First Fault Performance Problem Resolution – Fix Mainframe Performance Problems Right the First Time

Introduction

For many large organizations, mainframe systems are even more business critical today than they were a decade ago. New web based direct customer access systems and enterprise services oriented architectures are causing mainframe transaction processing capabilities to be more critical than ever, while putting new strains on existing mission critical mainframe applications and dwindling mainframe IT staff.

As a result, existing mainframe IT staff is being called upon to provide flawless service response and immediate problem resolution for mainframe application issues. In today's competitive business environment, every customer is important and even a short outage or slowdown of critical mainframe transactions can cost you customers. For your critical mainframe applications every problem averted, or hour saved in problem resolution has a direct impact on the bottom line through time savings and enhanced customer satisfaction.

Since most production service degradation issues are related to unexpected and unplanned interference between software components of the production system, it is impossible to provide flawless, 100% problem free operations - no matter how good your staff or monitoring solution. This leaves IT staff scrambling after the fact to discover and analyze these complex interactions – in most cases waiting for the problem to surface again before it can be fixed.

Since the goal of 100% problem free operations for IT infrastructure support is impossible, IT management and operations should also focus on **first fault problem resolution**. ConicIT's solution works with your existing monitoring infrastructure to enable existing IT staff to provide just that – first fault problem resolution and a dramatic reduction in time to repair for mainframe transaction issues.

Why aren't existing monitoring solutions enough?

Monitoring solutions are great at capturing any requested state of a system at any given moment. If the right person is looking at the right monitor for the right system at the right time– any application problem can be easily recognized and analyzed while it is occurring.

The problem is that most of the time that isn't the case. When a new problem occurs, most probably the monitors aren't monitoring exactly the right systems at exactly the place at exactly the right time, and if they are – no one is watching. That means that the IT staff is left only with after the fact information and end up chasing after the problem's symptoms and not after the problem itself.

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For example, an unexpected lock in an application database escalates within seconds into a maze of unexplained symptoms (e.g. memory consumption), making it extremely difficult to find reasonable operative measures to solve the problem. In the end problem resolution becomes a time consuming mix of intuition and detective work. Also, in many cases, this type of problem analysis requires watching and waiting for the problem to happen again (and again) to catch it “in the act”.

ConicIT’s solution

ConicIT is an out of band, Linux-based production solution that constantly analyzes mainframe system and application performance information provided by existing mainframe monitors. By utilizing proprietary mathematical models and self-learning algorithms, ConicIT provides real time tracking of critical resource behavioral patterns and predicts abnormal behavior of these resources before it occurs. ConicIT also analyzes composite relations between physical and logical resources.

Based on this information ConicIT provides meaningful pre-event alerts aimed at reducing re-occurrence of performance-related malfunctions. Now IT managers and performance administrators have all the information needed to enable detection of the root cause of problems, enabling IT staff to solve the actual cause of the incident and not spend valuable time and resources trying to battle the symptoms. By quickly getting to the root of the problem after its first occurrence, IT staff can now provide **first fault problem resolution.**

How does ConicIT work?

ConicIT is a non-intrusive software platform that runs on a dedicated Linux server, and automates and directs the process of gathering information from the existing system monitors. A learning engine constantly analyzes the information obtained, and responds to real time discrepancies, alerting system personnel as necessary. In addition, all monitoring statistics are recorded for data mining and statistical analysis. The output of the analysis shows the related events leading to the problem as they were happening, easing the detective work needed to correct the root cause of the problem and prevent re-occurrence of similar problems. The learning engine continuously learns and adapts to each system’s unique characteristics improving its ability to predict when the next event will take place.

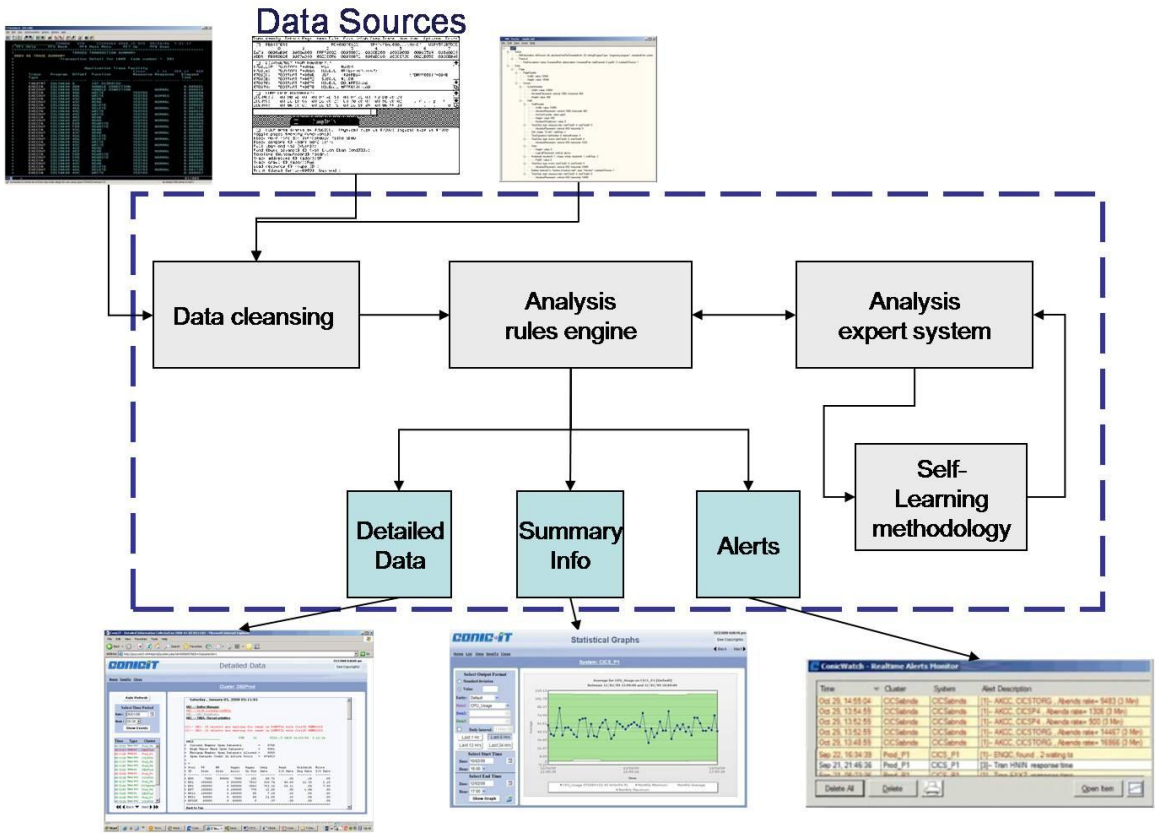
Easily implemented into existing infrastructure, ConicIT seamlessly integrates with existing monitoring tools (at the user level). All user information is provided in industry standard format allowing immediate value to IT staff and and ROI for the business without the need to learn new operational protocols. Within a few hours, the system is up and ready to provide value.

ConicIT's Return on Investment

ConicIT's first fault problem resolution significantly increases the ability of your existing mainframe IT staff to meet and exceed service levels for critical applications, without the need to increase the number of expensive and hard to find mainframe staff.

- Dramatic improvement in mean time to resolution for mainframe application failures and performance issues
  - Improved service levels and reliability.
  - Increased customer satisfaction
  - Reduced call center expenses
- First fault problem resolution
  - Fix the problem the first time - correctly
  - Optimize the time of your skilled IT staff

ConicIT Architecture



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ConicIT Modules

Data sources
Data is obtained from existing monitors and data sources - e.g. existing resource level performance monitors such as IBM's OMEGAMON®.

Data cleansing
Much of the regular performance and monitoring data contains irregular data (or noise). ConicIT uses data cleansing to recognize these cases and remove incorrect data points to enhance the accuracy of the Analysis Engine.

Analysis rules engine
The first step of data correlation and behavior analysis is done by the rules engine, which is also the initiator of the alert process and detailed data online reports.

Analysis expert system
The Analysis Engine has learning capability and a real time prediction module that predicts possible performance degradation issues. Predictions are passed back to the rules engine in order to complete the analysis and reporting process.

Alerts
The analysis engine generates performance alerts, which can be monitored standalone or through standard consoles..

Analysis and Graphs
ConicIT provides graphs of all immediate and historic data, including trends and comparison between different time periods.

Detailed data
All measurements can be displayed in full detail, including original text from the monitoring agent, all variable values and reasons for suspecting performance issues.

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ConicIT System Requirements

- Standard PC
  - Dual Core Processor
  - 2-3 GB RAM
  - At least 20 GB hard disk (preferably 50 or 100 GB)
- Supported Linux OSes
  - SUSE Linux Enterprise Server version 10.2
  - Red Hat Enterprise Linux version 5
- Supported Mainframe Monitors and System Information Tools
  - IBM OMEGAMON®
  - ASG TMON®
  - CA SYSVIEW®
  - BMC MAINVIEW®
  - Time Share Option (TSO)

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