E-BOOK

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DevOps In An Unplanned World:

Maintaining Service Delivery and Increasing Customer Satisfaction During Critical Events

Communication, collaboration, and orchestration are key to Dev and Ops successfully managing the service-delivery value chain, to tackle incidents and navigate critical events – here's how.

The DevOps function has grown

For many years now, traditional IT shops have operated with a natural divide present between developers and operations. Developers work on the code, collaborate with QAs to get it cleaned up and then wash their hands of it once it is shipped over to operations staff to ready it for release, making sure code actually runs in production. In the days of waterfall development, this method sufficed. But as the clear shift toward agile methods now require faster release cycles, greater accountability on part of the developer dissolves the boundary between development and operations. The traditional divide between Dev and Ops and the resulting friction runs counter to the need to increase the velocity of service delivery every time work must be handed over across the dev and ops divide. DevOps promises to heal these wounds.

The idea behind DevOps is to destroy that divide and encourage more collaboration and accountability between both groups so that everyone feels responsible for the code no matter where it is in the software development lifecycle.

DevOps orgs have 50 percent higher market capitalization and growth than rival businesses

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DevOps teams are 2x as likely to exceed profitability, market share, and productivity goals

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Picking up the pace…

When done right, DevOps practices can rapidly increase the speed of release cycles. This requires automated tools within the continuous delivery pipeline and a culture of effective communication and collaboration between developers and operations staff. When this happens, IT organizations can efficiently orchestrate the business processes, the software development lifecycle (SDLC) and drastically reduce the time it takes to ship code into production.

Communication and collaboration make up the glue that binds developers and operations staff, plus any additional stakeholders in the process. Without a strong commitment to these values across the organization, DevOps becomes nearly impossible to achieve.

In order to achieve this, clear communication, collaborative rooms, process and tools orchestration are essential.

Many teams believe they have this covered with a handful of tools. The combination of: SMS, email, Slack, Zoom, etc. – homegrown and commercial – helps them get in touch throughout the normal release lifecycle.

But Things Break

What happens when critical events occur that are outside the bounds of the typical release schedule?

Unfortunately, that's when communication and processes often break.

- ☑ The people needed to resolve the issue are away from their desks or working remotely
- ☑ They're on vacation and no one on other teams know
- ☑ It's 2:00 a.m. on a Sunday and everyone is asleep

Effective communication is now more important than ever.

The remote-work model has become a permanent plan for many organizations. Simply sending an email invite to a conference call may not reach an employee in the middle of the night, or during a walk on their lunch hour at home.

Sending an SMS or even ChatOps message is no better. Waiting on a response will result in valuable minutes lost. And even before this process is started, whoever initially finds the issue must be able to identify the 'right people' to contact.

Just figuring out which teams to contact, and who within those teams can start making a fix, plus knowing who among those is actually on call adds minutes to the equation. It is equally important to understand that an outage, or critical event is an opportunity to increase customer satisfaction, contingent on the fact that both key stakeholders and customers actively partake of the communication and collaboration process.

Orchestrating across these multiple modes of communication, and multitude of tools is essential.

…and every minute of outage can mean tens or hundreds of thousands of dollars — sometimes even millions — lost when mission critical applications are involved.

Unplanned downtime costs organizations $9,000/minute

The point is that most people understand that DevOps is the art of speeding up IT through automation and strong communication. But the truly effective DevOps organizations understand that in order to account for when things go wrong, they also need to automate the communication process, rapidly deploy a digital collaboration hub and be nimble in orchestrating processes in the ever changing nature of the incident.

A simple downtime cost equation:

LR = (GR / TH) x I x H

LR (Lost Revenue)
GR (Gross Yearly Revenue)
TH (Total Yearly Business Hours)
I (% Impact)
H (Hours of Outage)

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Critical Incidents Challenge DevOps Processes

In theory, DevOps helps put IT processes on rails. The automated pipeline ensures code sails through the development and release cycles. Monitoring in place gives organizations metrics to incrementally tweak processes and improve things along the way. And regularly scheduled calls, meetings and lines of digital communication enable developers and operations staff to work out minor kinks as they come up.

But the truth is that this utopia depends on everything operating normally.

And as anyone with even a little experience in IT will ask, “When do things ever go as planned in an IT department?”

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IT problems happen all the time.

Problems can be failures in hardware, or patches in third-party commercial systems that don't play well with internal code. Or these could be a release deployment issue that requires an emergency roll-back. Regardless, when these incidents occur and when massive outages present themselves, the question to ask is, "How quickly do those familiar lines of communication successfully inform the people who need to know about it to resolve an issue?"

In order to solve big problems in IT, teams from both dev and ops are needed to understand the full scope of the situation.

Whatever that process is will likely require a group call with people across multiple teams. The process will likely require these teams to look at the same set of diagnostic information from relevant monitoring tools and the application in question.

Getting to that point can eat up a tremendous amount of time. One SaaS provider explained with DevOps and a normal set of communication tools, this might take upwards of 45 minutes to get the right people apprised of the details of a critical incident. And often, what gets overlooked during this entire process is an organization's obligations to its customers.

Proactive communications, timely updates and follow up leveraging the same communication and collaboration platform is critical to ensure that customer satisfaction and loyalty is not compromised.

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What is the biggest challenge in IT?

Successfully maintaining business operations is all about delivering services better and faster, even in the wake of a critical event.

What does this produce? Increased customer satisfaction. Even in the face of an outage, ensuring transparent communication with the customer can drive increased loyalty.

The key is avoiding small inefficiencies with automation.

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In a typical response scenario, little delays add up quickly.

Here's how things can break down for a typical organization:

The incident is flagged and someone establishes that there is a problem.

Service desk personnel or an incident manager looks up the right people to inform.

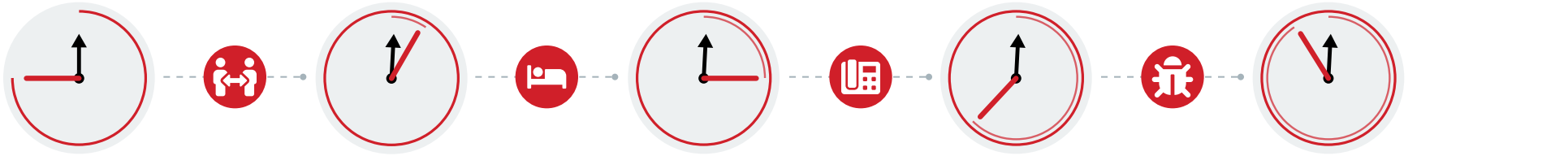
Even in the case that an organization has a critical incident response team (CIRT) in place, someone usually needs to look up contact information and find out who is on call

An email is sent to people who already receive hundreds of emails a day.

The incident manager gets no response from the majority of people.

Some people are not at their desk. Others are asleep.

An SMS is sent. A few additional people respond.



The incident responder still needs to get in touch with more critical people and spends time looking up emergency phone numbers.

The manager makes these calls and wakes up several people, some of whom are angry because they're not on call.

Two people are on vacation, another is out sick and someone else is on maternity leave.

Conference call is set.

Time is spent troubleshooting international numbers so everyone can join call.

Everyone joins, then at least 15 minutes are spent explaining where team can find relevant information about problem in tools like AppDynamics and Solarwinds.

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Clearly, the process of getting everyone aware of the problem and on a course for resolution requires multimodal communication. But achieving true communications effectiveness requires automation. Incident managers doing this manually will need to try multiple communication tools to successfully connect and will juggle issues on the phone while also sharing information from multiple IT tools. There's a lot of delay and lag that can occur as this happens manually. What complicates the problem is that a typical outage requires cross functional team participation with each team having its own shift schedules, escalation policies and rotation structure.

What's more, there are additional curveballs that can introduce additional friction to the process:

- **CAB:** Once everyone has decided on a resolution, they may need to go through this process of once again to get approval from change approval board (CAB), as CAB members will need to be contacted swiftly.
- **INTERNATIONAL CONCERNS:** Team members may be spread internationally across different time zones and different international calling codes will be needed for group calls. What's more, language could be a barrier. Incident managers will need to make sure communication is crystal clear, especially for non-native English speakers. And when translations are involved, it is crucial nothing is lost in translation.
- **VENDOR/THIRD-PARTY CONCERNS:** Relevant contractors or vendors often need to be brought into the loop to resolve certain issues. This eats up more time to find the right contact at the third-party organization and to get in touch and connect with them.
- **NOTIFYING CUSTOMERS:** In customer-facing applications, there may be a need to send out mass messages so they're apprised of the situation. And more importantly, so they stop clogging up the service desk with their calls.

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Automating Communication

With the right tools in place, here's how a critical event communication chain CAN look…

An event is flagged by automated tools, an end user or network operations center (NOC) staff

An operator identifies issue and triggers the process to reach available CIRT members.

The right on-call team members dev and ops CIRT team are contacted using the mode of communication most likely to receive an immediate response based on the time of day for that person

The IT Alerting tool also automatically notes when people are unavailable due to vacation, travel or illness and rolls communication to the person covering for them.

IT Alerting tool already has relevant people's contact information, scheduling and geography in its system.

The system automatically sets up a group call and completely bypasses the nightmare of setting up international friendly calls and complicated dial-in numbers, shaving more minutes off the process.

And, most importantly, the system seamlessly integrates with tools to give people a view in relevant dashboards of the monitoring data and diagnostic information to understand what is going wrong.

When the group call is on, participants can be looking at that data in real time and discussing resolution steps immediately.

Once the course of resolution is decided, system can also automatically send alerts and request for approvals to CAB.

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If an organization faces numerous critical incidents, Everbridge IT Alerting platform not only poses significant savings but delivers services faster and increases customer satisfaction.

45 min

Remember the customer that took 45 minutes to get the right people informed and on a conference call?

22 min

Implementing automation slashed this time in half to 22 minutes.

7 min

Once IT tools and dashboards were integrated into the communication platform, this was cut down to 7 minutes.

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EVERBRIDGE AND DEVOPS

Everbridge's IT Alerting and xMatters create a robust platform that can be the glue that firmly connects developers and operators even in the toughest outage situations. Just as automated tools within the continuous deployment pipeline reduce the delays in delivering code to production, the automation of communication ensures that CIRT members are quickly synced to resolve outages as quickly as possible.

Further, xMatters joining the Everbridge team enables organizations to powerfully command the next generation of Fusion Centers. This opportunity allows security and IT professionals to address both Digital and Physical critical events through a single pane of glass.

ABOUT XMATTERS, AN EVERBRIDGE COMPANY

xMatters is a service reliability platform that helps DevOps, Site Reliability Engineers (SREs), and operations teams rapidly deliver products at scale by automating workflows and ensuring infrastructure and applications are always working. The xMatters code-free workflow builder, adaptive approach to incident management, and real-time performance analytics all support a single goal: deliver customer happiness. Over 2.7 million users trust xMatters daily at successful startups and global giants including athenahealth, BMC Software, Box, Credit Suisse, Danske Bank, Experian, NVIDIA, ViaSat and Vodafone. xMatters is headquartered in San Ramon, California and has offices worldwide.

For more information, please visit **www.xMatters.com**

ABOUT EVERBRIDGE

Everbridge, Inc. (NASDAQ: EVBG) is a global software company that provides enterprise software applications that automate and accelerate organizations' operational response to critical events in order to Keep People Safe and Businesses Running™. During public safety threats such as active shooter situations, terrorist attacks or severe weather conditions, as well as critical business events including IT outages, cyber-attacks or other incidents such as product recalls or supply-chain interruptions, over 5,400 global customers rely on the Company's Critical Event Management Platform to quickly and reliably aggregate and assess threat data, locate people at risk and responders able to assist, automate the execution of pre-defined communications processes through the secure delivery to over 100 different communication devices, and track progress on executing response plans. Everbridge serves 8 of the 10 largest U.S. cities, 9 of the 10 largest U.S.-based investment banks, 47 of the 50 busiest North American airports, 9 of the 10 largest global consulting firms, 8 of the 10 largest global automakers, 9 of the 10 largest U.S.-based health care providers, and 7 of the 10 largest technology companies in the world. Everbridge is based in Boston with additional offices in 20 cities around the globe.

For more information, visit **www.everbridge.com**