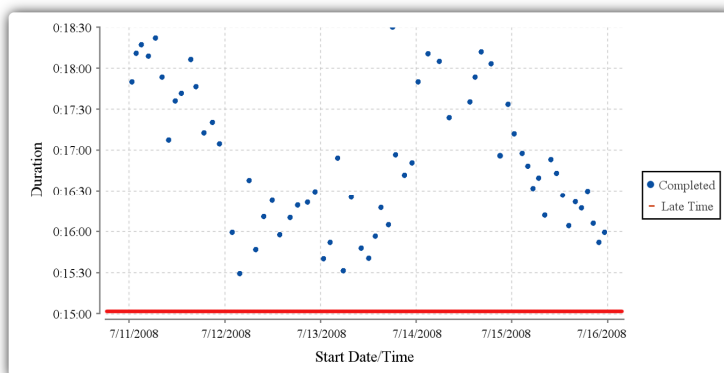
Date	Target Job	Jobstream Start/End Times	Jobs in Critical Path	Total Jobstream Time	Total Finish-Start Delay	Total Designed Delay	Total Operational Delay	Late Time	Early(-)/Late(+)
07/14/2008	predict_job20	07/14/2008 11:00:01 - 07/14/2008 11:17:23	14	0:17:22	0:00:14 (1.3%)	0:04:47 (27.5%)	0:00:00 (0%)	07/14/2008 11:15:01	0:02:22
07/14/2008	predict_job20	07/14/2008 17:00:01 - 07/14/2008 17:17:30	14	0:17:29	0:00:14 (1.3%)	0:04:25 (25.3%)	0:00:00 (0%)	07/14/2008 17:15:01	0:02:29
07/11/2008	predict_job20	07/11/2008 08:00:22 - 07/11/2008 08:17:56	14	0:17:34	0:00:35 (3.3%)	0:04:12 (23.9%)	0:00:00 (0%)	07/11/2008 08:15:22	0:02:34
07/14/2008	predict_job20	07/14/2008 04:00:01 - 07/14/2008 04:17:41	14	0:17:40	0:00:14 (1.3%)	0:04:47 (27.1%)	0:00:00 (0%)	07/14/2008 04:15:01	0:02:40
07/11/2008	predict_job20	07/11/2008 11:00:01 - 07/11/2008 11:17:43	14	0:17:42	0:00:14 (1.3%)	0:04:58 (28.1%)	0:00:00 (0%)	07/11/2008 11:15:01	0:02:42
07/11/2008	predict_job20	07/11/2008 05:00:01 - 07/11/2008 05:17:49	14	0:17:48	0:00:14 (1.3%)	0:04:53 (27.4%)	0:00:00 (0%)	07/11/2008 05:15:01	0:02:48
07/14/2008	predict_job20	07/14/2008 06:00:01 - 07/14/2008 06:18:02	14	0:18:01	0:00:14 (1.3%)	0:04:26 (24.6%)	0:00:00 (0%)	07/14/2008 06:15:01	0:03:01
07/14/2008	predict_job20	07/14/2008 10:00:02 - 07/14/2008 10:18:04	14	0:18:02	0:00:20 (1.8%)	0:04:45 (26.3%)	0:00:00 (0%)	07/14/2008 10:15:02	0:03:02

Below, a scatter graph represents the runs of this jobstream for the date range specified in the report. In this case, late criterion for this jobstream is based on duration, rather than a specific end-time. Accordingly, the y-axis represents the duration of the jobstream, and the late time is represented by the red line along the x-axis.

After reviewing the SLA report for the EOD financials jobstream, the results can be confirmed visually through the Gantt-chart representation (below, right) of this jobstream run in the Analysis tab.

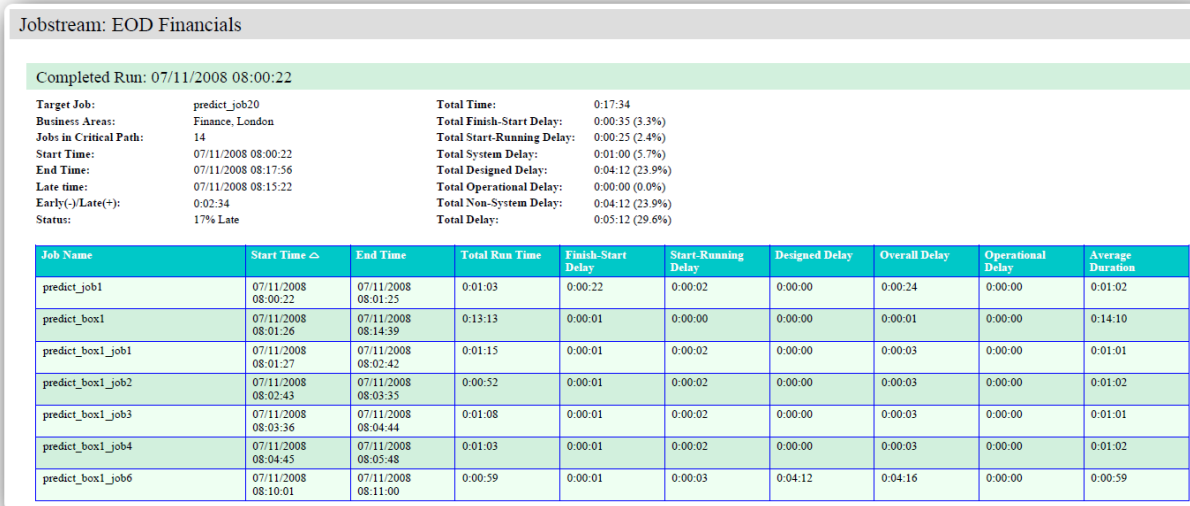
The impact of the Designed Delay is clearly visible in the middle of this jobstream (red arrow, below right.) By reviewing the SLA report above, and comparing the results to the Gantt-chart of the jobstream run, non-compliance to the SLA is shown to be a design issue.

In this manner, application developers can identify delay or irregularities in their own jobstreams and take steps to optimize inefficiencies they would not have been able to discover without JAWS.



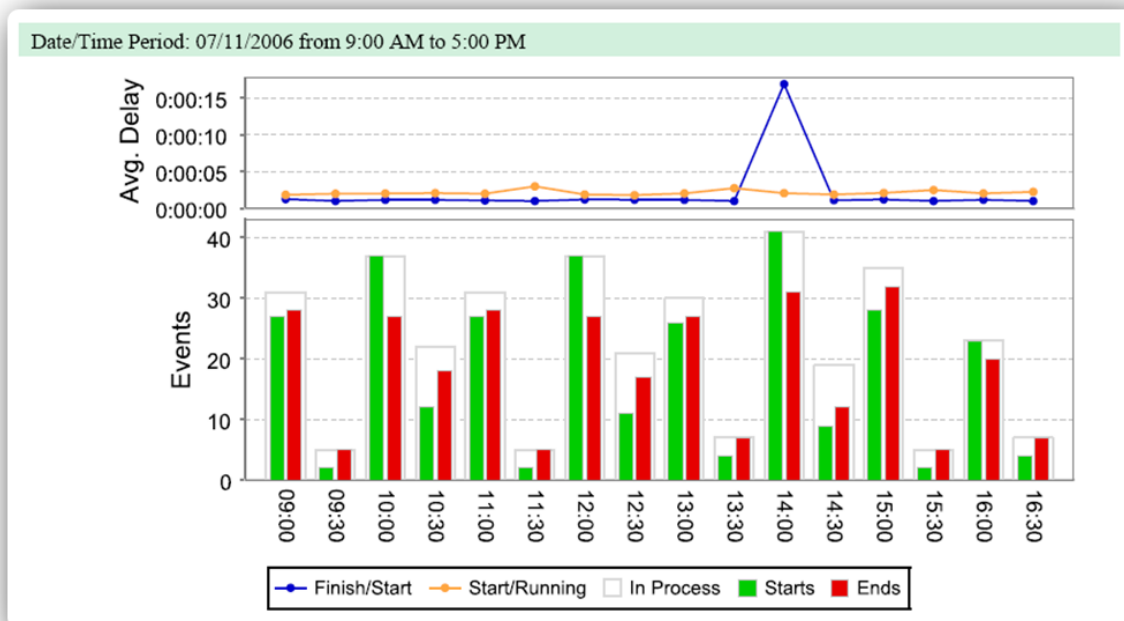
Jobstream Detail Report

Analyzing the previous EOD Financials Jobstream, The Jobstream Detail report not only provides high level statistics on the jobstream, but also the statistics on all of the jobs that contribute to the critical path of a job completing on time. This can be a very efficient way to determine how to optimize any given jobstream. By sorting on various properties of the jobs, you will be able to determine very quickly which jobs may, for example, be causing the most latency in the jobstream, or the most delay, or the longest run time. In this case, we are able to isolate the specific job which carries the Designed Delay that causes EOD Financials to regularly miss its SLA.



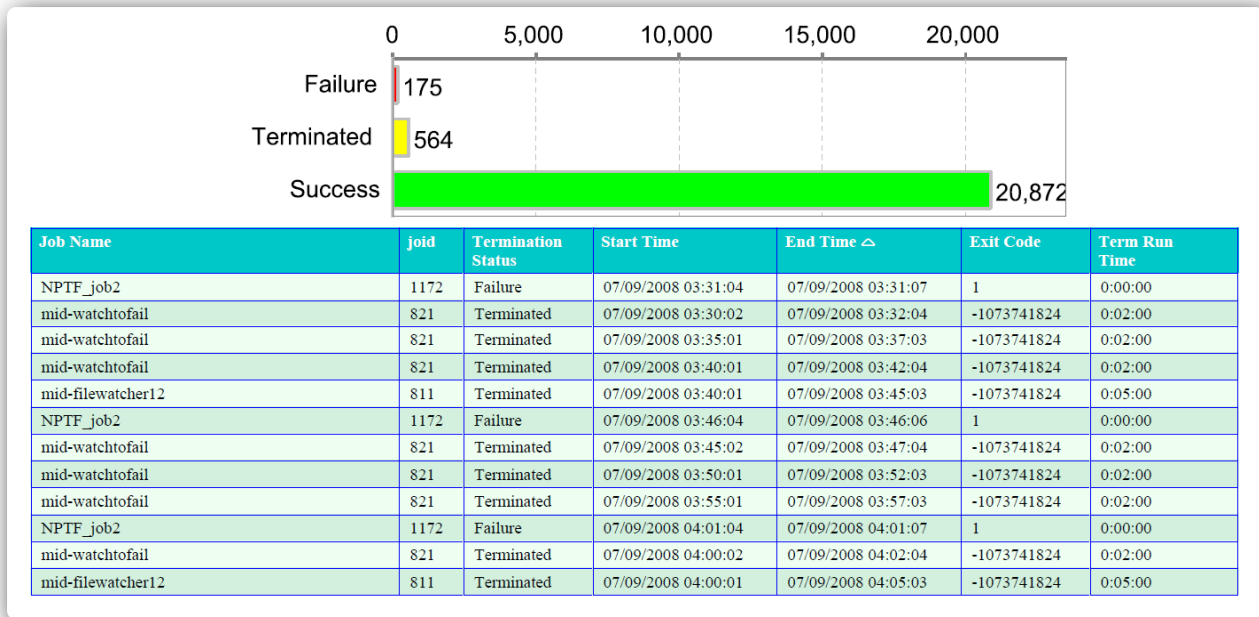
Processing Load Report

The Processing Load report allows you to determine the load on any or all of your workload servers. For any given period of time the volume of jobs that are Started, Running, and/or Ending are correlated to the average delays associated with that specific timeframe. In the graph below, we see a dramatic spike in delay associated with crossing a processing load threshold. You have flexibility in determining the time period and dates, even the ability to run a Processing Load report on forecast time periods based on schedules and dependencies. Find quiet times for maintenance, or better balance the load on any of your workload servers.



Termination Status Report

The Termination Status report summarizes the completion status of any jobs running on a workload server during a certain time period. It shows the number of jobs ending in Failure, Terminated, or Success status, for each scheduler and day, and optionally shows details of Failure and Terminated runs.

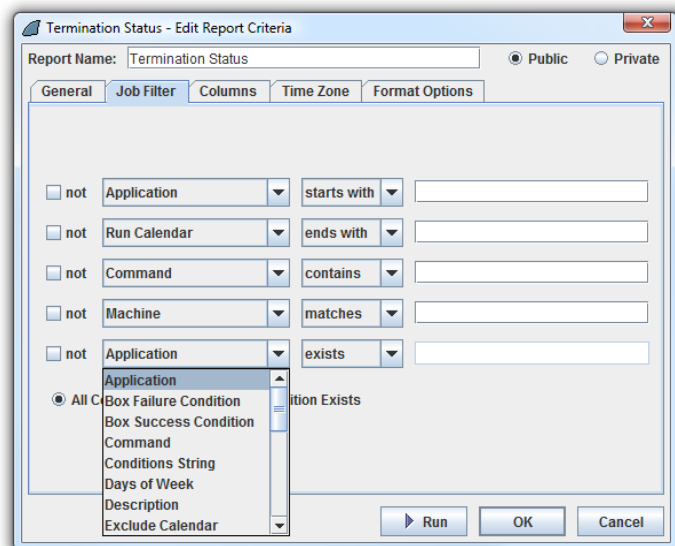


As with other JAWS reports, the Termination Status Report is highly customizable and allows users to filter on a variety of criteria.

In the dialogue to the right you'll notice some of the filtering criteria available in order to make this report more valuable and informative. In fact, any property in the job definition is available for filtering.

Traditionally, a report like this would be created to hand off to management in order to gauge the health of the Workload environment. However, with more sophisticated reporting available in JAWS, this report is more suited to Operations and/or Application developers in order to analyze individual jobs.

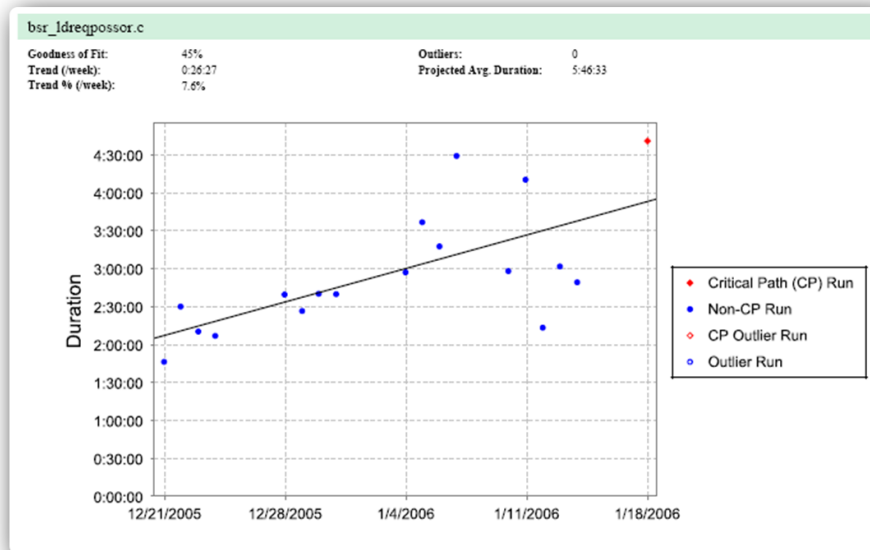
Management can avail themselves of reports like the Jobstream Summary (SLA) Report to determine the overall business impact of scheduling events, rather than get lost in the details of individual job runs.



Report customization is virtually limitless in JAWS. The Termination Status report alone allows users to filter by 23 cross-referenced job properties, and sort by 33 different criteria.

Trending by Critical Path History Report

The Trending by Critical Path History report allows you to spot trends in jobstreams related to how many times a particular job has been in the critical path. This report helps you pinpoint jobs that currently or could potentially create bottlenecks, as well as determine if once a fix is applied the performance is then trending positively. You'll notice in the graph below, that as this particular job trends longer, it eventually finds its way into the critical path of the jobstream, meaning that it is now directly affecting the due-out time of your business-critical target job.



These three numbers are all derived from a statistical analysis of the durations:

Goodness of fit - a standard measure of how well a dataset is modeled by a linear fit. Looking at the chart, if all the points fell precisely on the line that would give a goodness of fit of 100%.

Projected Average Duration - the duration that is predicted by extending the trend line to the end time for the report. Designing this report to include future dates allows you to view a prediction of a job's runtime according to its trend.

Trend (/week) - the weekly average increase in duration, again taken from the trend line. "Trend % (/week)" is that number as a fraction of the projected duration, so for instance IM_DLINK-PROD-LMK-END is trending 15 minutes longer/week and projected to run 1:37 or about 100 minutes, for a trend of 15%.

Trending by Jobrun History Report

The Trending by Jobrun History report collects all runs of one or more specific jobs in a specified range of dates. Designed to give you the same trending data as the Critical Path History report, this report can optionally include graphs of the runs as well as details of each job run in a table for each job. A critical distinction between this report and the previous is the ability to specify any job in your environment, rather than JAWS automatically returning results for jobs that carry a trend. This gives you the ability to track the entire history of any particular job in your environment, potentially back to the first time it ever ran.