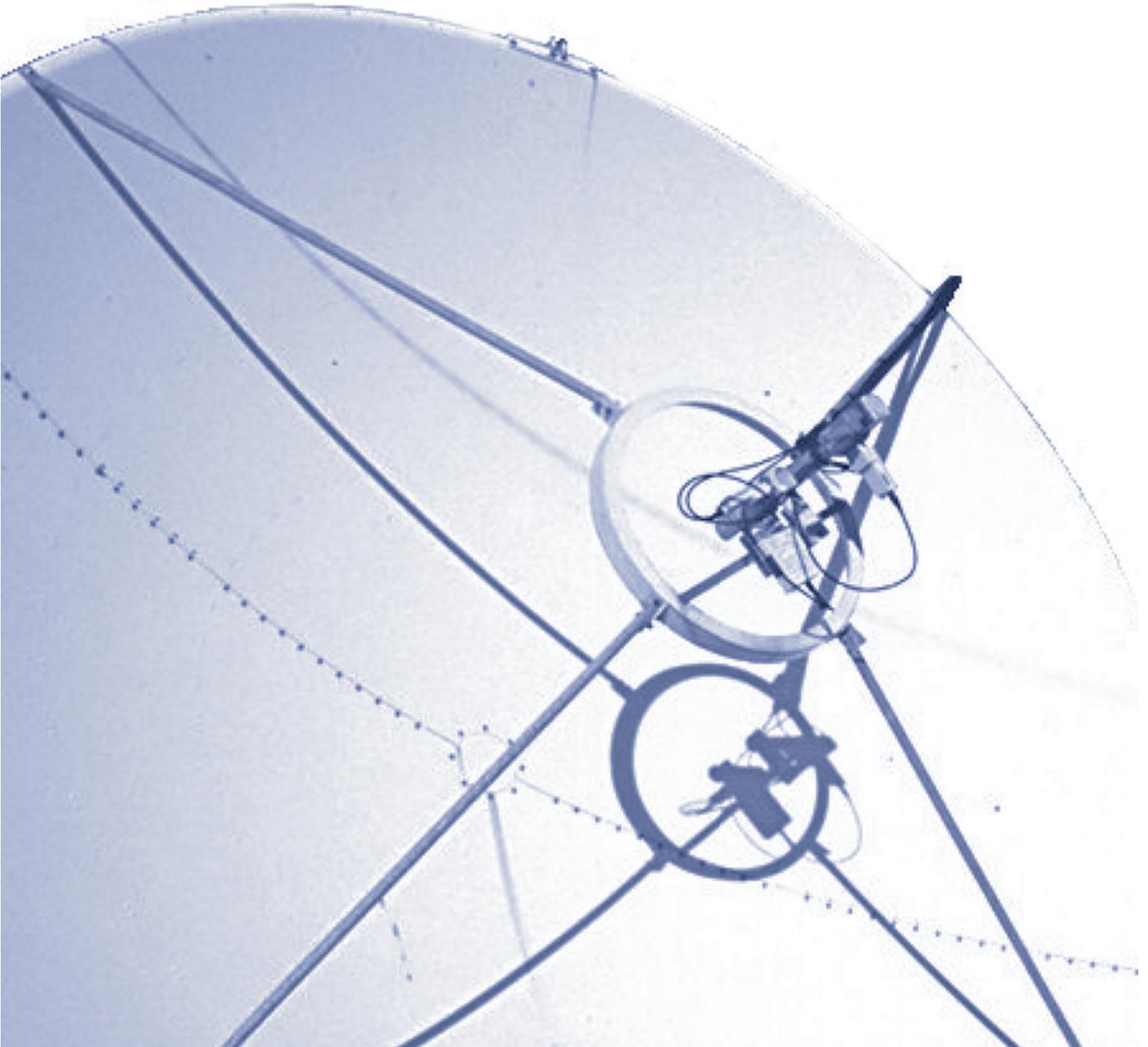


Case Study:

*VA2 used for monitoring Siebel®,
MQ Series®, and custom
integration points.*



Project Description:

Design and implementation of a middleware system for integrating AL3 insurance data into a Siebel insurance agency application.

The integration system takes data from multiple external partners in AL3 format, and updates insurance policies maintained in Siebel. The integration platform included a BEA WebLogic® application server with a custom built J2EE application for transforming AL3 data to XML.

IBM Websphere MQ Series was used for transportation, while a Siebel Application Server and custom Siebel Business Services were employed for business logic and data synchronization.

Technology showcase

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Software:

BEA Weblogic Application Server

WebSphere MQ version 5.3

Siebel Financial Services 6.03 (for Insurance)

Oracle® 8.17 DB server

Windows 2000 Server®

VA2™ (Virtual Administrator 2™) from Recursive Technology

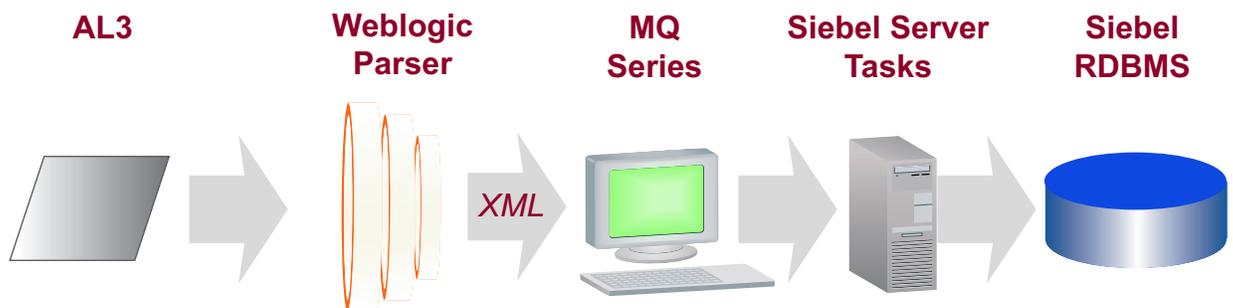
Hardware (allocated for project):

2 Dell Blade application servers,

(4 CPU - Siebel, Weblogic, MQ Series application servers)

1 Dell Blade server, single processor, for VA2

System Architecture Diagram:





The VA2 Solution

The project was a re-implementation of an existing integration process. The new system turned a collection of manual and automated steps that had a run time of roughly two days per batch into a sub hourly process. The project goals included saving two FTE allocations and providing a reliable, scalable integration solution. The redesign was extremely successful. It dramatically increased the capacity for expanding business and efficiently handling existing processes while cutting costs. The distributed, scalable architecture was responsible for advances in productivity and a massive increase in throughput capacity - but also posed a challenge for management of the new distributed system in a unified way.

System reliability improvements were a key goal for the project, as poor reliability had been a major factor prompting the redesign of the existing system. Automated management of the integration system was defined as a primary requirement in the design phase of the project. The VA2 solution was chosen as the primary management application of the integration system, with a planned integration with Heroix eQ[®], which handles wider enterprise management for networks and servers.

VA2 Selection Criteria

Features

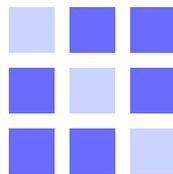
One of the key factors for VA2 selection was its ability to provide the most comprehensive Siebel management suite available. The Siebel Application server and Siebel Business Services performed the majority of the business logic and actual integration work. Siebel's advanced four tier architecture provides scalability and capacity, but needs to be managed correctly. The specific Tasks and Components running in Siebel were monitorable at a glance through the VA2 MMC console, and historically trackable with VA2 statistics. Transaction flows, internal Siebel processes, memory usage, the performance rates of various components deep within the Siebel application server - were easily managed by VA2. Events, such as lack of resources in the Siebel Server, are automatically detected by VA2, which can also start the required services on the appropriate Siebel application server in the event of outages. The critical nature of the Siebel Application Server components in the process, and the power that VA2 lent to managing Siebel components, was perhaps the number one contributor to the selection of VA2 for management of the integration project.

Power

VA2 was asked to monitor components as diverse as multiple Siebel Application servers down to the process level, operating systems, web servers, custom built data transformation servers, Web Logic services, Oracle performance, and SAP integration points, to list some of the monitoring points. These services and applications were distributed over four internal application servers machines, written in a variety of languages and API's - as is common in today's integrated enterprises. VA2 was able to provide simple but effect solutions to all monitoring and management requirements.

Value

VA2 offered an unprecedented value in the integration project. The critical nature of the project allowed for a fair amount of discretion on management application selection. Yet the VA2 product and implementation took less than two percent of the allocated project budget.



The VA2 solution was chosen to monitor custom middleware developed for the project at hand. VA2 was able to adapt easily to new software and systems, and was easily configured to monitor and manage critical pieces of the integration.

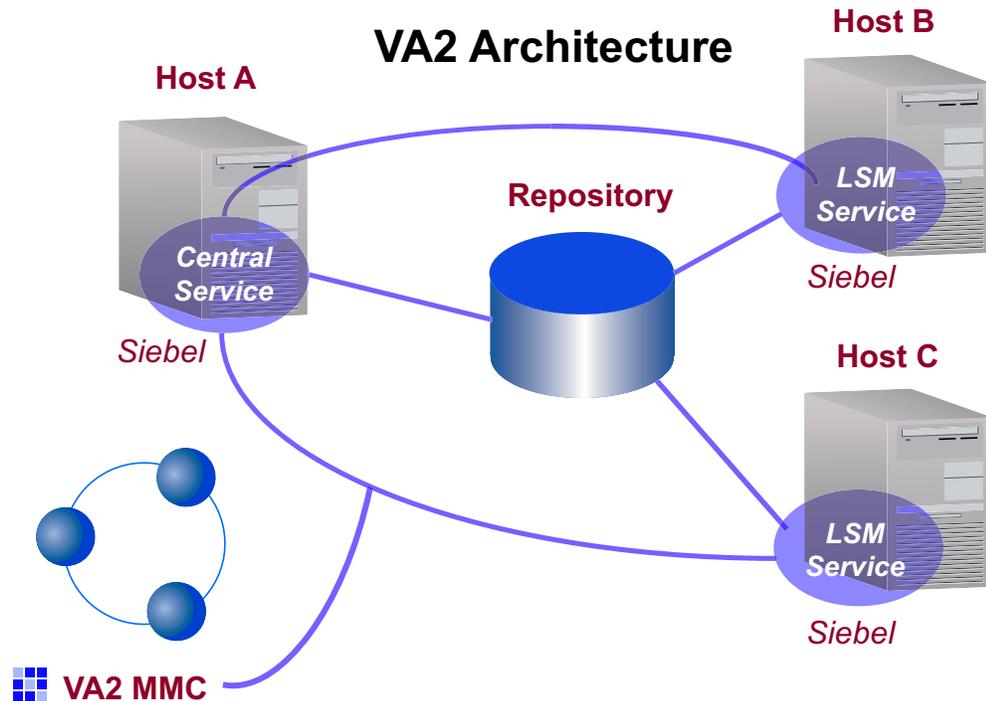
Flexibility

Enterprise Platform

VA2 was able to expose industry standard API's to the integration developers for event reporting. Application designers included management information into their code base, knowing VA2 would be capable of collecting the management information and reacting to events. Each application component published its management data in a way that VA2 could directly consume, using enterprise level standards. VA2 in turn could publish its management information to other enterprise solutions, such as Heroix.

VA2 did not require a major platform investment or expensive hardware, although in this particular case additional hardware was purchased for the VA2 Central server. The system, when rolled into production from test, took one day to implement. New rules are user definable or downloadable from an internet accessible repository. VA2 must be configured - it does not come out of the box tailored for every application on every server ever made, dumping thousands of statistics and alerts that administrators in masse would ignore. Instead, the rules were so fine-tuned to important areas, that if administrators ever receive an event, they know it has significance.

Simplicity



Specific Examples of VA2 Monitoring

* Web Logic Application Servers

Monitored for availability and performance by VA2 on the NT Service level.

* Java Parser application

Responsible for translating AL3 data received by 6 external partners to XML and delivering to the MQ Series. The Java Parser was deployed within a WebLogic application server. The parser reported events directly to VA2 on any exceptions, on a transaction by transaction basis. This saved the Java developers from having to write their own notification and management routines, they merely raised events on problems, VA2 handled reactions and notifications.

* IBM MQ Series

used as the transport mechanism for delivering the XML messages to Siebel. VA2 was used to track the throughput of the system by sampling the depth of the MQ over time. In addition, if messages remained queued too long, VA2 would notice an application performance problem. VA2 previously did not have IBM MQ Series rules. Due to the extensible nature of VA2 analysis rules and statistics, a rule was quickly developed and deployed and thereafter VA2 had no trouble tracking the IBM MQ Series historical performance and availability.

Monitoring Examples Cont...

* File parsing errors

When an XML file was received by the Siebel servers, it was possible in rare circumstances that an individual transaction would fail and create an error message in the Siebel Server log. VA2 could instantly capture such errors and react to them, ensuring that of the tens of millions of KB's of data a day processed, no transactions failed un-noticed.

* Siebel Server availability

VA2's built-in tracking, management, and monitoring of the Siebel Server ensured all Siebel components are operating as expected. How much memory and CPU are individual Siebel tasks taking? Transaction timing of Business Integration Managers? Historical performance of Siebel queries? Restarting and routing server tasks on the appropriate server? -- VA2 was able to easily accomplish all these monitoring tasks with predefined rules.

* Siebel Workflow management

In the implementation under discussion, the integration process in Siebel eventually kicked off payment transactions to SAP. VA2 was able to monitor this process easily via its built in Siebel Workflow™ management features. VA2 uncovered some problems related to workflow in the testing phase. It was discovered, for instance, that the Test system processing Siebel Workflow payments to SAP was hundreds of times slower than the production implementation. This level of detail and historical analysis on internal Siebel processes had not been previously available.

* Siebel Business Data

Statistics and historical graphs of key business statistics were captured in VA2. Growth rate of Siebel business indicators, such as the number of policies, were tracked for historical reference.

* Siebel Performance Data

Rates over historical periods give reference to existing DBA tools when performance slow downs occurs. A DBA can refer to the query execution timing at X period of time with a VA2 historical statistic and compare it to current query performance.

* Windows 2000 Monitoring

Leveraging Window's WMI information, VA2 could seamlessly react to and collect all manner of Windows 2000 and Windows NT server OS statistics. Examples of monitored points in this project include Total Memory Used, CPU utilization per processor, and Percentage of Disk space available.

Not too many rules, but the critical ones.

Conclusions:

All in all, VA2 was able to integrate nicely in a larger strategy of a well designed integration platform. In many modern integration processes, there is no single application, operating system, or standard set of applications.

A monitoring solution must be capable of reaching across OS and application barriers, with enough flexibility and standards supported so that it can adapt to rapidly changing and fast evolving custom and integrated application management needs. VA2 can provide the value an organization needs to achieve a highly reliable and automated enterprise.

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