Automatic Remediation for SOA Web Services

ORION SOAP Proxy based on ORION SOA 7.0

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Abstract

Web services are becoming an integral part of the business infrastructure, and the availability and proper functioning of individual web services is mission critical. The only way to assure 99.999% services availability and to maintain the required transaction performance and throughput is to be able to monitor individual SOAP transactions as are they are being processed. Performance and availability problems have to be identified in real-time and may require automatic remedial actions on a wide range of infrastructure components on the network, such as application servers, databases, and web servers.

The ORION SOA 7.0 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 to identify and remediate problems by initiating remote actions on network servers, applications, and devices.

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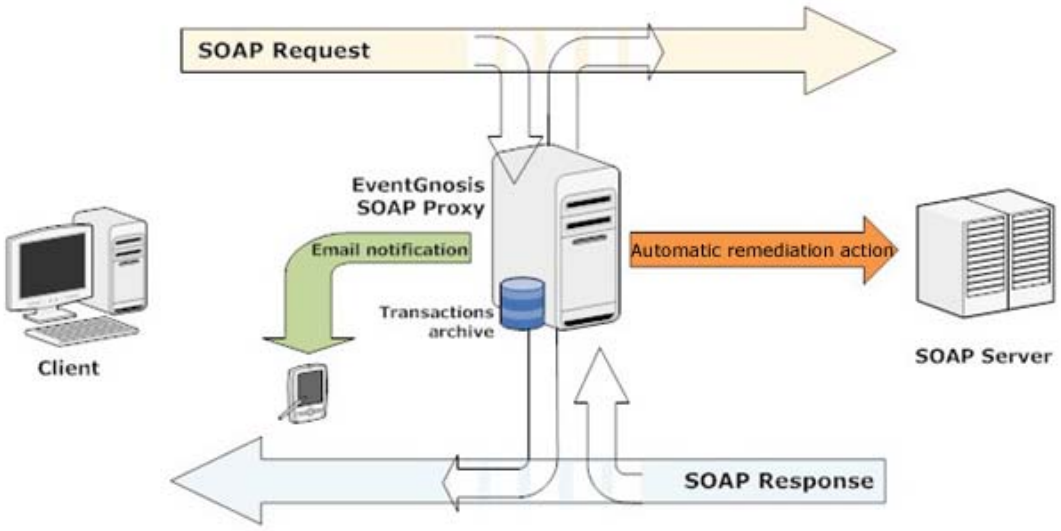
ORION SOAP Proxy



The ORION SOAP Proxy is a rule-based application built on top of the ORION SOA 7.0 application server. It can monitor individual SOAP requests and responses from your application servers. Rules can be built in a visual development environment without low-level programming to take remedial actions based on parameters of individual SOAP transactions, such as the requesting client, SOAP request or response content, time frame of operation (e.g. week day shift 1 or weekend…), latency response times of servers and a variety of other variables relating to the transaction or the network environment.

Automatic remedial actions include the execution of custom scripts on remote or local hosts, emailing administrators with alerts, sending SOAP requests to other servers and much more. The ORION SOAP Proxy can send Syslog and SNMP events to your management console, so that everything can be monitored with your existing network management infrastructure.

Since it is based on the ORION SOA 7.0 platform using the ORION CEP engine, the possibilities are virtually unlimited. It is a highly scalable and pluggable architecture. The development of the custom solutions is measured in hours and days instead of weeks and months.

The ORION SOAP Proxy also allows you to capture a perfect audit trail of all your SOAP transactions and responses, and view them off-line or in real-time in the Archive Browser.

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Some of the benefits of using the ORION SOAP Proxy are:

- Minimal or no performance impact
- In-line or out-of-band processing modes
- Highly scalable with clustering support
- Very quick deployment time
- Alerting with email, SMS, Syslog, or SNMP
- Multiple transaction audit archives in the Archive Browser
- No human intervention is required on application failures
- No agent installation on the monitored machines
- Based on the ORION SOA 7.0 rule-based application server platform
- 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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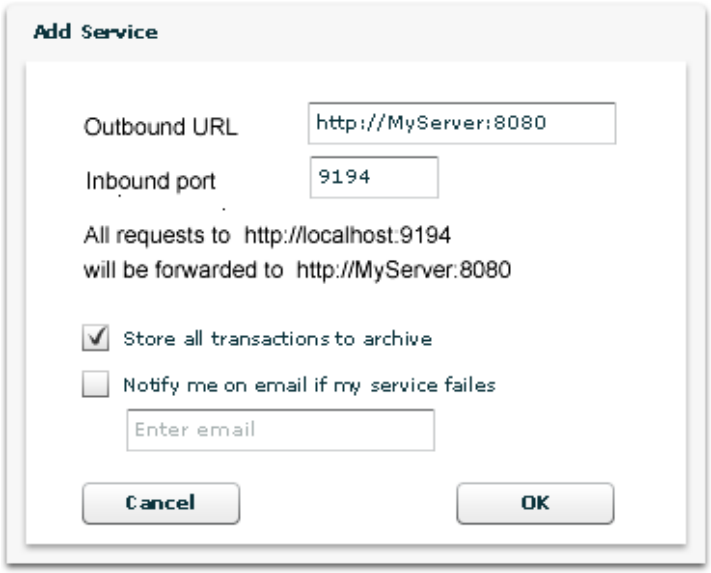
Application Example

Here we show an example of a web services application running on the host MyServer. In this example, the ORION SOAP Proxy server is operating in in-line mode. It receives SOAP requests on its own inbound port 9194, and forwards them to http://MyServer:8080. Any SOAP responses received from MyServer are immediately being returned to the original SOAP request.



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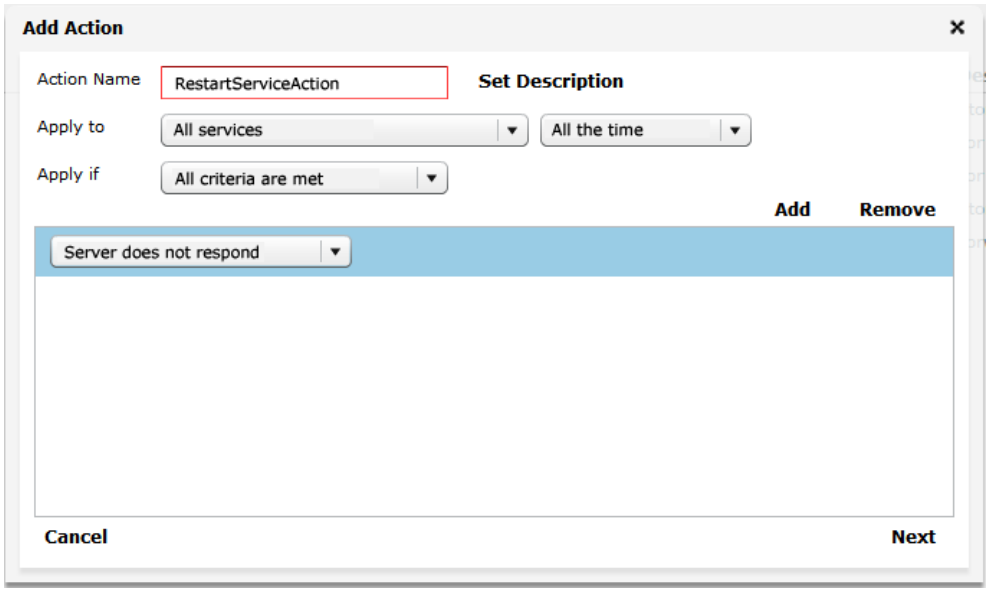
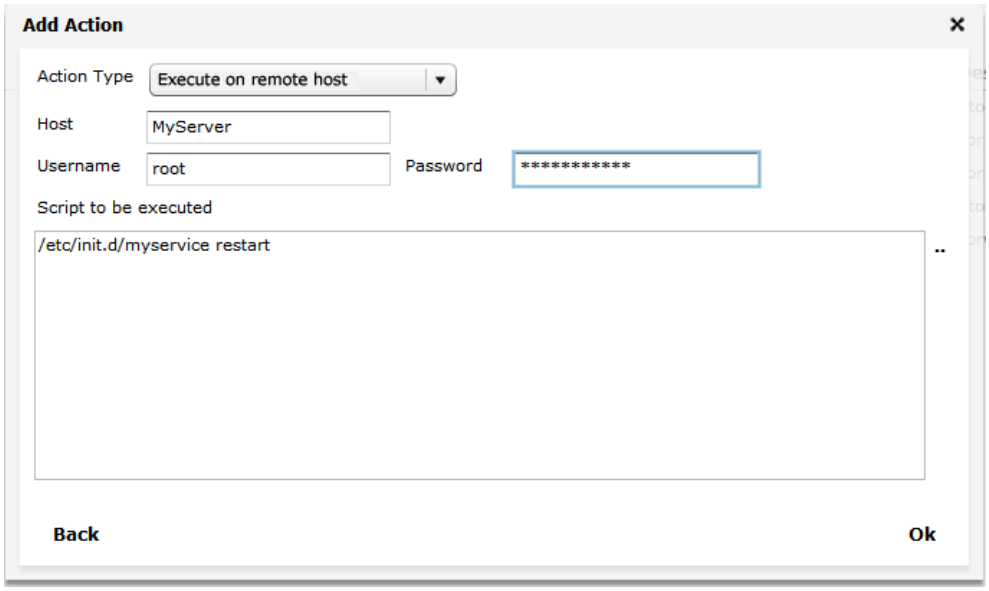
If MyServer does not respond to a client request, the “RestartServiceAction” will be triggered.





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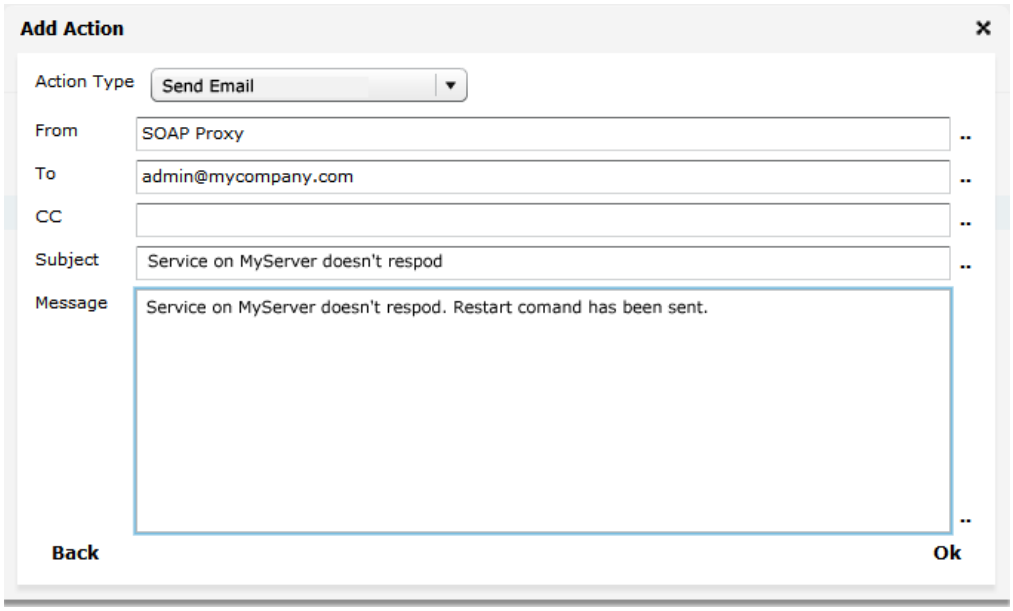
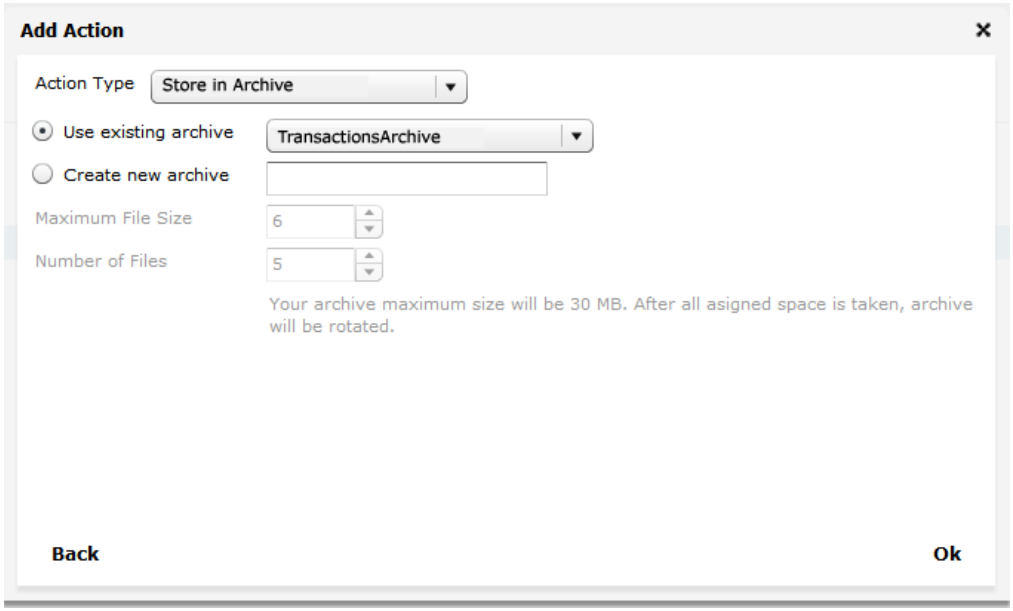
Several more actions are triggered if the server doesn't respond. They are "NotifyOnServerFailure" and "StoreTransactionsToArchive". The administrator will be notified by email and all failed transactions to the server will be archived in a separate transaction archive.





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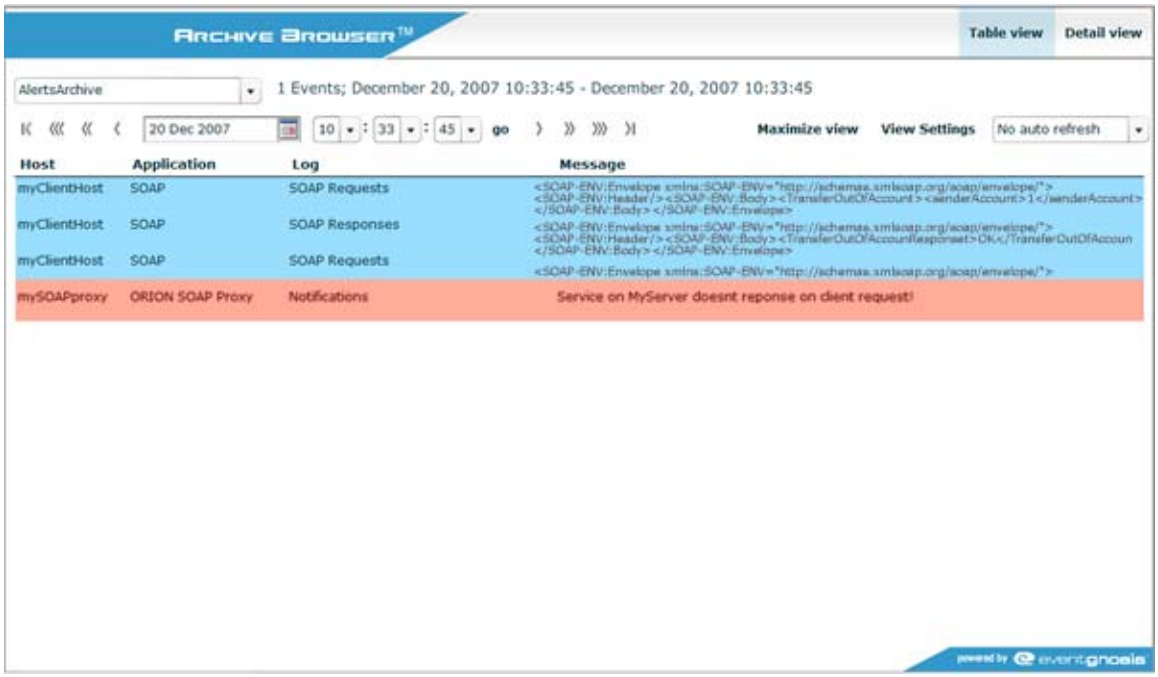
Archived transactions can be easily traversed with the Archive Browser application.



The example shown here is just one simple use of the ORION SOAP Proxy. The list of actions that can be taken includes: Execute on Local Host, Execute on Remote Host, Execute Command from Email, Send Email, Send Syslog Message, Send SNMP Trap, Store in Archive, Send SOAP Request, Remove Redundant Requests, Suppress Excessive Requests, etc. In addition, the ORION SOA 7.0 platform lets you quickly build any other custom rules and actions, regardless of their complexity.

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Conclusion

A highly reliable web services infrastructure requires visibility into individual transactions and the ability to automatically remediate in real-time. The ORION SOAP Proxy based on the ORION SOA 7.0 rule-based application server provides the visibility into individual transactions and offers a wide range of automatic actions for remediation and notification. It reduces the overall development time of new web-services applications, and lets you manage your SOA infrastructure with confidence.

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

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