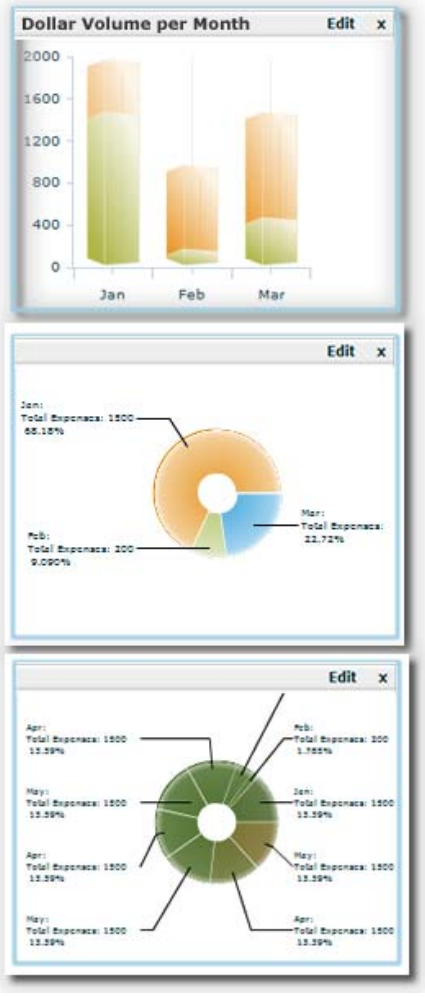
Real-Time Performance Dashboard for SOA Web Services

ORION SOA



Abstract

The adoption of service-oriented architectures (SOA) has become increasingly prevalent in enterprise IT environments. This web services approach offers significant benefits in terms of speed of development, inter-operability, and re-usability. However, the transaction flow through web services applications can be tremendously difficult to monitor in order to avoid problems before they impact the business. An essential aspect of any successful SOA deployment is the ability to continuously monitor mission-critical business processes in real-time.

The ORION SOA rule-based application server, with its integrated Complex Event Processing (CEP) engine, can be deployed as an in-line SOAP Proxy or as an out-of-band transaction monitor. With its Reporting module, Archive Browser and multi-protocol notifications, it can offer multiple simulatneous SOA performance dashboard views, and provide the necessary real-time visibility into your SOA-based business processes.

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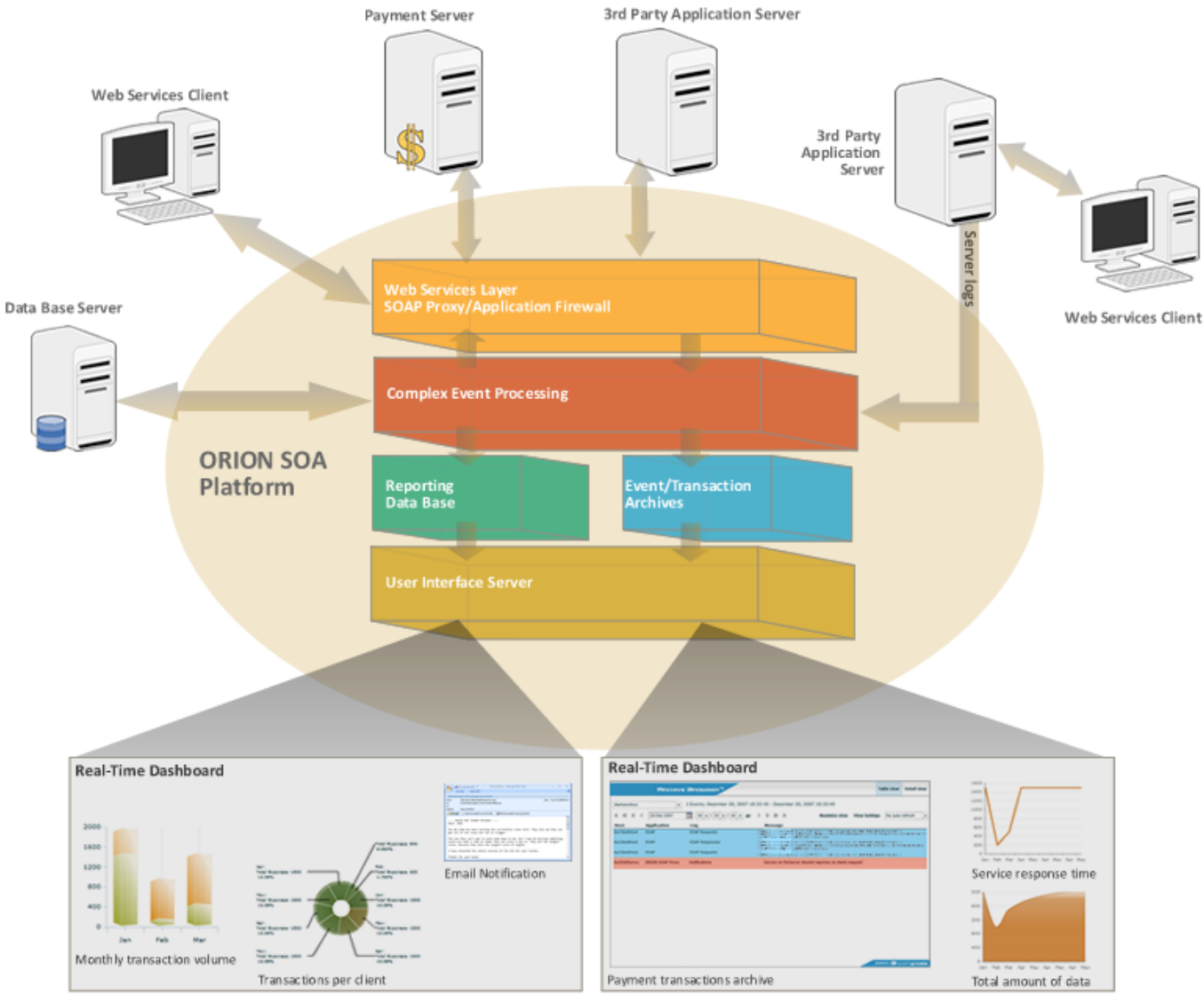
Real-Time Dashboard for Web Services



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The ORION SOA Performance Dashboard works by either intercepting and analyzing web services transations in in-line mode or by analyzing transaction logs out-of-band in real-time. ORION SOA can analyze the contents of individual SOAP requests and responses, and correlate it using its built-in Complex Event Processing (CEP) engine to other transactions and business variables. In addition to real-time alerts and triggers, users can easily create customized web-based dashboards that show business performance metrics, such as the number of purchases and revenue per hour, in addition to server performance metrics, such as transactions processed and server response times.

Dashboard reports and layouts are developed with a simple point and click interface. The user selects individual transactions and specifies which variables inside a SOAP XML document need to be monitored. Next he specifies whether these variables are to be reported as averages, sums, or frequency counters over specific time periods and in what format the information should be displayed. Multiple charts and reports can be combined into a single real-time dashbard. Dashboard information can also be printed into customatizable reports.

Custom triggers and alerts can be configured for any variable. When a threshold has been reached, the operations staff can be notified in real-time through any standard enterprise management console that supports Syslog or SNMP message interfaces. Of course, customized alerts can be sent to specific user groups by email or SMS.

ORION SOA also allows you to capture a perfect audit trail of all your SOAP transactions and responses (as well as any other network activity), and view them off-line or in real-time in the Archive Browser.

Some of the benefits of using the ORION SOA Platform are:

- Minimal or no performance impact on monitored services and hosts
- In-line or out-of-band processing modes
- Highly scalable with clustering support
- Very quick deployment time
- Multiple custom dashboards with XML based configuration
- Print ready reports from dashboards
- Alerting with email, SMS, Syslog, or SNMP
- Multiple transaction audit archives in the Archive Browser
- Rapid development without coding using a wizard driven rich web interface
- Professional services deployment support is available by our team of experts

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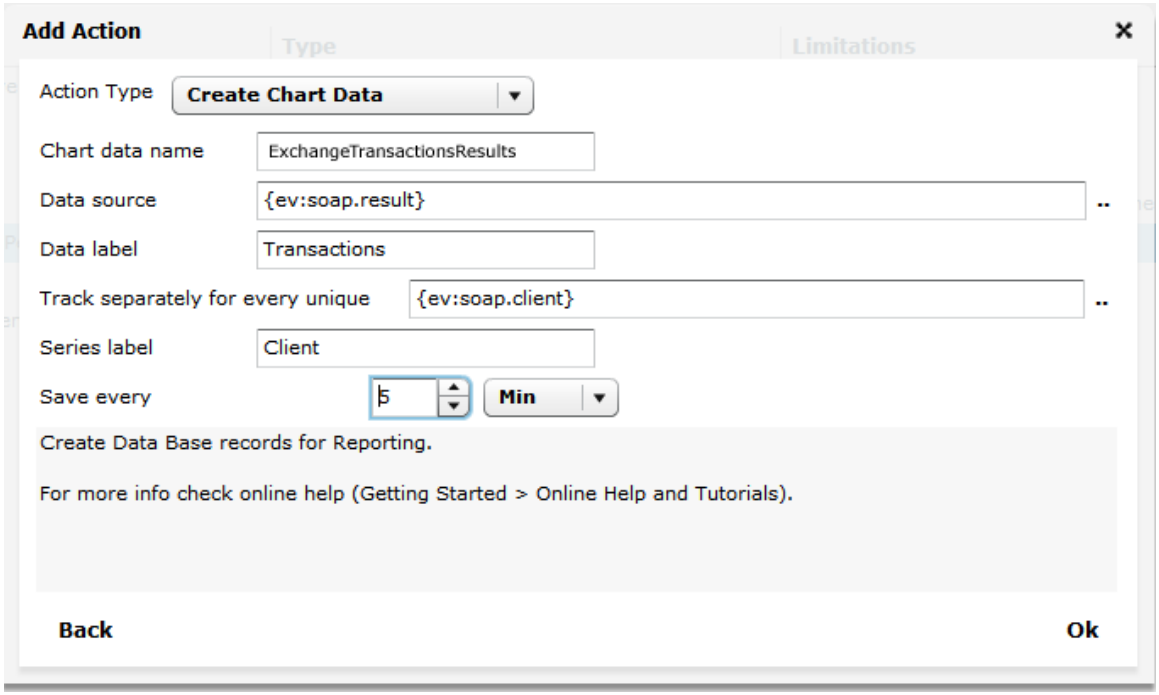
Application Example – Creating a Chart

In this example, we configure a dashboard for a foreign exchange (FX) application. We chart and report on key variables that are relevant to the FX business.

We assume that the ORION SOA server is working as a proxy server for the foreign exchange application. Each transaction that is processed has a variable called "ev:soap.result" which contains the value "0" if the transaction is succesfull, or "1" if it is failed. In addition, we are separately tracking each web services client that originated the transaction and whose name is contained in the variable "ev:soap.client".



In this example, we are tracking transaction failures per client over time. We call the chart data "ExchangeTransactionResults" and we are tracking a separate data series for each individual client.

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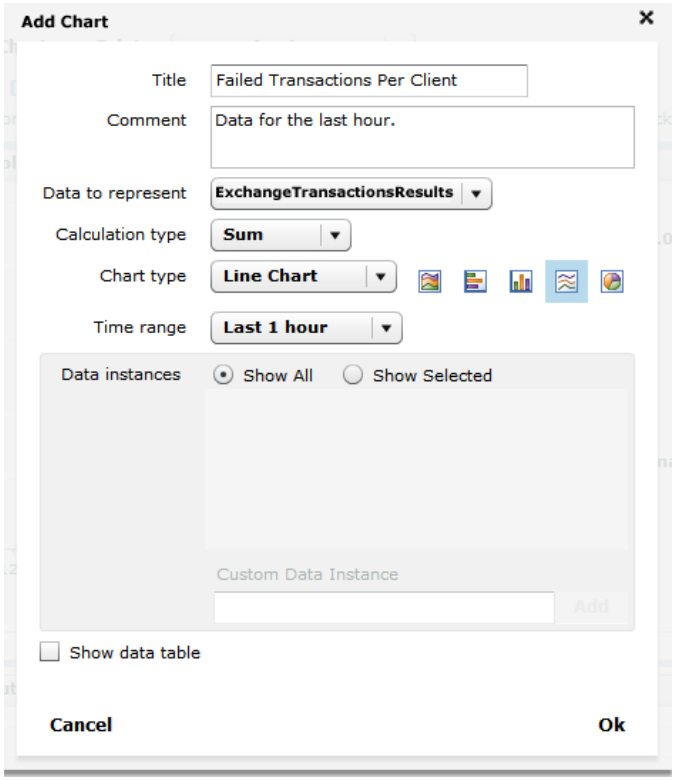
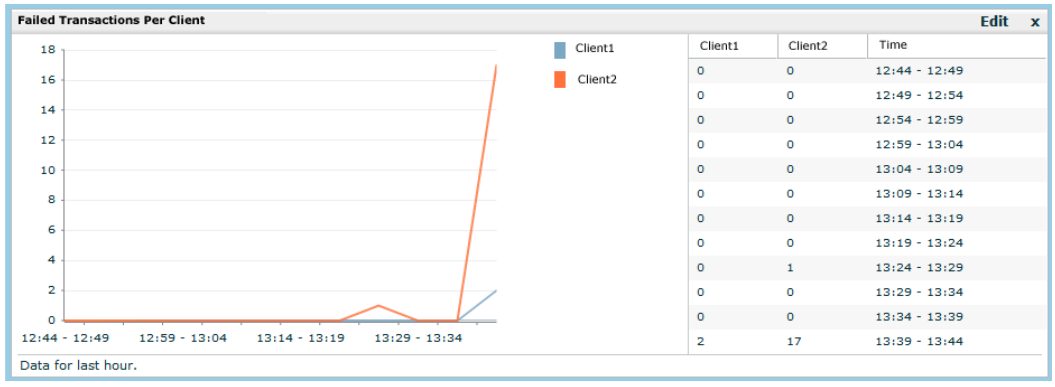
Now we create a line chart that shows us the “Failed Transaction Per Client” for the past hour based on the “ExchangeTransactionsResults” data series we defined in the previous screen.



Here is the chart we have just created.



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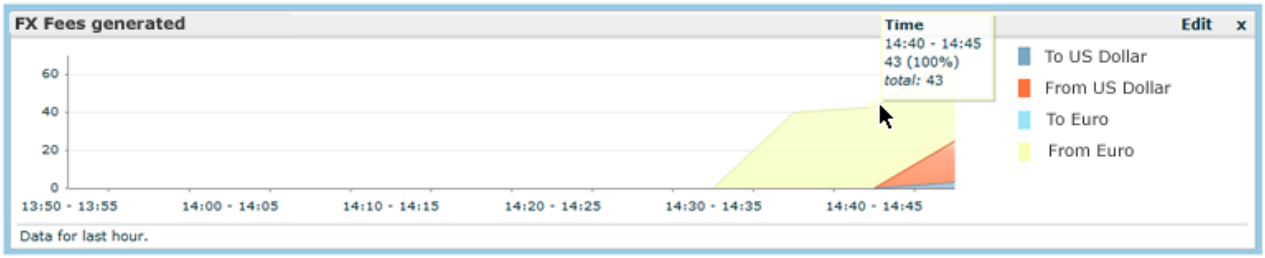
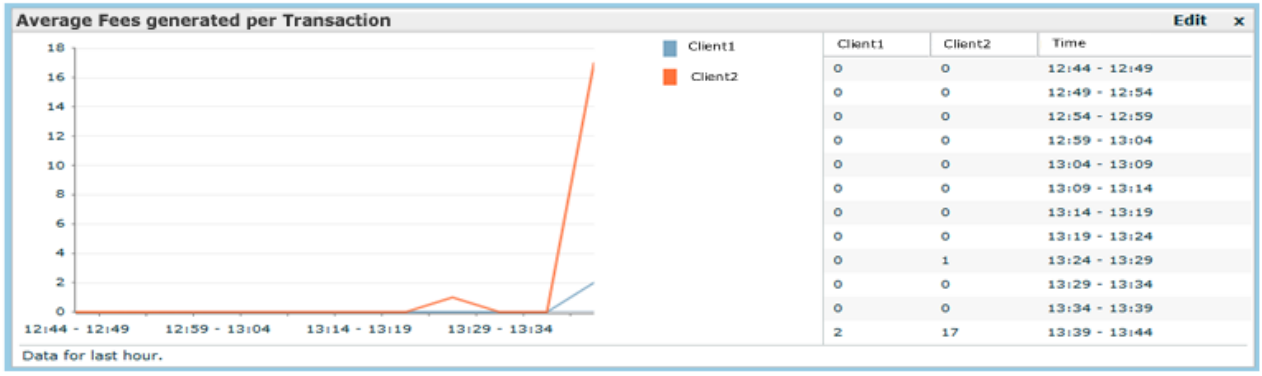
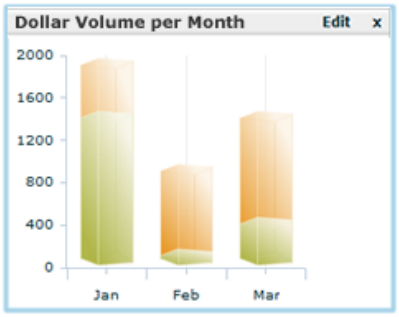
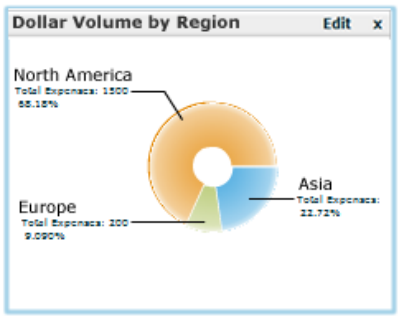
Multiple charts can be combined inside a dashboard view. You can have multiple views for different users. Dashboards can be displayed in real-time or they can be printed out as a report.

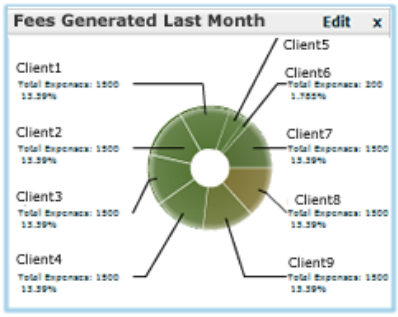
Foreign Exchange - Real-Time Dashboard











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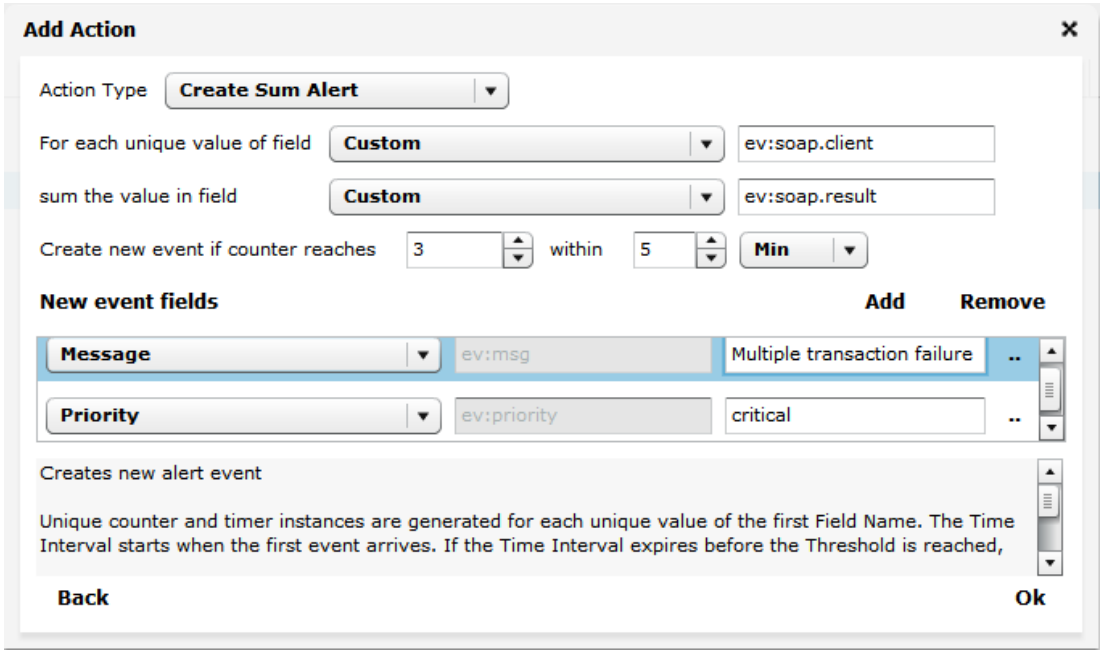
Application Example – Creating an Alert

We will also create an alert in case that more than 3 transaction failures happens in 5 or less minutes.



The alert event created has priority “critical” which means it will be highlighted red in the transactions/event archive. We can also send it out as a notification by email, SMS or Syslog.

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Conclusion

SOA applications are critical to many businesses. Maintaining real-time dashboards and reporting on key business metrics contained in your web services applications allows you to continuously monitor and respond to changes in your business environment. ORION SOA makes it easy to create real-time monitoring and alerting.

Please visit http://www.EventGnosis.com/SOA if you like to know more, or to request a WebEx product demonstration.

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