Reference Code: TA001533IMT
Publication Date: November 2008
Author: Michael Thompson

Butler Group
a Datamonitor Company

TECHNOLOGY AUDIT

RTView v5.0

SL Corporation

BUTLER GROUP VIEW

ABSTRACT

SL Corporation's RTView is an Application Performance Management (APM) solution that allows organisations to gain an holistic view of performance metrics from a variety of data sources, and present these in a meaningful way via customisable dashboards to the persons tasked with ensuring the well-being of multiple complex systems. RTView does not just take a high-level view of the application infrastructure, but also enables drill-down to the software components that support the applications in order that a true understanding of the problem can be obtained. It utilises both real-time and historical data to provide the most meaningful analysis of real-time information in the context of historical trends. RTView is a completely integrated system which helps ensure that, within its area of operation, there are no visibility gaps; although it does not provide the extensive coverage of a total IT management system, the data from RTView can be used to feed such an implementation. The solution does not just utilise GUIs to present information to users. Sophisticated rules and analytics engines speed root-cause determination and repair. Users are able to use RTView to become more proactive in their efforts to provide consistency within applications.

KEY FINDINGS

- Fully developed as an integrated system which ensures a high degree of usability.
- Highly graphical interfaces that provide drill-down into the root cause of problems.
- Provides automated remedial action through its rules engine.
- An affordable solution with proven ROI benefits.
- The use of both historical and real-time data allows better understanding of problems.
- Can connect to a wide range of underlying data sources.
- Application Performance Management as a subset of ITSM is not always understood.
- Organisations can implement the solution in a modular fashion with minimal disruption.

Key: Product Strength | Product Weakness | Point of Information

LOOK AHEAD

SL Corporation is constantly looking to make improvements in the Application Performance Management arena, specifically for complex distributed applications. Its current focus is on technologies that further improve utilisation of the massive amounts of real-time data involved in monitoring and managing these applications, as well as technologies to automate and streamline the configuration, deployment, and maintenance of mission-critical APM solutions.

FUNCTIONALITY

Product Analysis

Outages in supply chain, eCommerce, telecom, data services, and financial services are headline news and have driven a dramatic increase in the need for a truly holistic APM solution. Organisations or business units that rely on critical applications to drive revenue or internal efficiencies cannot afford to experience application performance issues or application failures. If issues occur, the business experiences a significant revenue impact or productivity hit that can extend well past the initial failure due to loss of consumer confidence.

SL Corporation's RTView is a 360° Application Performance Management (APM) solution that allows organisations to gain a holistic view of application performance metrics from a variety of data sources, and present them in a meaningful way via customisable dashboards to the persons tasked with ensuring the well-being of multiple complex systems.

RTView does not just take a high-level view of the application infrastructure, but also enables drill-down to the software components that support the applications in order that a true understanding of the problem can be obtained. It utilises both real-time and historical data to ensure the most meaningful analysis of real-time information in the context of historical trends.

Although such systems abound on the market, one of RTView's strengths is the ability for semi-technical users to define the analytics, rules, and alerts, and create dashboards via highly intuitive GUIs. This provides more than just a view into the underlying objects and components that exist within the infrastructure, as is typical with many solutions of this type. RTView gives users the power to create process-centric service views of the applications, with the ability to assess performance at any point within the process flow. Although RTView is most definitely an APM solution, it can also be viewed as an enabler for process improvement.

RTView is highly customisable. Users can not only show results quickly through pre-configured dashboards, analytics, alerts, and reports, but can also modify and customise virtually everything with minimal coding, and deploy into a variety of existing environments. Additionally, RTView can access and manage data from virtually any source through out-of-the-box and custom agent-less adapters, with minimal impact on existing applications.

RTView was developed from the ground up as an integrated system, rather than being a collection of disparate elements that have undergone internal integration. This approach allows seamless analysis of the information and the presentation through a concise, consolidated presentation layer. This also keeps total cost of ownership low.

SL Corporation sees a number of differentiators for RTView in the marketplace, not least of which is the holistic approach it takes to APM, rather than providing detail on silos of data or individual metrics. SL Corporation believes that this provides a greater level of understanding of the root cause of the problem, which can often lie deeper than may appear at first sight. Butler Group certainly agrees that this approach has a great deal of additional value.

Product Operation

To a large extent, solutions such as RTView live or die by their ability to access numerous and varied data sources. It is impossible to gain the required holistic view of an application infrastructure if data sources are excluded from that view. Therefore the prime requirement has to be access to all data, and APM solutions should be judged in the first instance on this connectivity.

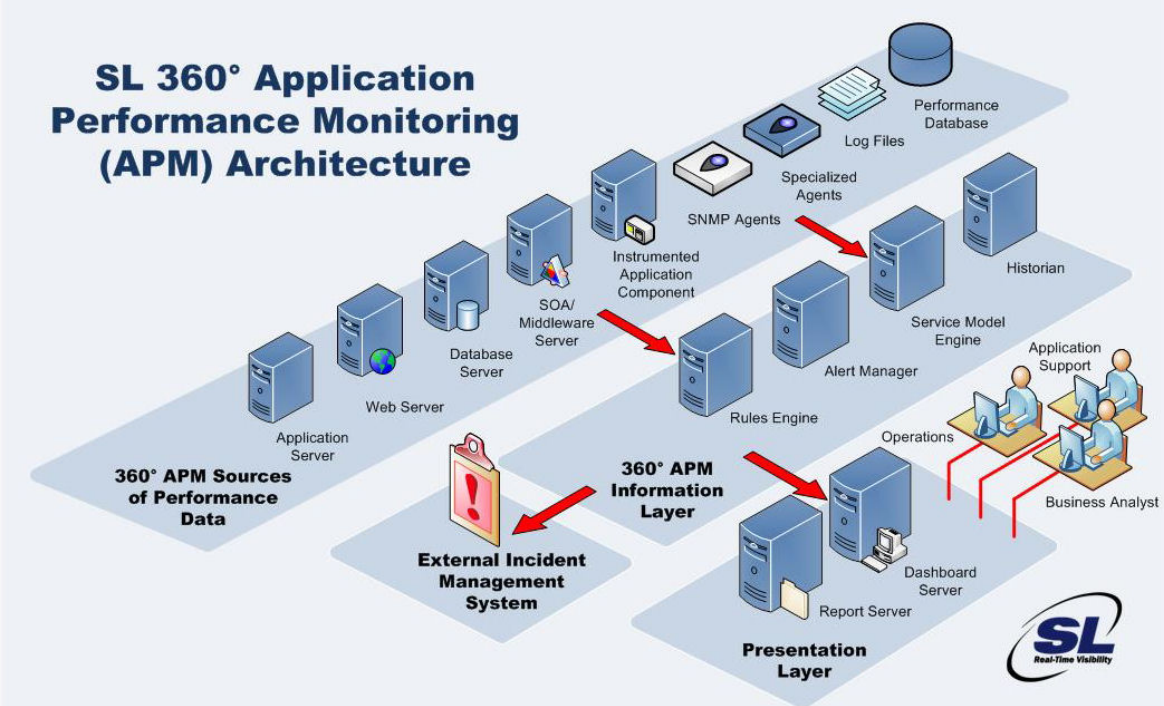
RTView can access data from a wide variety of sources and includes the capability to create your own data adapters. Here are some of the most important sources available, and why they are important:

- Software Components – Custom applications often rely on software components like databases, application servers, Enterprise Service Buses (ESBs), and message brokers. Having visibility into key metrics from these components often describes critical junctures in application process flow.
- Log Files – Log files are often the main source of information for legacy applications. To truly understand critical application metrics, it is necessary to be able to read and parse log files on a real-time basis. RTView can also access real-time log information from applications instrumented with Apache Log4J.
- Simple Network Management Protocol (SNMP) – This is the richest source of information for devices on which the application depends for optimal performance. This information may also come from a standard enterprise monitoring system, but often it is desirable to gather these metrics separately for application monitoring purposes. Support should be available for querying SNMP (gets), subscribing to SNMP traps, as well as setting SNMP traps.
- Java Management Extensions (JMX) – JMX is becoming widely used for instrumenting custom Java applications. This not only creates a much more flexible and standardised way of reporting custom application status than log files, but also provides an interface to allow remedial measures to be injected into the application at runtime. JMX is also important because most of the commercial Java-based software components like application servers and messaging middleware have a JMX interface to determine component status.
- Windows Management Instrumentation (WMI) – WMI is the equivalent of JMX for .NET applications. Access to this information provides a standard way to monitor and manage custom .NET applications as well as other Microsoft applications like SQL Server, Exchange, and SharePoint.
- Java Message Service (JMS) – Some custom Java applications as well as software components use JMS to send point-to-point or multi-cast messages as a transport for application metrics.
- SQL – Many custom applications store metrics into a relational database, but SQL is also the main information gateway for many software components like Business Process Management (BPM) platforms, and also for many APM point solutions like packet analysers or Web analytics.
- Scripting – Many applications are monitored manually by entering a script or operating system command and looking at the text results. RTView can automate these procedures by running these standard scripts and parsing the results for the pertinent information.
- Complex Event Processing (CEP) – In some cases, application performance can depend on doing time-based correlation of streaming data to determine if there is an issue. If this is the case, there are a variety of data adapters available for third-party CEP solutions.

As can be seen from the above list, RTView is not lacking in connectivity, but that is only one part of the total picture. *Figure 1* represents the high-level architecture of the solution, which requires further explanation.

Firstly, it has to be understood that applications or objects within the infrastructure do not exist in isolation: they have dependencies and inter-relationships that are not always static in nature. Therefore, the ultimate goal is to be able to accurately describe how underlying dependent software and hardware components affect application performance. This requires a hierarchical data model – named here the 'Service Model' – that describes low-level metrics, calculations that need to be performed on those metrics, and component dependencies. In most custom applications, this data model cannot be automatically discovered, so RTView provides an easy way to create and maintain this Service Model via the Service Model Engine.

Figure 1: High-Level Architecture



Source: SL Corporation

DATAMONITOR

RTView can archive any necessary raw and/or aggregated data that describes the history of application performance (Historian). Through this, analysis can be done that shows current, real-time status in context with how applications and components performed in the past. The history also allows for the creation of rules that signal when the application is performing outside of normal bounds when compared to the average performance during a particular time period in the past. Although real-time data is essential to ensuring the well-being of systems, the importance of historical data should not be overlooked. Butler Group believes that putting infrastructure metrics within a wider context brings additional power to the user and brings greater meaning to what could otherwise just be figures.

The Rules Engine is necessary to provide the definition of an automated response to a detected anomaly. The Rules Engine can access any metric in the Service Model as well as historical data for that metric, and initiate automated behaviours based on threshold values. Thresholds are completely variable at runtime and can be modified without having to re-deploy any rules definitions. This helps to provide control to reduce noise in peak times of incident activity, or when rules are no longer valid because of deployment or testing activities. Automated behaviours address both incident notification such as e-mail or input to an incident management system, and self-healing commands such as activating system scripts, sending JMS messages, or invoking WMI or JMX methods to alter application behaviour.

The Alert Manager becomes effective when problems happen that cannot be automatically detected and repaired. The Alert Manager provides state-managed detail on problems, alerting, and the action taken, allied to drill-down to software component-level metrics that provide a full picture of the problems.

RTView has a completely customisable presentation interface that not only has the usual dashboard-type display elements, but can also represent that data in the context of process flows. The data thus displayed can be filtered across a number of parameters, the most common of which would be role-based for either reasons of security or to ensure a high degree of relevance.

Product Emphasis

RTView is designed to be both simple to use without any loss of functionality, and to be affordable both in initial cost and in maintenance. The product is agent-less and is designed in a way to ensure minimal impact on the application and systems environment. The mixing of real-time and historical data brings a higher level of sophistication to the product.

DEPLOYMENT

Implementation requires personnel who understand the key performance indicators (KPIs) desired for monitoring critical applications. Typically these individuals are either IT or application support team members responsible for trouble tickets for a particular application. No special technical expertise is necessary except for an understanding of the system administration details of a particular application. Knowledge of Web servers and application servers is required for Web deployment. Knowledge of Java programming is necessary if customising RTView to create custom analytics, custom actions, custom security handling, or custom data adapters. Deployment time is variable, but typically will take one person between two and six months.

The solution can effectively be deployed in an iterative fashion, with users able to focus on one application and/or one critical area of application monitoring, and then build up by involving more KPIs or adding more applications to monitor depending on priority. The whole product, although seamlessly integrated, is modular allowing customers to choose when or if to include many features such as historical data storage, rules definitions, or Web deployment.

Once the implementation is complete, application-aware resources would be needed to determine if updates need to be added when an application is upgraded or a new application is added that requires monitoring. IT support resources are usually responsible for the availability and performance of the APM solution.

SL Corporation provides a three-day basic training course which covers a wide range of the product functionality, and which would enable users to develop and deploy usable solutions. This course is offered on-site, at SL Corporation headquarters, and remotely, and is currently being converted into modules for self-service training.

RTView is available on the following platforms:

- Windows 2003, XP, and 2000.
- Solaris 8, 9, and 10.
- Red Hat Linux 8 and 9; EL 3 and 4.
- Mac OS X v10.5.2.

RTView can be integrated with existing legacy APM solutions to help fill any gaps, and this is considered one of its greatest strengths. Because of its open architecture, RTView can gather APM metrics from any number of sources including other off-the-shelf or in-house developed APM solutions. RTView also allows dashboards to be connected to other systems management or APM analysis tools so that an organisation's existing tools can be incorporated to perform further analysis or initiate repair.

There are 3 packaging options for RTView:

- RTView.
- RTView for TIBCO.
- RTView for Oracle Coherence.

These three bundles are distinguished by licence keys that determine which data sources are available out-of-the-box.

The RTView platform results from the combination of the following components:

The RTView Builder – required for building displays and reports, and configuring alerts. The Builder Application is licensed on a per-seat basis. It includes:

- Example displays and tools for development of RTView displays.
- Integration to Section D Data Connectors, Data Historian, and the Data Server.
- One non-production Viewer.

The RTView Viewer – required to deploy and view displays. The Viewer licence price is based on the number of users and may be run as a Java Application, Java Applet, or AJAX/Flash-based deployments.

The RTView Server – which is an optional component. There are two RTView Server Options:

- Data Server is used for Java applet viewer and Java application viewer deployments.
- Display Server is used for Web 2.0 thin-client viewer deployments (AJAX/Flash).

Data Adapters – The XML data adapter is currently included with all Builder and Viewer licences. Optional adapters include: JMS, JMX, WMI, StreamBase, TIBCO, OLAP, SNMP, Log4J, RRD, SQL, and/or custom data adapters. A separate adapter is required for each additional data adapter type. Licensing of data adapters does not include licensing of Oracle Coherence Monitoring Applications or TIBCO Monitoring Applications.

PRODUCT STRATEGY

RTView is a horizontal solution, with successful deployments across all major industries, but is mainly targeted at organisations with a turnover in excess of US$500 million. The Return on Investment (ROI) varies by industry and implementation, but SL Corporation has proven deployments that show a minimum of 300% ROI in one year.

50% of RTView's revenues are direct, while the other 50% are through OEM, Value-added Resellers (VARs), and referral partners. Key OEM and reseller partnerships that support RTView are:

- TIBCO.
- Progress Software.
- Streambase.
- Spirent.
- Microgen.
- Daou Tech.
- Oracle.
- Aleri.
- Sybase.

Average cost for an initial deployment is US$100,000, with an average of 75% attributed to licence costs, and 25% to maintenance and services costs. Maintenance and support is 20% of list price licence fees.

RTView is released quarterly. A few of the enhancements slated for the Q1 2009 release include ease-of-use enhancements for rules definitions and service-model definitions, additional FLEX-supported graphics, and advanced data-compression algorithms for the Historian.

COMPANY PROFILE

SL Corporation is a private company with headquarters in Corte Madera, CA, and a subsidiary office in Tokyo, with around 80 employees. The company was founded in 1983 as a developer of graphic software tools for high-end process control systems. In the early years, the company developed core expertise in mission-critical Command and Control Systems for customers including ABB, Foxboro, Kennedy Space Station, NASA, and Honeywell. SL Corporation has since evolved to provide a real-time monitoring and visibility platform for enterprises to deliver mission-critical information to decision makers. As of today, SL has issued over 81,000 licences for solutions built on its technology in every major vertical industry including financial services, telecommunications, manufacturing, energy/utilities, defence/aerospace, retail, gaming, technology, and transportation/logistics.

A selection of key clients include:

- Boeing.
- Société Générale.
- Deutsche Bank.
- British Petroleum.
- Shell Trading.
- Smart & Final – a leading big-box retailer in the western U.S.
- Orient Overseas Container Line (OOCL) – a leading container transportation, logistics, and terminal company,
- Orbitz – a leading online travel Web site.
- NYISO – a non-profit organisation that operates New York State's bulk electricity grid and administers New York's wholesale electricity markets.
- Harrah's – the world's largest provider of branded casino entertainment.
- Intuit – maker of QuickBooks, TurboTax, and Quicken.
- Expeditors – a Fortune 500 global logistics company.

SUMMARY

RTView v5.0 clearly answers a pressing business need by providing preventative care and meaningful real-time analysis to ensure the well-being and performance of critical business applications. It provides more than a high-level view of problems by helping organisations to undertake faster and more relevant remedial action due to its ability to drill down into the root cause of issues, whether caused by the applications themselves or by underlying related components that support said applications.

The ability to use both real-time and historical data stored within the system allows organisations not just to fire fight problems, but to take action that will ensure smooth running in the future. It might be going a step too far to consider RTView as a predictive analysis engine *per se*, but it does have the elements in place that would allow organisations to bring a degree of predictive analysis to the management of complex application infrastructures, allowing them to become more proactive in their attempts to keep mission-critical systems in good order.

Table 1: Contact Details

SL Corporation
240 Tamal Vista Blvd.
Corte Madera, CA
94925
USA
Tel: +1 (415) 927 8400
Fax: +1 (415) 927 6401
E-mail: info@sl.com
www.sl.com

SL Japan Corporation
Avex Bldg. 3F
3-1-30, Minami-Aoyama, Minato-ku
Tokyo 107-0062
Japan
Tel: +81 3 3423 6051
Fax: +81 3 3423 6070
E-mail: info@sl-j.co.jp

Source: SL Corporation

DATAMONITOR