



Indiana Office of Technology

Powering a State that Works

State: Indiana

Agency: Indiana Office of Technology

Category: Operational Efficiency

Project Title: Application Performance Management (APM) Program

Project Dates: Initial implementation began in 2020, with continuous expansion and enhancement through 2025 across state agencies

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EXECUTIVE SUMMARY

The State of Indiana's Office of Technology (IOT) Application Performance Management (APM) program is recognized as one of the most effective state government observability programs in the United States. This citizen-centric initiative focuses on creating superior and efficient digital experiences for both citizens and state employees and improving operational efficiency through comprehensive application monitoring and management that improves operational uptime. Using an integrated suite of tools including Splunk AppDynamics, Splunk SecureApp, and Cisco ThousandEyes, the program monitors, manages, and optimizes critical state applications to ensure high availability, performance, and digital resiliency across all government services.

Since initial implementation began in 2020, the program has expanded to 35+ state agencies, across more than 100 applications enabling digital experiences that are more reliable, accessible, and responsive. Through a structured governance model featuring an Observability Advisory Board and a dedicated APM Center of Excellence (CoE), the program has established itself as a model for other state and territorial governments seeking to enhance their digital resilience and citizen experience.

IDEA

Hatched out of necessity during the Covid-19 pandemic, Indiana faced application timeouts with its unemployment system. The Indiana Office of Technology (IOT) deployed its application performance management tool and within hours identified code bottlenecks that were making the system crawl. The Indiana Department of Workforce Development was able to use that information to update the unemployment application and bring it back online for citizens and business owners.

From there, IOT developed a program to address critical challenges in delivering consistent, high-quality operational delivery to improve the experience for citizens and government employees. With one use case solved, the State had more opportunities laying in front of it. Before implementation, the state faced:

- Inconsistent application performance across state agencies, resulting in unpredictable citizen experiences
- Limited visibility into system performance, creating reactive rather than proactive issue resolution
- Siloed monitoring approaches, making it difficult to identify cross-system dependencies and issues
- Insufficient ability to measure and ensure digital resiliency for critical citizen services

The program solves these problems by establishing enterprise-wide application monitoring and management capabilities that deliver enhanced visibility, proactive problem detection, and rapid resolution of technology issues before they impact citizens. The APM service crosses numerous NASCIO 2025 Top Priorities, including #2 Robotic Process Automation and #3 Digital Government.

Why does it matter?

Digital resilience is now mission-critical for state governments. When applications fail or perform inefficiently, citizens are directly impacted—unable to access vital services, complete transactions, or receive timely information. These negative experiences erode trust in government and can have serious consequences for vulnerable populations who rely on state services.

The APM program directly supports Indiana's citizen-centric approach to governance, focusing on positive citizen interactions and operational efficiency with all levels of state government. The consequences of not addressing application performance include:

- Increased downtime for critical services like tax filing, benefits management, or licensing
- Higher operational costs from emergency fixes and manual intervention
- Lost productivity for state employees when internal systems perform poorly
- Diminished trust when citizens experience digital service failures
- Inability to scale services to meet increasing citizen expectations

What makes it different?

The Indiana APM program distinguishes itself through several innovative approaches:

1. **Comprehensive Governance Model:** The establishment of the Observability Advisory Board (OAB) provides a structured mechanism for soliciting stakeholder feedback and evolving the program based on agency needs.

2. **Center of Excellence Approach:** The IOT APM Center of Excellence (CoE) serves as a digital knowledge hub and training platform, accelerating the development of competencies across agencies.
3. **Program Management:** The program applies rigorous project management ensuring consistent implementation and outcomes.
4. **Integrated Technology Stack:** The solution combines Splunk AppDynamics, Splunk SecureApp, and Cisco ThousandEyes to provide end-to-end visibility across applications, security, and network performance.
5. **Value-Driven Implementation:** The program focuses relentlessly on delivering measurable value to agencies rather than simply deploying technology, with clear KPIs and metrics confirming the program's impact.

IMPLEMENTATION

After seeing the initial results, IOT developed the APM program with immediate and long-term perspectives:

Enterprise View Integration: The program was designed to align with Indiana's overarching citizen-centric perspective, ensuring all implementations support the goal of creating superior digital experiences for citizens and state employees which are delivered by having clear operational efficiencies. The initiative was positioned as an enterprise capability rather than a standalone technology project.

Success Measurement: The implementation established clear Service Level Indicators (SLIs) to define successful operations:

- Availability: 99.5% uptime for core services
- Latency: 95% of requests under 300ms
- Error Rate: Below 0.1% weekly
- Throughput: 1,000 requests per second at peak
- User Experience: 90% of pages load under 2 seconds

These indicators were linked directly to business outcomes like revenue protection, customer retention, operational quality, growth readiness, and competitive advantage.

Who was involved?

The success of the Application Performance Management (APM) program has been driven by the strong engagement of multiple stakeholders. Executive leadership provided the initial vision, focusing on superior citizen and employee experiences. They established the program's perspective with a citizen-centric approach, secured initial and ongoing funding, recruited top talent at all levels, and maintained continuous engagement since the program's inception.

IOT's APM Program Team applied rigorous program management discipline, taking personal responsibility for every aspect of the program. They maintained dedicated leadership focused solely on the program, employed a client-centric approach, and continuously sought new ways to improve the solution.

Agency stakeholders were also instrumental in the program's success. The Observability Advisory Board (OAB) was created to solicit customer satisfaction feedback and provide direction to agency partners. Stakeholders provided input on the future direction of the program, participated in agency-specific workshops to assess each agency's application environment, and attended APM Days events to build awareness and showcase capabilities. The State has held several APM Days to showcase agency successes.

Key Implementation Steps:

1. **Agency Workshops:** Specialized sessions assessed each agency's application environment to determine application criticality and available resources, creating tailored implementation plans.
2. **Standardized Deployment:** Project Management discipline was imposed on both sides of the IOT/Cisco partnership, creating a uniform implementation process.
3. **Training and Enablement:** The IOT APM Center of Excellence (CoE) provided standardized training for all users.
4. **Value Measurement:** KPIs and metrics confirmed the program's value to agencies.

IMPACT

The APM program has transformed the state's approach to application operational management and citizen experience:

Enhanced Digital Resiliency: The program has significantly improved the reliability, performance, and resilience of critical state applications. By providing proactive monitoring and rapid incident resolution, the program ensures citizen services remain available and performing even during periods of high demand or technical challenges.

Improved Citizen Experience: Citizens now experience more consistent, reliable digital interactions with state government. Application uptime has improved, response times have decreased, and error rates have been reduced—all contributing to a smoother experience when accessing government services online.

Agency Capability Enhancement: Through the Center of Excellence (CoE), agency users have become more mature and self-sufficient in application monitoring. This has created a culture of performance awareness and continuous improvement across state agencies.

Cross-Agency Standardization: The program has established consistent monitoring standards and practices across participating agencies, creating a more unified approach to digital experience management throughout state government.

The program's success is measured through several key metrics and indicators:

Quantitative Metrics:

- Application uptime has reached the target of 99.5% for core services
- Response time improvements with 95% of requests now under 300ms
- Error rates maintained below 0.1% weekly
- Throughput capacity increased to handle 1,000 requests per second at peak
- User experience enhanced with 90% of pages loading under 2 seconds

Operational Improvements:

Metric	Current Value	Target Value	Trend	Insights/Action
MTTR (Avg Resolution Time)	45 mins	<1 hour	Down 60%	Root cause triaged with trace + network insight
MTBF (Time Between Failures)	28 days	>30 days	Up 300%	Fewer app/service crashes post-remediation
Major Outages / Quarter	0-1	<1	Down 85%	Stability improved via preemptive monitoring
Deployment Success Rate	96%	>95%	Up 18%	Auto-baselining ensures safe code pushes
Service Uptime %	99.98%	>99.9%	Stable	Real-time visibility into availability by region

Application Security Overview

This dashboard shows the security posture of our most critical applications, demonstrating improved threat detection and response capabilities across state systems. Applications are monitored for vulnerabilities, suspicious activities, and compliance with security policies.

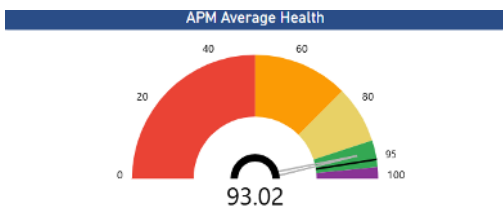


Top 10 Secure Applications (Most Secure)				
Agency	Application	Average Risk Score	CVSS Score	Vulnerabilities
		0.00	7.5 High	23
		0.00	9.8 Critical	26
		20.00	2.7 Low	2
		20.00	2.7 Low	2
		30.00	2.2 Low	3
		50.00	3.1 Low	3
		50.00	3.1 Low	5
		50.00	3.1 Low	5
		50.00	3.1 Low	5
		60.00	5.3 Medium	3
		60.00	5.3 Medium	3
Total		35.45		80

Metric	Current Value	Target Value	Trend	Insights/Action
Detection Time (Security Incidents)	15 mins	<30 mins	Down 93%	Runtime blocking + alerting
Blocked Exploit Attempts	125	-	Increasing (as protection improves)	Indicates active threat surface being contained
Unpatched Vulnerabilities	3	0	Decreasing	Informs patch prioritization
Policy Violations	2/month	<3/month	Stable	Custom security policies enforced
Threat Severity by App	Low-High	N/A	Varies	Contextual threat intelligence across apps

Application Health Performance

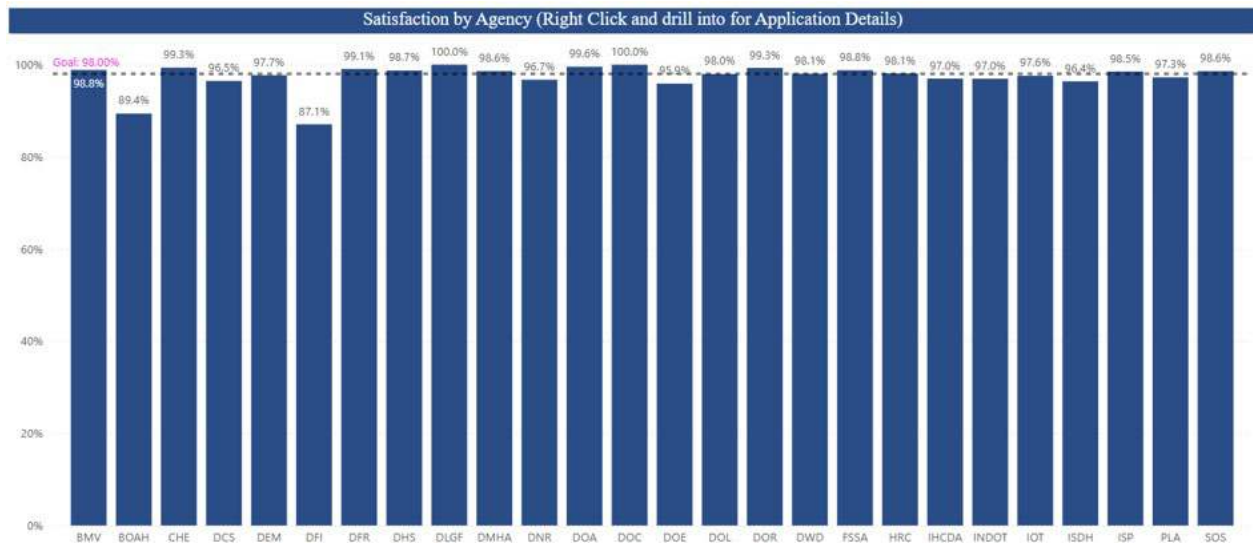
This comprehensive view displays real-time health metrics for applications across all participating agencies. The color-coded system provides instant visibility into application status, with green indicating optimal performance, yellow showing minor issues, and red requiring immediate attention.



Top 10 Healthy Applications	
Application	Average of Application Health
AuthorizationService_AzureCom	100.00%
DORAPI	100.00%
ExactVision	100.00%
IBML	100.00%
INCoronerCMS	100.00%
InCORS	100.00%
Purchasing	100.00%
SchoolFoods_AzureCom	100.00%
vFireFeedback	100.00%
vFireSubscriberGroupAdmin	100.00%
PortalServices	99.45%
Total	99.33%

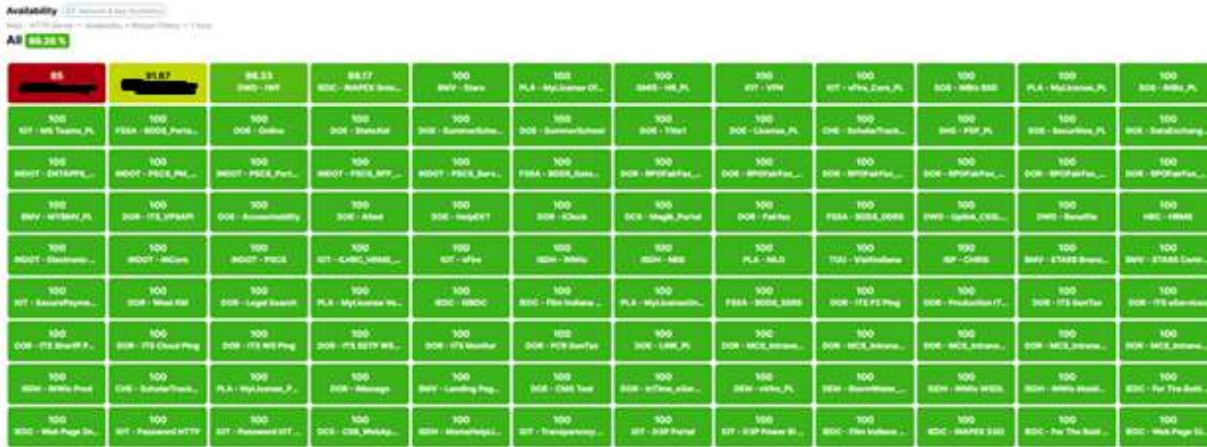
Customer Satisfaction

Results from agency users and citizens show significant satisfaction improvements since APM implementation. Ratings reflect user experience with application performance, availability, and overall service quality.



Enterprise-Wide Network Monitoring Dashboard

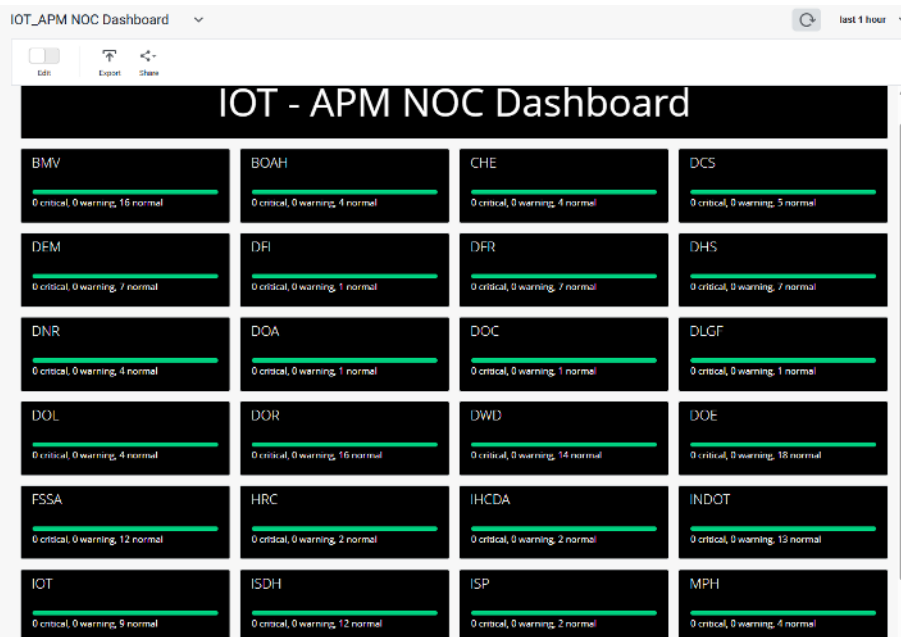
This ThousandEyes dashboard provides real-time visibility into network performance operations affecting citizen access to state services. Metrics include response times, availability, and user experience from multiple geographic locations across Indiana.



Metric	Current Value	Target Value	Trend	Insights/Action
DNS Resolution Time	90 ms	<100 ms	Stable	Monitors external dependency performance
Packet Loss Rate	0.02%	<0.1%	Up	Helps diagnose cloud/ISP issues
Page Load Time (End User)	1.5 s	<2 s	Fast	Good citizen web experience
Session Error Rate	1.2%	<2%	Down	Proactive frontend debugging
Public Service Health Map	Mostly Green	Stoplight	Real-time	Live regional performance indicators

Application Performance Monitoring Overview

The AppDynamics dashboard shows end-to-end application performance across the enterprise. This view helps identify performance bottlenecks, user experience issues, and system dependencies that could impact service delivery.



Application Health Metrics Scorecard

This scorecard provides a comprehensive view of application health across all monitored systems. Metrics include availability percentages, response times, error rates, and overall performance scores for each critical application.

Agency	Application	Application Health	Slow	Very Slow	Stall	Error Rate
DIGF		100.00%	0.00%	0.00%	0.00%	0.00%
DNR		100.00%	0.00%	0.00%	0.00%	0.00%
DNR		100.00%	0.00%	0.00%	0.00%	0.00%
DOE		100.00%	0.00%	0.00%	0.00%	0.00%
INDOT		100.00%	0.00%	0.00%	0.00%	0.00%
ISDH		100.00%	0.00%	0.00%	0.00%	0.00%
DOC		100.00%	0.00%	0.00%	0.00%	0.00%
DOE		100.00%	0.00%	0.00%	0.00%	0.00%
IOT		100.00%	0.00%	0.00%	0.00%	0.00%
DOR		100.00%	0.00%	0.00%	0.00%	0.00%
DOR		100.00%	0.00%	0.00%	0.00%	0.00%
CHE		100.00%	0.00%	0.00%	0.00%	0.00%
TOU		100.00%	0.00%	0.00%	0.00%	0.00%
DOE		100.00%	0.00%	0.00%	0.00%	0.00%
DEM		100.00%	0.00%	0.30%	0.00%	0.00%
DNR		100.00%	0.00%	0.00%	0.00%	0.00%
DOE		99.98%	0.30%	0.00%	0.00%	0.10%
DOR		98.90%	1.20%	1.70%	0.00%	0.40%
IOT		99.63%	0.90%	0.80%	0.00%	0.00%
DOR		99.78%	0.03%	0.18%	0.00%	0.00%
BMV		99.73%	0.20%	0.20%	0.00%	0.50%
DOE		99.68%	0.70%	0.70%	0.00%	1.60%
DOE		99.68%	0.32%	0.00%	0.00%	0.00%
ISDH		99.49%	0.12%	0.70%	0.00%	0.50%
DOE		99.48%	0.43%	0.90%	0.00%	0.00%
IOT		99.45%	0.24%	0.30%	0.00%	0.10%
ISDH		99.40%	4.40%	6.60%	0.00%	7.40%
IOT		99.33%	2.60%	2.50%	0.00%	1.20%
DEM		99.29%	2.44%	1.10%	0.00%	0.20%
FSSA		99.26%	1.60%	2.40%	0.00%	0.90%
DOR		99.25%	5.80%	0.70%	0.00%	0.30%
DOE		99.23%	1.10%	1.50%	0.00%	0.10%
DNR		99.22%	0.00%	0.00%	0.00%	0.00%
SOS		99.18%	0.50%	1.10%	0.00%	0.50%

Stakeholder Feedback: The Observability Advisory Board (OAB) has collected positive feedback from both agencies and end-users, confirming the program's value in enhancing digital experiences across state government.

Agency Adoption: The program's expansion to 35+ agencies demonstrates its perceived value and effectiveness. Agencies have become willing participants and advocates rather than reluctant adopters.

What now?

Long-term Sustainability: The program has been designed for long-term sustainability through several mechanisms:

- Self-Sufficient Agency Users:** The Center of Excellence (CoE) approach is creating self-sufficient users who can maintain and leverage the APM capabilities without continuous central support.
- Ongoing Governance:** The Observability Advisory Board (OAB) provides a mechanism for continuous program evolution and stakeholder engagement.
- Metrics-Driven Enhancement:** Established KPIs and metrics provide clear direction for ongoing program improvement.

Future Expansion: The program continues to expand, with plans for:

- Additional Agency Onboarding:** Expanding to cover all state agencies and business-critical applications
- Enhanced Analytics Capabilities:** Developing more sophisticated analytics to predict potential issues before they impact users
- Integration with Additional Tools:** Exploring integration with other monitoring and management tools to create a comprehensive observability ecosystem

Value Proposition: The program has demonstrated clear value through improved performance, enhanced user experience, and increased operational efficiency. The initial investment has been justified through measurable improvements in service delivery and reduced incident impact. The APM program has evolved from a technology initiative to a strategic capability that directly supports Indiana's commitment to providing excellent digital experiences for all citizens and employees.