

PIRE 2009 Project Proposal

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Supervisor's Name and Title at the PIRE International Partner's Institution: Esteban Clua, Professor

Project Title: Client VSA Proactive Monitoring

Problem Statement: This project will result in the development and deployment of a standard suite monitored services, process, and conditions for customer Kaseya servers to promote proactive monitoring and remediation by Kaseya's Support team. Through an understanding of current support practices, procedures, and common support issues Interns will develop monitoring profiles to provide as much advanced notice of impending problems as possible. The goal will be to identify potential support concerns in advance of actual failures, initiating corrective actions with known fixes and/or greatly reduce troubleshooting time for reactive problems. Additional research will focus on developing scripted correction to common day-to-day support issues. Scripted solutions will fall in both proactive and reactive corrections. Evaluation of potential side effects of scripted corrections and level of intrusiveness will be needed to asses which scripted corrections can be safely executed automatically and which will require customer's permission. Scripted remediation will service both monitored (proactive) problems and customer initiated reactive problems. This program will take advantage of the Kaseya V6 double agent capacity and assume every customer server will have a Kaseya agent pointing to the support team's monitoring server.

Motivation and Impact: The significance of this research project is crucial to not only current customers, but to the Kaseya support team, and future Kaseya clients. When customers begin to use Kaseya, they can be plagued with installation issues, as well as preliminary hardware and software problems. In turn, this adds additional stress to the Kaseya Support staff, and ultimately customer dissatisfaction. My motivation in this research project is to collaborate with the other research team (Quick Config/ Health Check team) to provide a proper protocol for not only future Kaseya clients, but current clients as well. By creating a documented step-by-step deployment and configuration check by the first team, and developing the deployment of a standard monitored service suite by our team, we can deploy a standard set of procedures to ensure the smoothest transition possible for current, and future customers using Kaseya services.

Current Status: The current status of the project is that we have broken down how we are going to monitor each level from the lowest level (the hardware level) to the highest level (System up/down), and respectively create monitor sets for each level. Currently we are creating and testing our monitor sets on process alerts for

important services that are crucial for a Kaseya server to operate properly, and also creating and testing monitor sets for specific hardware using performance counters. The results so far have been favorable, as the majority of the test servers have responded to our monitor sets accordingly. We will continue to stress these servers with different operations, from software tests to hardware tests and properly document what's crucial for proper server management.

Research Roadmap:

Process alerts

Kaseya

1. Kserver.exe
2. KsrvrChk.exe
3. KwebExec.exe

IIS

1. w3wp.exe
2. inetinfo.exe
3. certsrv.exe

SQL server

1. sqlservr.exe

Customer Agent

1. Agentmon.exe

Performance counters

Processor

1. % Processor time
2. Processor queue length

Memory

1. Available RAM
2. Pages (In/Out)

Disk

1. Disk read/write time
2. Disk queue length
3. Disk space

Network

1. Bytes Sent/Received
2. Current bandwidth
3. Output queue length
4. Packet errors

SMTP Server

1. Undelivered messages in pickup directory
2. Failed messages

3. SMTP queue length

Specific Log Files / Log Parsing (In-Progress)

Kserver:

1. kserver.log
2. kwebexec.log
3. kemailreader.log
4. kaserror.log

IIS:

1. httperr
2. www

SQL:

1. error.log
2. exception.log

Event Logs (Future Dates TBA)

Application Logs:

1. MS SQL Entries
2. IIS Entries
3. Kaseya Server

System Logs

1. IIS Entries

Event Sets for Different HW Server Management Suites (Future Dates TBA)

Vendors:

1. Dell OpenManage
2. HP Insight Manager
3. IBM Director

Relation to PIRE Core Research Projects: This project falls in the CI Enablement Layer, and defines the autonomic resource management where IT automation provides support and management of all resources including hardware and software.