

Interactive Alerting Applications

The basis of an

Adaptive Service Management Strategy

Abstract

This study explores the existing event resolution processes in over 100 companies with 1,000 or more employees. The findings suggest many IT organizations have a low level of satisfaction with the current event resolution processes and applications. These processes and applications are responsible for ensuring the company does not suffer severe IT service outages. 76% of the participants identified significant gaps in the existing processes including poor event assignment, misdirected events due to inaccurate data, reactivity, human error and denial of receipt. The study also identified the components required in an effective interactive alerting application mitigating the current process gaps.

Introduction

This paper was written to provide business professionals with a brief introduction to the strategic benefits associated with an effective alignment between IT services and the business processes IT supports. In order to succeed in this complicated initiative, mobile IT personnel must be enabled to perform their duties from remote locations via multiple communication devices. While the ultimate goal of IT service alignment and business process alignment may be the same as it was ten years ago, the business climate, the complexity of IT operations and the mobility of today's staff must be continuously examined in order to achieve business service alignment. IT operations must adapt faster with more strategic direction than any other business unit within an enterprise to remain effective.

This paper examines the necessary requirement for Interactive Alerting and Event Resolution applications. While most IT organizations have monitoring and trouble ticketing applications in place, they are still missing a key component. Interactive alerting applications bridge the gap between the IT applications and the personnel who can solve IT events, thereby ensuring IT services continue uninterrupted.

Study Overview

Invoq Systems performed a survey of over 100 IT professionals in companies with more than 1,000 employees. The sample was taken from a population of 6,000 companies which resulted in a 95% confidence level in the sample. The field included IT staff, IT management, network management, help desk management, and other IT professionals. Of the professionals in the study 80% were from the United States with an even distribution of the remaining respondents in Europe and Asia.

Key business concepts under study:

- *Is the cost of an IT outage known*
- *Is the process for solving critical outages or events aligned with the business needs*
- *Where are the current gaps in the event resolution process*
- *What are the most common issues with event dispatch, notification, user notification, help desk information and the event resolution process*
- *And, lastly what are the requirements of a technology or a process that would assist in mitigating the risks of the current processes employed.*

Results of Study

Current Process Satisfaction

Of the 109 participants in the study the vast majority, 78%, have not quantified the business costs of a severe outage. While this may seem surprising, most companies use figures supplied by third party research firms such as IDC or Gartner to gauge the costs of an outage. While 92% of the participants believe that the assets and services being monitored are “mission critical” to their company’s revenue stream, a surprisingly high 86% are currently dissatisfied with the current event resolution process. The qualification questions for the study suggest that enterprises realize that the IT components being monitored are important, even critical, yet the company does not understand the “true” costs of an interruption of service. Furthermore, the vast majority of the IT professionals surveyed do not believe their processes and systems are adequate in solving events in their current environment.

Is the Current Process Adequate or Inadequate?

It is clear from the responses that the perception is the process is important, the assets and revenues being involved are critical to the success of the business, yet the current processes and technologies deployed are not adequate. Participants were surveyed for the most common issues involved in the resolution process resulting in the following findings:

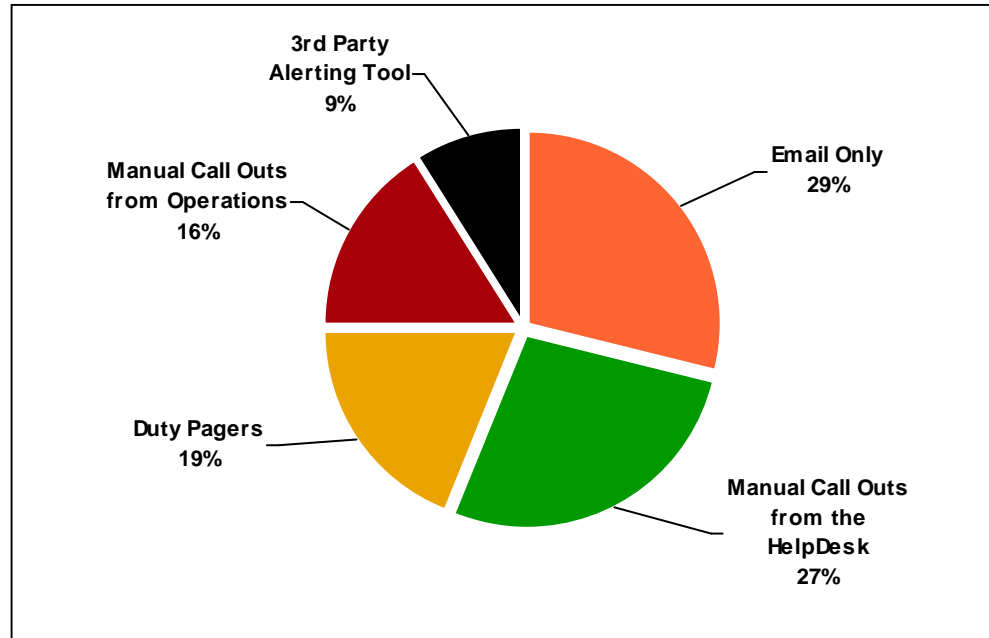
- 18% characterized the processes as inadequate because the organization was reactive not proactive (i.e., most events were not detected, dispatched and fixed prior to users calling into a Help Desk or Operations call center)
- 13% cited poor event assignment and dispatch often due to a break down in the process, poor quality of dispatch data or a lack of detection by staff
- 13% felt events detected were often misdirected due to incorrect data in the help desk
- 13% cited human error as the largest factor in the dispatch and resolution process causing delays and costly rework
- 11% felt the process really depended on the user community calling into the help desk as the primary method of event detection
- 9% noted that often the field staff responsible for fixing the event, when dispatched, denied receiving the event

In summary, 76% of the respondents felt the process was inadequate because the organization is reactive, uses inadequate data for dispatch, lack a process which supports an audit trail and is susceptible to human error.

If Inadequate, How is it Performed Today?

Given the responses and the gaps in the current processes the study then focused on gaining an understanding of the event dispatch and resolution process as it currently exists. Interestingly, most of the respondents report a passive, reactive process used to deal with IT events. The passive and reactive nature of the responses further supports the conclusions reached above that the process is neither proactive nor aligned with the business processes.

The population of study participants was polled for current dispatch and resolution processes with the following results:



So of the participants, 29% use a “set and forget” mentality with automated email events, nearly 20% have a similar “set and forget” process with duty pagers and over 40% use manual call outs to dispatch IT personnel (either from the help desk or from data center operations).

Interpreting the Results

Complicated Issue: It is well known that IT staffing levels have been reduced to minimums given the recent economic trends world-wide. In many cases, IT still remains a cost-center in the eyes of executive management. Further complicating the issues, the IT infrastructure has never been so dispersed or complicated. And, lastly never before has so much been (business) relying on the systems and processes of today’s IT professionals. The combination of these environmental factors combined with poor process design is pushing many corporate IT organizations to the brink of financial disaster.

Given these environmental challenges and combining the results of study helps us draw several important inferences:

- Operations today are using set and forget dispatch methods that are passive and lack audit trails.
- Recipients of alerts can deny receipt because systems being used are one way and passive.

- Help Desks and Operations have inaccurate data to dispatch personnel (contact information is not correct).
- Help Desks and Operations depend on customer complaints to dispatch personnel to events (reactive).
- Manual dispatch is still a common, pervasive dispatch method.
- Automated dispatch is not currently working (i.e. the wrong pager buzzes or the wrong person has the wrong pager).

Requirements for Addressing Today's Needs

Based on these results, participants were asked to rank the factors they felt were requirements in a successful event resolution application. The participants were asked to rank features, functions and processes required to successfully address the inadequate processes used today. The results were as follows:

1. **The recipient of the alert must be able to take a remote action.** This requirement allows the user to take an action, log information to another system (e.g., post the person's name, time and date to a help ticket), attempt to cure at that moment in time (e.g., allocate more memory to a server having a utilization issue), etc.
2. **The solution must allow for any device to be used.** This requirement seems to be seeded in two issues. The first is moving away from a fixed device or duty pager which is highly inflexible. The second is to help remove some of the manual dispatch (i.e., a human can dial a phone and dispatch someone). Devices cited as important included Paging, Text Phones, Voice to Phone, Cell Phones, Home Phones, Instant Messaging, Electronic Mail, Public Address and GSM/SMS devices (including RIM).
3. **The solution must be easy to implement and integrate.** Given the complexity of today's IT stacks this is a fairly obvious requirement. Enterprises continue to deal with cross-stack integration issues. Additionally, in order to deploy and start measuring a return on investment, building out sophisticated integrations is key to the success or failure of the initiative.
4. **Web based self service.** The application must support current technologies and provide for user self service. Why? Because the best chance at accurate data is to provide those closest to the data the ability to keep it current. Web based, to provide access and remove the administrative burden of maintaining schedules for hundreds of personnel.
5. **Alert Subscription / Business Rule Support.** Currently in most IT organizations the assignment of an event or a range of potential events takes place within the monitoring system or within the help desk. In other words if "event 123" takes place on "server ABC" then alert the following person. Those rules are maintained by a few administrators and often it is difficult to maintain and ensure the data and rules are complete and updated. Alert Subscription in an event resolution system takes the opposite approach. In this process the recipient group of personnel "subscribe" themselves to the events and thresholds they believe to be of interest in the event resolution process. Then as events take place, they are sent into an application from a monitoring system or from a help desk without an assigned person or group of personnel. The event resolution application matches business rules or subscribed events based on criteria and alerts the personnel. Once the event is "accepted" it is then posted back to the host who has responsibility and the

estimated time to fix. This allows for higher accuracy of event to personnel dispatch, reduces system administration on the monitoring applications and pushes responsibility out to the lowest levels.

6. **Auditing and Reporting.** In order to ensure compliance with the process, full auditing and security features must be included in a solution.
7. **Escalation Support.** Ultimately the key to the puzzle is events must be solved. Escalation facilities are required to ensure somebody takes responsibility and solves the issue. And, if time has elapsed and has not been solved then sophisticated rules should be supported to facilitate the escalation process.
8. **Ability to Customize the User Interface.** Many participants cited the requirement to be able to customize the user interface based on the role, responsibility or department of the user.
9. **Self Service for Non IT “FYI” users.** The ability to allow “customers” of IT services or tangential departments to receive proactive information for interruption to business services or restoration of service. While this is a current initiative in many IT organizations it is often cost-prohibitive due to the manual processes used for dispatch and the poor data in the applications today. An effective, well architected alerting system should be able to address this requirement.
10. **Voice capability for outbound notifications and inbound calls.** Even with the proliferation of text based devices, confirmation and real-time interactions are still requirements that keep the telephone a powerful tool in the event resolution process.

Study Conclusions

The requirements for an interactive notification application should be driven from the current issues identified with the inadequate processes used today. Much of today’s event resolution process is reactive, manual or a “set and forget” process. This has resulted in a process that does not ensure the problems are detected, routed and solved.

While the alignment of IT processes with business functions is critical to a company’s IT strategy, it is unnerving to learn how many companies have gaps in their existing resolution process and systems to deal with events when a component or service fails or is interrupted. Event resolution systems which meet the requirements listed by the study’s participants have a straightforward, immediate payback to an organization - in many cases within 30-60 days of deployment.

Business Support

Invoq Systems conducted a return on investment study with a UK-based company which produces and sells electronic components. Most of the company's sales are placed and shipped from the company's web site, a dramatic shift in ordering preference from just five years ago. In reviewing the costs of losing their web services, they quickly realized that the most important source of revenue for the company was vulnerable should a significant system event occur and go undetected.

The Customer turned to one of our UK based resellers to assist with understanding and quantifying the risk and the savings of implementing AlarmPoint Enterprise. Our partner was able to work with the Customer to estimate the return on investment for AlarmPoint Enterprise applications. The results were dramatic. The initial returns were in excess of £ 2,500,000 in year one rising to over £ 5,000,000 in year two and continuing thereafter.

The primary sources of savings were:

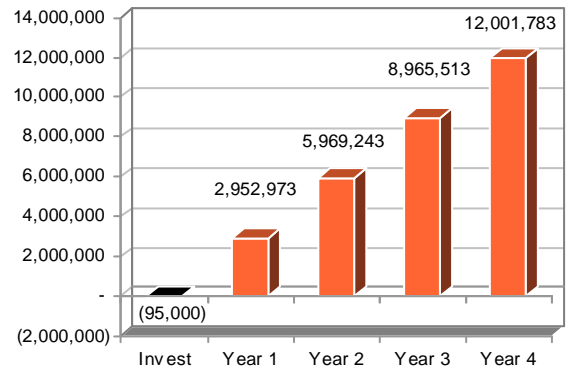
- Tangible reduction in dispatch costs
- Increase accuracy of dispatch
- Decreased average time to fix service outages
- Reduction in required technicians on staff
- Reduction in event rework
- Avoidance of revenue loss

The payback was approximately 30 days.

Analyst Support

In recent years IT analysts have become more aware of the needs and requirements of IT professionals in the areas of proactive event resolution. Consider the following excerpts from published findings:

- "Real-time alerts, notifications and reminders are the basis for dynamic, adaptable business operations." – Burton Group
- "A two-way intelligent notification system can increase mobile employee productivity and can be an integral part of a unified enterprise communications solution. – Frost and Sullivan
- "Event driven enterprises manage the dissemination of event information systematically. Sending an event really means sending a message to tell a receiver that an event has occurred. At a technical level, this may be implemented using a new generation of notification messaging software that manages the distribution of



alerts to people through multiple channels (e.g., voice, browser, email and mobile) using sophisticated escalation procedures.” – Gartner

Further in a research note, Gartner specifically identified two key issues within Enterprise Systems Management as follows:

- How will IT organizations meet the challenge of managing the evolving, distributed enterprise?
- How will IT organizations use network and systems management to achieve enterprise-wide server level objectives?

Gartner identified NSM (network systems management) Notification Systems as the answer citing that NSM products are not designed to solve this problem and do not provide closed-loop applications. Gartner recommends considering several factors when choosing a system including New Communication Standards and Technologies, considering the “expanded audience” for notifications (outside traditional IT), allowing users and groups to “subscribe” to notifications, and looking at applications that support global locations. Their bottom line: “For enterprises with business-critical processes that rely on IT infrastructure, an investment in closed-loop urgent notification adds insurance that the IT operations group will receive critical alerts.

In Summary

In today’s high pressure IT environment, undetected and unresolved events in a complex IT infrastructure are costly to the enterprise. Most enterprises attempt to deal with issues in a reactive method using inadequate event systems, manual processes and inaccurate data. The combination of these factors will result in severe consequences for hundreds of firms this year, many of whom participated in this study. Current, web based, interactive alerting applications are a key component of an effective event resolution strategy. The payback on these systems is intuitive, tangible and expedient.

About Invoq Systems and AlarmPoint

Company Introduction

Invoq Systems develops Interactive Alerting applications and Guaranteed Event Resolution systems for global enterprises. Critical events within major corporations occur whenever timely communication and action upon important information can adversely affect a business process. Events range from those in data centers, such as security (hacking, virus, etc.) and network automation to others such as workforce automation, emergency alerting, help desk, crisis management and so on.

Invoq guarantees resolution of critical events through the integration of complex messaging infrastructure, voice, wireless, profiling, and sophisticated caching technologies.

Invoq Systems, with over 700 customers, are experts in ensuring business availability. Invoq's AlarmPoint products provide an expandable, adaptable messaging platform which ensures critical events are solved by your personnel from remote locations, in real time. In today's uncertain business environment, undetected and unresolved IT, business service and service impacting events can be devastating to your customers, your employees and your business. AlarmPoint ensures that each event is solved, by the right person, in the fastest manner possible. AlarmPoint delivers!

AlarmPoint provides significant, tangible benefits to large and small organizations including:

- Guaranteed message delivery
- Decreased mean time to resolve critical IT events
- Automated event notification and interaction
- Reduced costs for help desks, call centers and manual dispatch centers
- Self-service alerting for IT service events
- Increased, automated communications with employees, customer and suppliers during a business impacting event
- Automated interactions with mobile field staff ensuring that key staff, managers, and executives are informed and acting on the most current information

In today's Information Technology environment personnel are mobile, they are stretched and they operate in a complex business environment. In most companies, the business relies on the success of its IT operations systems, applications and personnel. AlarmPoint is the guardian of your IT infrastructure, it is the enabler of your mobile staff and ultimately it is the insurance policy which ensures your business operations continue without interruption.

Invoq Systems is focused on providing applications which aid the Business Continuity and IT Operations staff with automating the delivery of urgent messages to the appropriate personnel on any voice or wireless device. The applications escalate to additional personnel until someone is found and responsibility is taken. Once accepted the event can then be solved over any voice phone, wireless device, instant message application or via email. Remote management, urgent message delivery, automated callouts, accurate delivery, resolved events...all a reality with Invoq's AlarmPoint products.

Invoq's Products

- ⇒ AlarmPoint®
- ⇒ AlarmPoint® Server
- ⇒ AlarmPoint® Enterprise
- ⇒ AlarmPoint® BCP

Notable Customers

Invoq's software is managing critical event notification and resolution for over 700 customers worldwide including: Alltel Communications, Arizona Power, AT&T, Bank of America, Barclays Bank, Barclays Global Investors, BHP, British Telecom, Cable & Wireless, Conoco-Phillips, Consumers Energy, CSFB, HSBC, McKesson, NEXTEL, Pacific Gas & Electric, Rogers Communications, State Street, T-Mobile, Texas Instruments, and the US Treasury.

Notable Partners

Invoq Systems has forged significant partnerships with industry leaders in the areas of Business Service Management and IT Infrastructure Management, many of whom redistribute the AlarmPoint products. Our partners include: Aprisma, BMC Software, Hewlett-Packard, Hitachi, Internet Security Systems, Micromuse, NETIQ, REMEDY, Peregrine, TIDAL Software and numerous others. AlarmPoint by Invoq Systems is a BMC Software Market Zone Direct product, an IBM Tivoli Beacon Award winning solution for Best Managing Technology Solution and a 2004 HP Achievers Award Winner.

Alert Subscription and Assignment

AlarmPoint Enterprise provides out-of-the-box and customized “alert subscriptions facilities.” With AlarmPoint you can now allow users to subscribe or be assigned to events or groups of events. Users of the application can log on and subscribe to any event type, building business rules:

- ⇒ Alert my group if HP OpenView Service Desk has an SLA about to breach
- ⇒ Alert my group via email once the change management request is approved
- ⇒ Alert the customers of the “service” effected by the outage with estimated time to fix...mitigating inbound calls and improving IT's service to its customers

Delivering Important Information

- ⇒ AlarmPoint provides automated, interactive alerting across all communication channels and devices including:
- ⇒ Voice to wired and wireless telephones
- ⇒ Voice and Text to mobile telephones
- ⇒ SMS, GSM Modem and Text based
- ⇒ Inbound interactive voice response (IVR)
- ⇒ Text to and from any wireless paging or wireless device
- ⇒ Text to and from email, wireless handhelds and instant messaging
- ⇒ Fax, public address systems, announcement boxes, call bridging and other contact methods supported