SYSCOM VitalSigns Analyzer

SYSCOM's VitalSigns Analyzer tool is a workflow event-analysis system that provides the ability to examine work managed by IBM MQSeries Workflow (MQW). VitalSigns Analyzer accepts MQW Audit Trail data from either the MQW Audit database table or from the MQW Audit XML queue. VitalSigns Analyzer calculates and summarizes MQW events, retains the statistics in a History database, and provides a browser-based user interface to extract standard Views of the events. A VitalSigns Analyzer user has the ability to extract historical event data in 9 standard views based on over 17 selection criteria and format options.

VitalSigns Analyzer Features

The SYSCOM VitalSigns Analyzer:

- Maintains a custom History database that tracks the history of MQW events.

- Calculates and summarizes MQW event in the History database.

- Calculates several workflow results such as:
  1. Working Duration (actual checkout-checkin time of Activities),
  2. Duration (Lead time plus touch time of activities),
  3. Iterations (Number of times a workitem exited a block but didn't meet the exit criteria)
  4. Finished Work
  5. Available Work
  6. New Work

- Provides a browser-based user interface to query, extract, and view MQW events.

- Provides a user with standard Views of MQW event history including:
  1. A time-series View of events related to a specific Process Template
  2. A time-series View of events related to a specific Activity
  3. A list of Process Instances for a specific Process Template
  4. A list of Activity Instances for a specific Process Template
  5. Detail events for a specific Process Instance
  6. Comparison of Staff results for completed Activities
  7. Activity details for a Staff Member
  8. A summary of a specific Activity

- Provides Views with the ability to extract events based on specific Selection Criteria such as Date Range, Process Template name, or Activity Name.

- Provides a list of events that match the Selection Criteria.

- Provides (where appropriate) a Summarization of the selected detail events to allow easy comparison of specific events to the summary. Summarization includes Total, Average, and Standard Deviation quantities for each of the basic calculated workflow results (duration, working duration, new work, finished work, and available work).

- Provides (where appropriate) Views of an Aggregation table of the selected detail events.

- Provides a Graph of detail events to easily recognize trends.

- Can execute on a machine separate from the MQW server to avoid performance problems.

- Can accept input from multiple MQW systems if desired.

VitalSigns Analyzer Architecture

VitalSigns Analyzer is built with the following architecture:
- JSP/Java Servlet/Java Applet architecture that executes on any Java Application Server
- Relational database driven
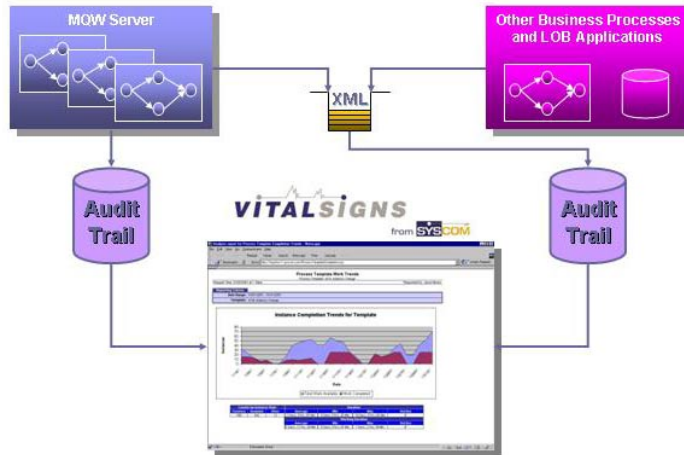- XML Message-based

VitalSigns Analyzer has the ability to use either the supplied MQSeries Workflow DB2 Audit Trail, or it has the ability to use the MQSeries Workflow Audit XML queue for sending audit log transactions to an external History database. If this option is chosen, this generated History database can also be the store for audit records from other applications that may be part of the process but not necessarily controlled by MQSeries Workflow. This enables you to have a complete report of your business transaction.

System Requirements

VitalSigns Analyzer has the following dependencies:

- Windows NT, 2000, IBM AIX, Sun Solaris
- IBM WebSphere Application Server v3.5 or higher
- IBM DB2 Enterprise Edition v6.1 or higher
- IBM MQSeries Workflow v3.2.2 or higher
- Microsoft Internet Explorer v5.5 or higher
- Netscape Navigator v6.2 or higher

VitalSigns Analyzer Screen Shots

The follow depicts several screens available with the current version of VitalSigns Analyzer. These screen shots show:

The VitalSigns Analyzer **Home page** provides a general access point to the application. The user can navigate to any available View from the Home page. Also, the Home page presents the user with a Workflow News pane and several interesting aspects of the History database. All subsections (except the Views subsection) are optional or configurable and can be disabled or modified by the system administrator.

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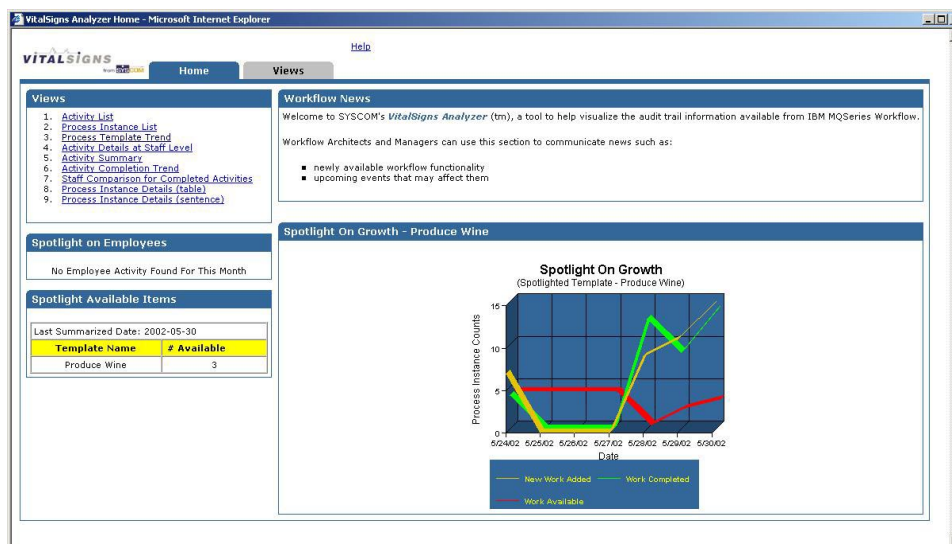
The **Process Instance List View** lists Process Instances for a specified Process Template. The view:

- Allows selection by Date Range, Process Template Name, and Status
- Lists each Process Instance with: status, start/end timestamps, duration, and working duration
- Calculates variance and uses the variance to display warnings for each process instance
- Calculates and displays a summary for Average, Minimum, Maximum, and Variance, for both Duration and Working Duration.
- Calculates/displays the total process instance counts with a status of Finished, Available and Other
- Graphs the Duration.
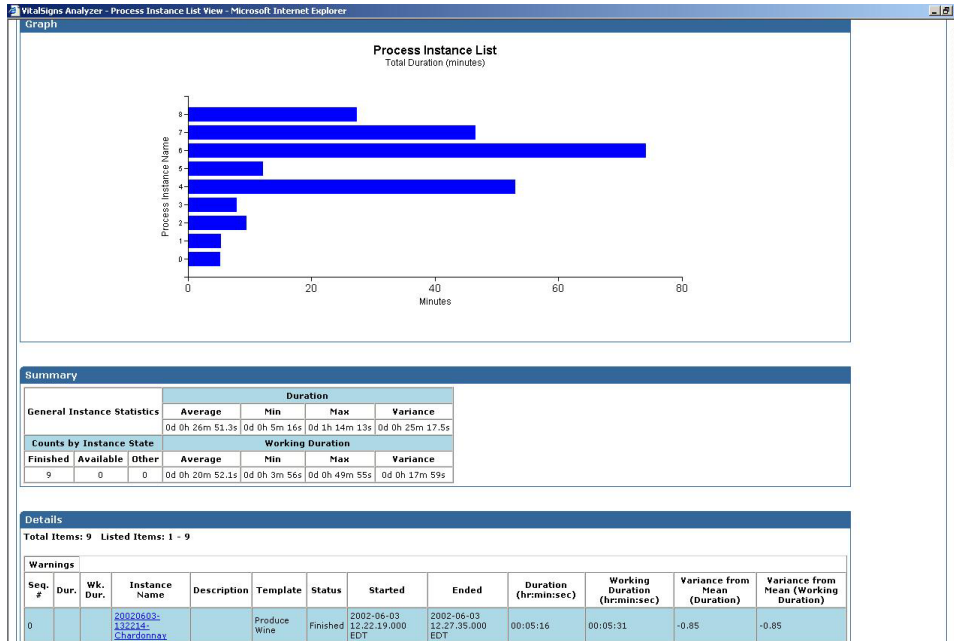
The **Activity Summary View** summarizes the work accomplished by users for a specified Process Template and Activity. The view:

- Allows selection by Date Range and Activity Name.
- Lists each Activity and its respective: activity status, activity type, id of who completed the activity, iterations of the activity, duration of the activity, and working duration.
- Displays a summary for Total, Total Working, Average, and Average Working Durations.
- Graphs the Activity Duration.
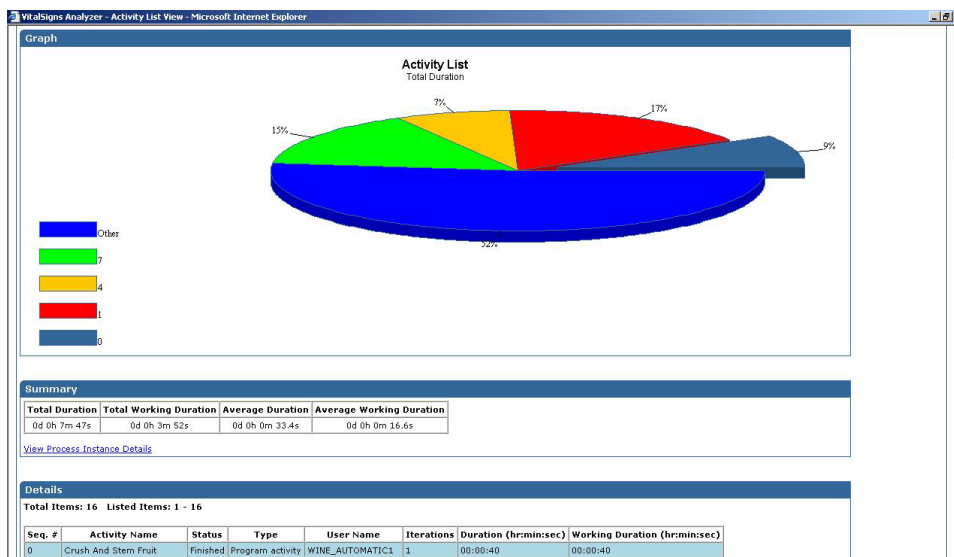
The **Activity Completion Trend View** lists trends for New Work, Completed Work, and Work Available for a specified Activity in a Process Template. The view:

- Allows selection by Date Range and Process Template Name
- Lists counts of New work Added, Total Work Available, Work Completed plus Variations of those numbers versus the mean
- Calculates variance and uses the variance to display warnings for each day Also for each date, the view identifies Warnings (for Input, Backlog, and Output) if the day's Variation is abnormal.
- Calculates and displays the total activity counts with a status of Finished, Available and Other
- Calculates and displays a summary for Average, Minimum, Maximum, and Variance, for both Duration and Working Duration
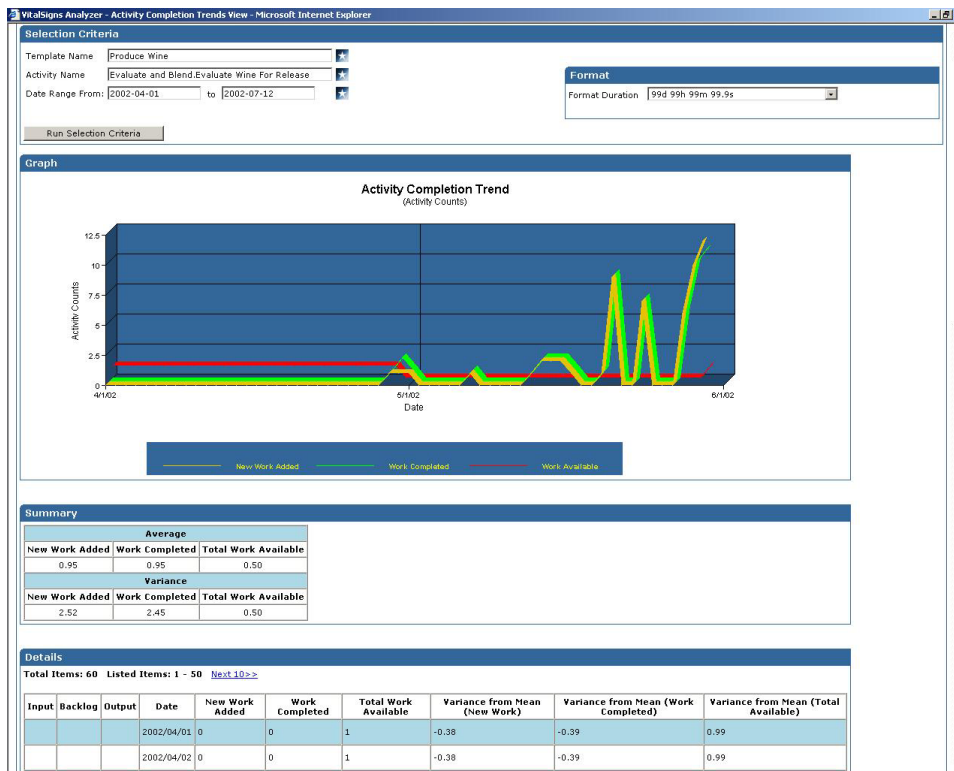
The **Process Instance Detail List (table) View** lists all events for a specified Process Instance. The view:

- Allows selection by Process Instance Name
- Lists each recorded event including the timestamp of the event, what occurred, the Process Instance Name (or sub process name), the Process Template used, the user that performed the event, a description, and an Activity name.

The **Process Instance Detail List (sentence) View** lists all events for a specified Process Instance. The data displayed on the view is exactly the same as the Process Instance Detail List (table) View. However, the intent is to make the view more user-friendly and less workflow-specific. The view:

- Allows selection by Process Instance Name
- Lists each recorded event including the timestamp of the event and an English translation of the details.
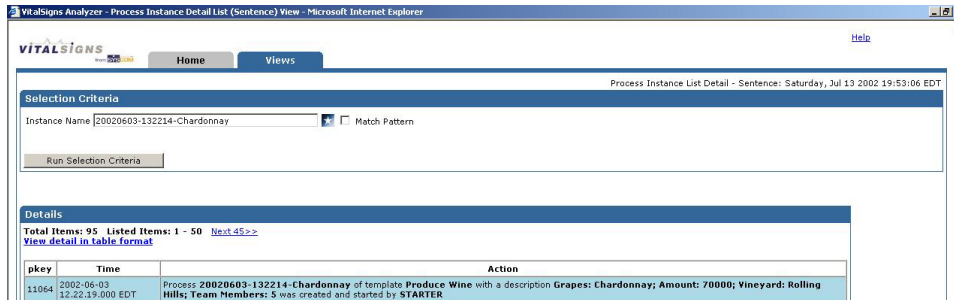
The **Process Template Trend View** lists trends for New Work, Completed Work, and Work Available for a specified Process Template. The view:

- Allows selection by Date Range and Process Template Name
- Lists counts of New Work Added, Total Work Available, Work Completed plus Variations versus mean
- Calculates variance and uses the variance to display warnings for each day Also for each date, the view identifies Warnings (for Input, Backlog, and Output) if the day's Variation is abnormal.
- Calculates and displays the total process instance counts with a status of Finished, Available and Other
- Calculates and displays a summary for Average, Minimum, Maximum, and Variance, for both Duration and Working Duration
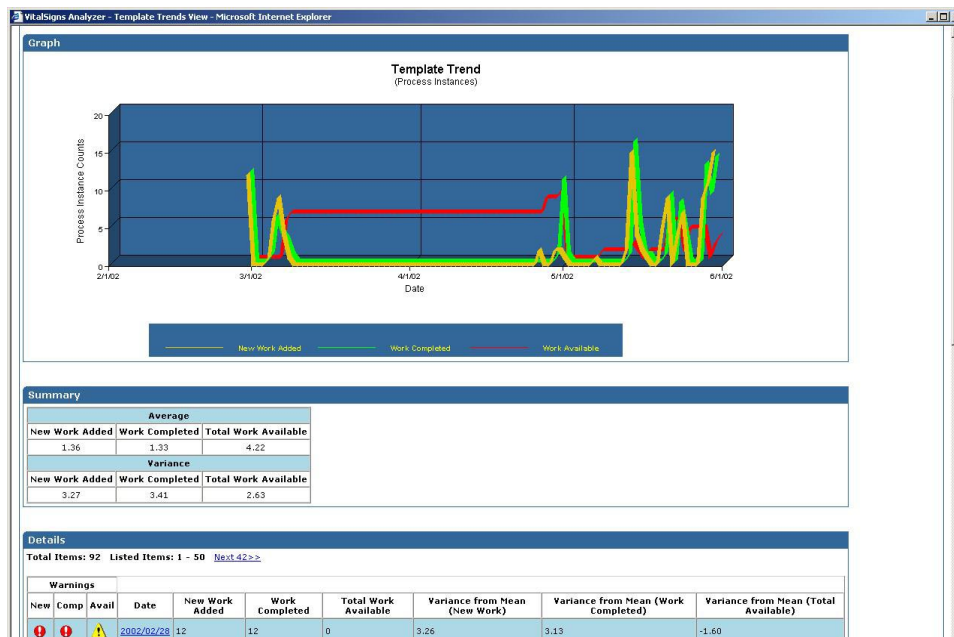
For more information…

If you would like additional information about the **SYSCOM VitalSigns Analyzer**, or, if you would like to engage SYSCOM in your project, please contact us at Sales@SYSCOM.com or:

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