Actionable Predictive Analytics for IT Operations

“Anticipate and automatically remediate service impact within ServiceNow®

Introduction

“AI”, “AIOps”, “Machine Learning” and “Predictive Analytics” have become impossibly overhyped. We’re as excited about self-driving cars as anyone (except Tesla, maybe), but when it comes to current-state IT transformation, there’s a lot more to the real-world application of these technologies.

To be clear, we don’t sell someday. Evanios produces real results from day one.

This guide is a “no-BS” explanation of what Evanios Predictive Analytics is, what it is not, and why it’s important. You shouldn’t just take our word for it, though. We encourage all our current and prospective customers to deeply evaluate all technology (including ours!) and measure it based on their ability to implement and drive value effectively.

Event Prediction

Use machine learning to prevent service disruptions:

- Breakthrough prediction technology creates accurate forecasts via configurable machine learning and native ITSM integration
- Automatically identify leading indicators, and take proactive action to avoid incidents
- Visualizations plot severity and time to failure while comprehensive reports connect related attributes
What Evanios Predictive Analytics Does

This functionality helps you **avoid downtime by identifying and resolving potential problems before they occur.**

Evanios predictive visualizations present leading indicators and likely scenarios, ranked by probability percentage and time, with complete contextual analysis.

How does it work?

- Evanios consolidates and normalizes event data from every monitoring tool, adding contextual ITSM traits from CMDB relationships, change management, and user response behavior.
- Machine learning algorithms identify leading indicators before events cause critical outages.
- Events are given numerical scores indicating their impact on critical applications and the business.
- Real-time results are presented on a forecast dashboard.
- Deep analysis includes complete, automated root cause with full event detail.
- The system can be easily configured to take automated remediation and/or notification actions through native hooks to complementary tools (e.g. Orchestration, Notify, etc.).
- Algorithms can be tuned for your specific environment.
- Evanios implements quickly, delivering tangible value from day one (no "phased approach" that will take months, or years).

What it Doesn’t Do

- Use dark, top secret algorithms. Evanios logic is transparent, to build trust with alert responders.
- Lock you in. The machine learning algorithms are tunable, so specialized logic can be incorporated to accommodate 0-day events or unique client scenarios.
- Restrict usefulness to a small subset of your environment, or limit event sources. Evanios applies its algorithms across ALL events, regardless of source.
- Trend only on single variables. Evanios uses multiple variables and algorithms in the analysis when identifying a predicted event.
- Leave you to manually connect the dots. Evanios Predictive Analytics is built on top of an event scoring system, and includes automated root cause analysis with comprehensive data across all event sources and the ITSM system. The net result is conclusive, actionable data associated with every leading indicator.
- Your entire job. Evanios can predict outages, but it’s up to you to act on that data, get ahead of the issue, and then implement a long term fix. It’s darn cool, but it’s still not fairy dust.
Why Use Machine Learning?

With IT departments under constantly increasing pressure to generate more value for their business, measurable efficiency (calculated by financial ROI and technical performance) is a must-have. However, “Do more with less” has also become the de facto corporate mantra for most of us.

**What's the answer?** Augment human work with machine learning technologies.

Machines handle big data analysis and pattern recognition far better than people do. In enterprise IT, where the volume of alarms and alerts can easily range from thousands to millions per day, humans can't possibly look at all events, research their relationships, understand the affected business services, provide contextual analysis, and ultimately understand whether something that appears to be benign is in fact the precursor of a serious threat.

**Stated simply:** people will miss important information that machines can recognize.

The fact that people can't reasonably (or cost-effectively) scale their ability to identify leading indicators leaves your business with two choices:

1. Accept risk and cost associated with preventable downtime
2. Automate the analysis and remediation process

Clearly, automation is the answer. But we're not going to oversell this; there's a lot of valuable institutional knowledge and situation-specific decision making capability within your IT Operations team.

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An ideal solution for most companies is to augment human effort by assigning some information processing tasks and decision making to our transparent, automated system.

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Yes, we said “transparent.” Do you remember when your algebra professor made you show your work? She wanted to know how you arrived at your result. Seeing the process gave her confidence that you knew how to apply your learning correctly, and could therefore scale the application of it. In this case, you are the professor and Evanios is the student (albeit a really, really good student who can process absurd amounts of data at incredible speeds). We don't believe in blind trust, and neither should you.

Our ITIL-based event management process and machine learning algorithms are open. You (or any of your colleagues) can always check to see why Evanios is predicting something. Plus, you can tune the system to make recommendations and/or take automated remediation actions based on your preferences.
Why Evanios? Proactive Insight and Response Based On a Unified Platform

We've established that Evanios is powerful, and pretty darn cool. But it's not magic. It delivers highly accurate predictions because of the underlying architecture: our software is built on a unified system that natively connects all monitoring and event management to the ITSM platform.

Earlier we explained that Evanios helps you avoid downtime by identifying and resolving potential problems before they occur. Predictive Analytics is, in a way, the “tail end” of the process.

The full scope of the problem, and solution, is actually a bit wider. Here are some of the related concerns, with explanations of how Evanios solves them.
Problem #1: Communication Gaps

IT Operations and IT Service Management exist as separate functions within most organizations. Different people work on separate processes with disparate tools. When Service Desk analysts receive tickets and take responsibility for solving problems, they often lack access to the underlying event data.

Solution

Evanios solves this problem by consolidating all monitoring tools into a single pane of glass, using ServiceNow® as the single system of record. Because Evanios is a native application, built directly within the ITSM platform, users who are already familiar with ServiceNow can easily see, interpret and act on all incident and event data. Sidenote geekery: Evanios offers dozens of pre-packaged integrations plus an open API, meaning it can import events from any source.

Problem #2: Too much noise

In complex environments, infrastructure and application monitoring tools generate lots of alerts. Many of the alarms are redundant or unimportant, but sheer volume makes it hard for you to “See the forest through the trees.” What's truly important, and what's not? You have no way of knowing until you sort out those alerts and prioritize them...but you can't keep up with this work manually.

Solution

Evanios automatically filters, deduplicates, correlates and evaluates every event, assigning a relevance score that indicates both potential severity and historical context.
Problem #3: Unclear Service Impact

APM tools can tell you when something has failed, but don’t do a great job identifying the cause. Conversely, traditional relationship maps identify deterioration points without describing the actual impact on users. Both approaches rely heavily on manual effort for identification, diagnosis and treatment.

Solution

Evanios combines event and metric data from all sources and uses machine learning algorithms and flexible logic to automate root cause analysis and predict future events. Actionable IT Operations Analytics enable teams to visualize both actual and predicted impact.

What’s The Result?

By centralizing all events into a single, (familiar) system of record, automating event correlation, and consolidating both root cause analysis and predictive analysis into a real-time IT Operations Analytics dashboard, Evanios helps improve service delivery, eliminate firefighting, and reduce troubleshooting time.

With machine learning doing the heavy lifting, your operators will be proactively addressing potential incidents, and will become exponentially more effective at “doing more with less.”

Contact us for a demo