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WHITE PAPER

Huntington Bank Elevates IT Operations with Zenoss Service Dynamics

Regional Bank Improves Service Availability and Performance with cloud-era IT Operations Platform

Summary

Huntington Bank is a $57 billion regional bank holding company headquartered in Columbus Ohio. Founded in 1866, it provides full-service commercial, small business, and consumer banking services; mortgage banking; treasury management; brokerage services; and other financial products and services. The company has more than 700 retail banking locations and 1,500 ATMs in six states: Ohio, Michigan, Indiana, Pennsylvania, Kentucky, and West Virginia.

A large part of Huntington's success is due to its superior levels of customer service. To maintain that level of service, they needed a better way to ensure that their IT-based services – mobile banking applications, ATM services, and more – were operating at a level consistent with the company's high standards. With 37 monitoring tools in their environment – most of which have multiple subcomponents – administrators had varied levels of information about service availability and performance for various segments of the infrastructure. "We had server events in one console, network events in another console, database events in another and so forth. Only a few people had access to each console, making it difficult to have a unified view of our operations." said Kyle Kopp, Infrastructure Manager. "We needed a way to elevate our IT Operations to get a service-level view for the enterprise."

The Challenge

Huntington needed a way to reconsolidate their IT Operations, allowing them to:

- Centralize event management to pull together OS, application, database, and security monitoring into a single, enterprise view
- Reduce complexity and costs that had soared due to expensive and brittle legacy tools and processes
- Meet and exceed performance and availability targets for critical applications by understanding relationships between services and underlying infrastructure components

The Solution

Huntington selected Zenoss for its ability to:

- Create a centralized "single source of truth" for event, performance, availability, and capacity management across the enterprise
- Reduce costs with a progressive monitoring approach that worked across both physical and virtual environments and provides a unified IT Operation platform for the future
- Provide service-level views that help reduce downtime with the ability to prioritize responses by knowing which services are impacted by a given incident
- Maximize resource utilization and decommission inflexible, expensive legacy tools and frameworks

The Impact

Zenoss' centralized view across Huntington's services delivery enabled them to:

- Eliminate maintenance costs from twelve monitoring tools that were decommissioned – including two expensive legacy frameworks that provided enough savings to fund five additional team members
- Expand monitoring coverage of managed resources by nearly 400%, with a corresponding 50% increase in the number of devices managed per person
- Reclaim at least 1GB of memory and 4-5% of compute capacity per server with agentless collection
- Improved Mean Time to Response (MTTR) by roughly 85% due to centralization of event management and cross-

team transparency of monitoring data
- Allow departmental resources to focus on business critical operations rather than monitoring administration

Zenoss now serves as the central platform for Huntington's IT operations. It consolidates performance and availability data from application performance, mainframe, database, and information security tools, while also directly monitoring performance for 15,000 devices across two datacenters. It models these devices so that administrators know what infrastructure is supporting given services, helping them focus on those incidents that put service levels at risk. Zenoss is also tightly integrated with Huntington's ServiceNow deployment, further streamlining incident management and response.

The ability to centralize all performance and availability monitoring has allowed Huntington to achieve an enterprise-level view of service delivery, while also allowing them to break away from costly, less effective legacy frameworks. This has improved their incident response and resolution times dramatically, going from an average of 6-8 hours down to 15 minutes-one hour – all while maintaining key workflows and vertical integrations.

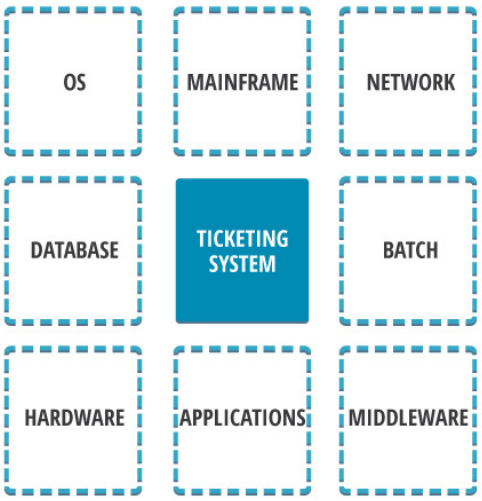
"Before, everyone had their own data. There wasn't an easy way to consolidate data or even view other teams' data. That caused a great deal of duplicate effort and created a lot of gaps," said Kyle Kopp. "With Zenoss, we created a 'single source of truth' which is critical for fast root cause identification and service impact determination. Now, everyone has access to the exact same data, giving us the transparency necessary to resolve issues quickly."

This paper will provide a detailed account of how Huntington defined and approached their IT operations challenges, and highlight some of the achievements they've been able to secure to date in their continuing roll out of Zenoss Service Dynamics.

The Challenge of Fragmented and Legacy Monitoring Approaches

Many companies find themselves in the situation that Huntington faced two years ago. They had experienced rapid growth in the number of services they needed to deliver, accompanied by accelerated complexity of the infrastructure required to support these new services. In the datacenter, legacy mainframes were joined by dynamic capabilities of virtualized infrastructure to meet customer demands.

The decentralization and specialization that had occurred as infrastructure expanded to address new service demands caused the number of tools monitoring these diverse technologies to increase dramatically. In many cases, the new technologies came with their own administration tools that included monitoring functionality. In other cases, individual departments purchased specific monitoring tools to gain visibility into the performance of their particular piece of the service pie. In Huntington's case, this led to more than 37 monitoring tools used by different groups. With all of these tools, administrators across the company were spending a percentage of their time performing IT operational monitoring rather than focusing on their primary roles.



HUNTINGTON HAD SILOS OF MONITORING FUNCTIONALITY THAT INTRODUCED INEFFICIENCY AND FINGER POINTING BETWEEN DEPARTMENTS

Because monitoring was fragmented between so many tools, it was difficult to identify root causes of issues quickly and to know which IT services were impacted. While they were able to effectively address availability and performance issues, the number of people and time it took to do so was unacceptable. When issues arose, incident resolution was slowed down by information silos – each tool only covered a narrow infrastructure segment and generated events based on custom thresholds that had no significance at an enterprise level. War-room conference calls were required to determine which group would be responsible for diagnosing the problem and driving resolution. There was no single authority that could give an accurate, up-to-date view of what infrastructure pieces were affecting which services.

At the same time, the legacy framework that Huntington was using for enterprise event management, application performance monitoring, and capacity planning were making it unnecessarily difficult to maintain their high standards of customer service. Licensing costs were so expensive that monitoring was limited to only 3,800 devices that supported the most critical applications – and only a few people had login rights for the User Interface (UI), which required separate, expensive licenses for each user and severely limited the usefulness of the product. The legacy frameworks were also not flexible enough to conform to Huntington's event management and IT monitoring requirements. They introduced inefficiencies, requiring time consuming, manual processes to identify and efficiently resolve operations issues. The IT operations staff spent so much time just making these tools "work" that there was no bandwidth to add monitoring value. It also made it very difficult to agree to new projects, since they had to factor in the time and cost it would take to make these legacy tools conform to new infrastructure.

While Huntington was able to deliver exceptional service for its critical applications, they did so in spite of the limitations of their monitoring toolsets. The rationalization of 30+ monitoring tools and manual processes caused them to spend too much time in a localized, reactive mode. In order to more efficiently meet their standards for service delivery, IT Operations needed to be able to take on a more strategic, centralized approach.

The Zenoss Solution

Huntington went through a rigorous selection process for an IT operations platform that could address their concerns, examining 11 different vendors. "Most of the vendors we examined were very legacy in their thinking," according to Kyle

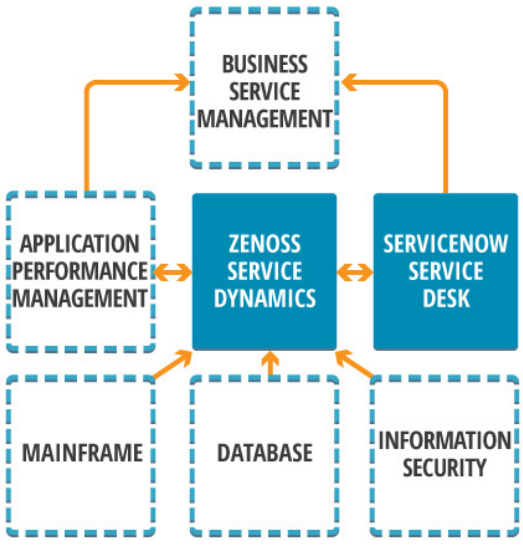
Kopp. "While they could offer complete coverage, some of the vendors really had 6 or 9 tools behind the scenes – and it would take an entire staff just to manage that toolset. What you end up with is a massive monitoring team that just manages the monitoring tools. Zenoss Service Dynamics provided us with a unified IT Operations platform that is truly one single product and flexible enough to be adapted to meet our specific needs."

Centralizing Monitoring Across the Enterprise for Operational Efficiency

Huntington selected Zenoss for several reasons. Most importantly, it could serve as a manager of managers to improve operational effectiveness, collecting events from managed resources and other monitoring tools to give enterprise-level visibility into performance, availability, capacity, and fault isolation. While individual teams are allowed to use their own admin and diagnostic tools – for example, Splunk is important to the security team – monitoring is no longer driven at a departmental level. All relevant data is fed up into Zenoss to create a single source of truth. With this capability, Huntington has been able to elevate the role of IT operations back to its core value to the company.

This consolidation of event management not only helped improved visibility and efficiency, it also introduced significant savings. With a single product that works across physical, virtual, and even cloud environments, Huntington was able to decommission existing legacy frameworks from BMC Software and IBM Tivoli. Using the savings in software maintenance, they were able to purchase Zenoss Service Dynamics, add five new members to their team, and extend monitoring from 3,800 to 15,000 resources. Before, three people managed 3,800 devices (or about 1,267 devices each) and now eight team members are responsible for monitoring 15,000 devices, or 1875 devices each – improving the coverage of each person by 50%.

Zenoss now serves as the central console for monitoring the infrastructure to ensure infrastructure performance and service delivery. Only 8 collectors are deployed with the Zenoss solution, yet it collects events from 15,000 managed resources, as well as monitoring tools for mainframes, databases, and information security.



HUNTINGTON USES ZENOSS TO CENTRALIZE OPERATIONS FOR PROBLEM AND INCIDENT RESPONSE

Creating a Single Source of Truth

The second requirement that Zenoss filled for Huntington was the ability to easily create and maintain a "Single Source of Truth." This eliminates information silos by providing transparency that allows everyone to access the same set of information, helping eliminate lengthy war room meetings. If someone thinks the network is the problem, they simply go into the UI and look at the network resources to see if the data supports their claim. And since there are no limits to the number of people who can use the UI (unlike their previous legacy frameworks) no one is left out of the loop. And because Zenoss operates in near real-time, all views are accurate depictions of what is happening in the environment.

The single source of truth also helps prevent event storms from flooding administrator consoles. Huntington was able to create and standardize thresholds across the organization. Before, each monitoring tool had its own thresholds that were set based on individual administrator requirements. Now, administrators can use local tool threshold departmentally, but they aren't pulled into enterprise view. Zenoss alone determines if a threshold has been exceeded and action is required, drastically cutting down on meaningless events clogging up inboxes.

Huntington was able to align this common view across incident and event management by integrating Zenoss with ServiceNow, the incident management solution that Huntington was in the process of rolling out. The integration was made easy through a custom ZenPack, a plug-in that can be developed either by Zenoss or customers themselves to monitor new types of devices add capabilities to the core software. This integration allowed Huntington to maintain an accurate, common understanding across monitoring and incident response systems. Prior to implementing Zenoss and ServiceNow, thousands of alert emails would go out – which people simply ignored. With the new solution, Huntington could ensure that the right set of alerts were being sent to the correct recipients, and also make it possible to hold those recipients accountable for incident response.

The Zenoss integration with ServiceNow makes it possible to maintain a single source of truth because both products are kept up-to-date simultaneously. When events are cleared in Zenoss, ServiceNow gets a notification telling the operator that the issue is corrected. Zenoss integration with ServiceNow also allows Huntington to set aside maintenance windows during which whatever range of devices are being worked on will not send unnecessary alerts, eliminating the need for admins to try to determine what's real and what is just maintenance churn. This integration between event management and incident management helps provide this focus because there are less alerts being assigned across the board.

IT Service Monitoring

The last requirement that Huntington had for their IT operations platform was the ability to not only monitor infrastructure components, but to monitor, prioritize, and make decisions based on the IT service impacted. According to Kopp, "Service Monitoring is a newer way of thinking. It is more important in this day and age of virtualization, cloud computing, and service providers. We're doing it at Huntington not only with Zenoss, but other products – pulling them together to optimize decision making."

Huntington, as a retail banking provider, is particularly sensitive to IT service performance and availability. Imagine if you went to an ATM and it wasn't able to give you access to your account so that you could take out cash – or if your mobile banking app wouldn't accept your check deposit or funds transfer. Those hypotheticals can quickly become reality if your infrastructure availability or performance fails.

Huntington needed to be able to understand what infrastructure elements support which IT services. For this, they looked to the Zenoss Service Impact module, which allows infrastructure components to be modeled based on their relationships to services. An online banking service, for example, is backed by a huge amount of infrastructure, including multiple web farm, load balancer, application server, middleware, network, database, and mainframe components. When you know what managed resources are depended upon to deliver a service, you also know what redundancies exist and can determine if a fault is creating risk or directly impacting availability.

This visibility into service risk is game changing in terms of reducing organizational churn and unnecessary firefighting. Zenoss can look at events related to components supporting a service and help alert administrators when there is a risk to service delivery – even before availability is impacted. If the service does in fact experience performance degradation or downtime, built-in root cause isolation capabilities allow them to quickly identify the cause of a problem so the right team can begin working on a solution right away. Impact events are ranked, with those more likely to be the source of service issues given a higher percentage.

Customer facing applications are critical at Huntington and require transaction level monitoring, so it was also important that Zenoss be able to integrate with their existing Application Performance Management (APM) solution. Because it is easy to pull events from any element manager or point product, Huntington was able to quickly begin managing APM events in its unified Zenoss UI, with tickets being opened automatically in ServiceNow. Before Zenoss was implemented, they were only able to monitor 4-5 most critical applications. Now they are able to efficiently monitor more than 40, with the goal of reaching 70 in the near future.

Huntington organizes its applications into Gold, Silver and Bronze service categories, and Zenoss was able to support this categorization so that problems could be triaged and prioritized depending on whether gold or silver business impact was being felt. With Zenoss group templates, the monitoring rules for APM event feeds can be automatically applied by putting them in Gold, Silver, or Bronze groups, making it easy to drive standardization.

The Impact of a Unified IT operations platform

Huntington has already realized significant benefits from their implementation of Zenoss to-date. These benefits impact multiple facets of their daily work, as well as long term operational goals.

Reducing Infrastructure and Administrative Costs

There are several ways that the Zenoss solution has helped Huntington to lower IT Operations costs. The first is very straightforward. By providing a unified solution that crossed mainframe, application, database, and information security, they were able to centralize monitoring operations and eliminate legacy management tools. The annual maintenance licensing cost savings alone from the removal of just one legacy framework allowed them to not only purchase the Zenoss solution, but augment their central IT Operations staff from 3 to 8 members to provide better support for the organization.

The Zenoss solution also introduced cost savings in regards to resource utilization. Because the Zenoss solution collects performance and availability data and events without the use of agents, Huntington was able to reduce its server load as well as RAM. The previous (now decommissioned) solutions were using approximately 1GB of RAM and 3-5% of CPU

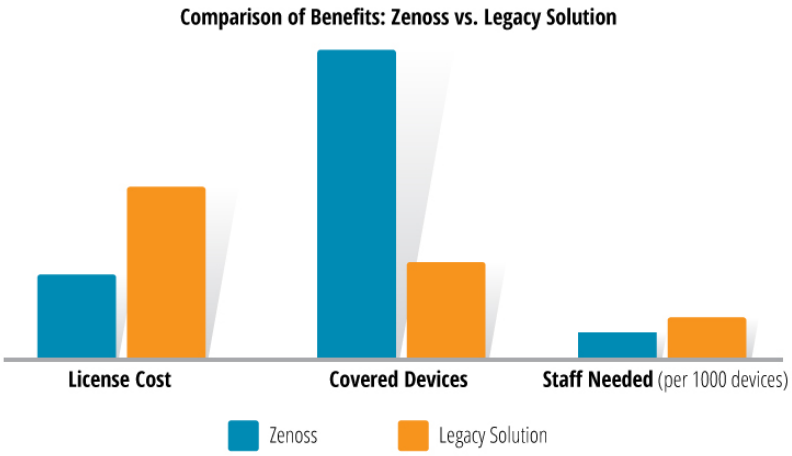
for each agent – and there were in some cases multiple agents on a single server. Effectively, this means that for every 20 VMs on a server, they were losing about one to these agents. With Zenoss's agentless approach, they are able to reclaim those lost resources. While some of the groups flagged the agentless approach for its inability to do sub-second alerting, most groups within the company agreed that because their incident response time can't approach sub-second – since they can't answer phone or emails that fast – in most cases it isn't a requirement. Where automated incident response is configured (for example in Gold ranked application performance monitoring) other tools are still in place to provide that level of visibility. The use of the APM tool on some of the more critical application servers is a good example of this. APM and IT Operations platforms are both necessary for Huntington – it isn't an either-or decision.

Finally, Huntington's staff was able to reduce costs by allowing administrators to focus on value added services rather than monitoring toolsets or conducting manual intervention across 37 different tools around the company. They were also able to cover more devices – 15,000 instead of 3,800 – ensuring the availability and performance of more services with less manual effort. Since Zenoss provides established and proven customizable baseline thresholds that prevent unnecessary sifting through mountains of useless events, they no longer had to deal with event storms. Perhaps most importantly, with the ability to establish a centralized, single source of truth of what is happening in the environment, the amount of time spent finger pointing in war room meetings is virtually eliminated. That is a priceless capability for any IT Operations leader.

Increased Operational Efficiency

By implementing Zenoss, Huntington has also been able to streamline their IT Operations so that performance and availability issues are resolved quicker and more effectively. Because Zenoss is relatively quick to deploy, they were able to take advantage of these benefits almost immediately. . "Because we started to prove that we could provide monitoring coverage quickly and produce some quality results, we had a lot more buy in from across the IT organization," said Kopp. Zenoss was flexible enough to fit their existing organizational processes, so time to value was very short. "The CIO and the CEO loved it," said Kopp. "If anything, they just wanted it up and running faster across more devices because they saw the impact it made to the organization."

The awareness of incidents is also much greater since Zenoss was deployed, since they've been able to increase the number of managed resources by 400%. There has also been improved transparency across the organization, providing visibility into physical and virtual infrastructure using the same tool. But more importantly, there is a better process in place to notify the appropriate person of service issues and then a standard workflow for driving to resolution. Integration between Zenoss and ServiceNow make it easy to ensure that incidents are resolved within established SLAs. Since implementing these products, application uptime and performance have steadily improved and MTTR has fallen by roughly 85%.



Planning for the future

In addition to performance monitoring, Huntington uses the Zenoss solution to enable capacity planning. Zenoss provides insight into utilization rates and trends, allowing them to plan for future demand.

Huntington plans on continuing to expand the footprint of Zenoss in their environment. They will continue to centralize and elevate monitoring throughout the organization, with the goal of decommissioning another four to five point product tools. They are also planning to build out their use of Zenoss Service Impact, taking advantage of root cause analysis capabilities that will allow them to lower MTTR even further by identifying problem sources more quickly.

Zenoss isn't just the tool Huntington is using today – it is the IT Operations platform the company plans to rely on for years to come. "Zenoss is very forward thinking. It's incredibly flexible, allowing you to customize things that are important to your organization and consolidate tools," said Ken Kopp. "Anyone struggling with legacy frameworks either from a cost or functionality perspective, should look at Zenoss."

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