catchpoint

Value-Based Observability: From Monitoring to Mastery

A maturity model for digital resilience and business impact

Executive summary

For over three decades, enterprises have invested in APM, infrastructure monitoring, and more recently, observability and AIOps, yet major outages still dominate headlines. Even organizations with sophisticated telemetry pipelines often find themselves blindsided by digital performance issues that directly impact customers or employees.

Why? Because while most organizations have improved visibility, few have matured their observability practices into a true business capability.

Organizations must evolve by:

- Moving from **reactive monitoring** to **proactive management and resilience**
- Shifting from **technology-focused** to **value-focused practices**
- Transforming from **IT systems innocence** to **business value accountability**

This white paper provides a roadmap for this transformation, highlighting a maturity model designed to help enterprises evolve from tactical, siloed monitoring to *value-based observability*, where performance data drives business resilience, customer experience, and strategic decisions. Leaders who embrace this approach can anticipate risks, optimize user experiences, and measure IT success by its impact on revenue and customer satisfaction.
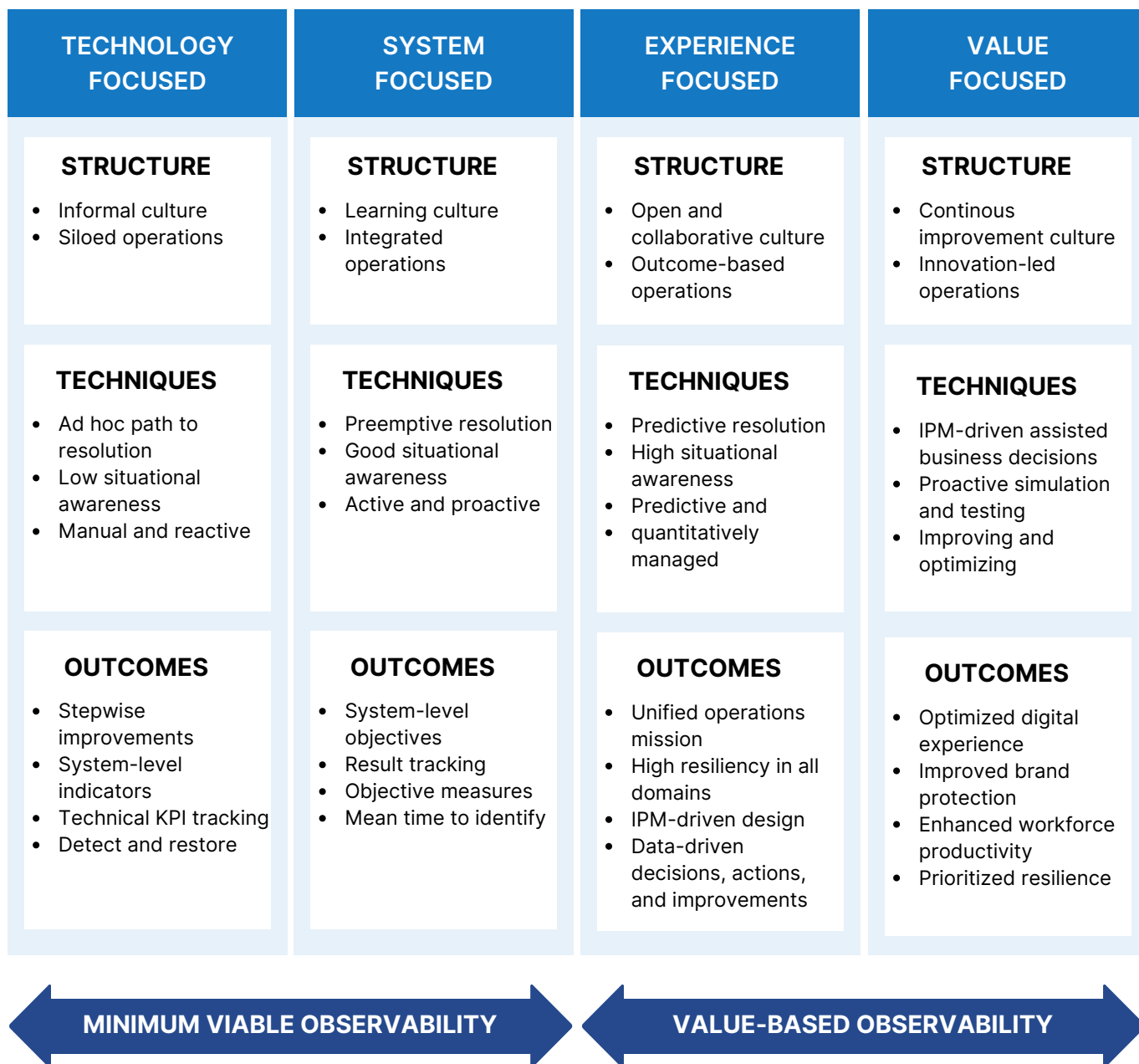
The opportunity to evolve observability

Most IT operations teams today are stuck in what could be called "data-rich, insight-poor observability." They've invested heavily in APM, logs, traces, and metrics — and are collecting terabytes of data about internal systems every day. But that data mostly tells them how their systems are behaving, not how their users or the business are performing.

For the observability leader, this shift is more than technical; rather, it's career-defining. Leading the journey to value-based observability elevates their role from operations management to business leadership, positioning them as the person who not only keeps systems running but also drives innovation, customer satisfaction, and competitive advantage.

The value-based observability maturity model

This model was created using a combination of real-world insights from leading observability teams and their transformations over the past few years.

STAGES TO VALUE-BASED OBSERVABILITY

TECHNOLOGY FOCUSED	SYSTEM FOCUSED	EXPERIENCE FOCUSED	VALUE FOCUSED
STRUCTURE • Informal culture • Siloed operations	**STRUCTURE** • Learning culture • Integrated operations	**STRUCTURE** • Open and collaborative culture • Outcome-based operations	**STRUCTURE** • Continous improvement culture • Innovation-led operations
TECHNIQUES • Ad hoc path to resolution • Low situational awareness • Manual and reactive	**TECHNIQUES** • Preemptive resolution • Good situational awareness • Active and proactive	**TECHNIQUES** • Predictive resolution • High situational awareness • Predictive and quantitatively managed	**TECHNIQUES** • IPM-driven assisted business decisions • Proactive simulation and testing • Improving and optimizing
OUTCOMES • Stepwise improvements • System-level indicators • Technical KPI tracking • Detect and restore	**OUTCOMES** • System-level objectives • Result tracking • Objective measures • Mean time to identify	**OUTCOMES** • Unified operations mission • High resiliency in all domains • IPM-driven design • Data-driven decisions, actions, and improvements	**OUTCOMES** • Optimized digital experience • Improved brand protection • Enhanced workforce productivity • Prioritized resilience

◄ MINIMUM VIABLE OBSERVABILITY ► **◄ VALUE-BASED OBSERVABILITY ►**

The four pillars of resilience

After the COVID-19 pandemic, the IT world started focusing on resilience, which has evolved from a top business objective to a buzzword. To regain its value, let's define it:

> *Resilience is the ability of digital services to withstand, adapt to, and recover quickly from disruptions—whether they originate inside your systems or anywhere across the Internet.*

Operationally, resilience means:

- **Withstand:** Your systems and dependencies (DNS, CDN, APIs, ISPs, SaaS, etc.) can withstand failures without users noticing.
- **Adapt:** When a disruption occurs, such as a regional CDN outage or BGP leak, the system automatically reroutes or adjusts to maintain acceptable performance.
- **Recover:** When failures can't be fully avoided, teams detect them fast, isolate the impact, and restore normal operations with minimal downtime or user impact.

The four pillars:

Resilience is about much more than uptime. To achieve resilience, it is useful to think about the four pillars that quantify digital resilience:

- **Reachability** – Can users and services access your apps from everywhere?
- **Availability** – Are digital services up and functional across networks and geographies?
- **Performance** – Are they fast and responsive under real-world conditions?
- **Reliability** – Are they consistent and trustworthy over time?

Together, these four pillars form the foundation of digital resilience. In the following sections, we'll explore how organizations can mature through progressive stages from a basic technology focus to value-based observability built upon these principles.

DIGITAL RESILIENCE

Reachability · Availability · Performance · Reliability
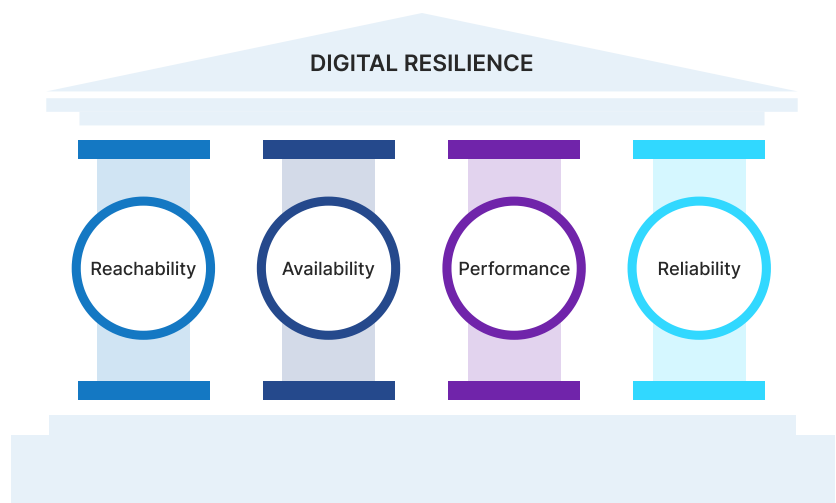
Stage 1: Technology Focused — Building Minimum Viable Observability

Every organization begins with a technology focus. At this stage, the culture is informal, teams are siloed, and monitoring is mostly reactive. The techniques are ad hoc: manual checks, low situational awareness, and "war-room" firefighting dominate the operational mindset.

- **Structure:** Informal, siloed operations.
- **Techniques:** Manual troubleshooting, reactive incident response.
- **Outcomes:** Infrastructure-level KPI tracking, detect-and-restore capabilities.

This is where most organizations establish their "minimum viable observability" — enough monitoring to detect problems and restore service. But these environments often rely heavily on tool proliferation rather than integration. Data lives in separate silos (APM, network monitoring, synthetic testing), and there's no unifying view of end-to-end performance.

It is surprising that, in 2025, many organizations still operate with a technology-focused mindset. They might invest in AI-Ops and fancy dashboards; however, if their main focus is to prove the infrastructure they are responsible for is not at fault, or if the goal is innocence, then they have not escaped this stage.

Stage 2: System Focused — From Reactive to Proactive

The next stage introduces structure and learning. Teams begin integrating systems and standardizing data collection. The focus shifts from firefighting to preemptive resolution, reducing mean time to identify (MTTI) and mean time to repair (MTTR).

- **Structure:** Learning culture, integrated operations.
- **Techniques:** Preemptive resolution, good situational awareness, proactive monitoring.
- **Outcomes:** System-level objectives, measurable improvements, repeatable processes.

At this level, observability becomes systemic rather than opportunistic. Organizations begin correlating telemetry across applications, infrastructure, and networks. Synthetic and real user monitoring are used together to test critical transactions and proactively detect degradation before customers notice.

Internet Performance Monitoring (IPM) becomes essential here because it connects these applications to the broader internet layer, including DNS, SSL, routing, authentication APIs, WAN, and third-party APIs, cloud services, and so on. A financial services IT organization described this as "the turning point where we stopped troubleshooting and started predicting."

Stage 3: Experience Focused — Unifying Observability Around the User

As organizations mature, observability expands beyond systems into the experience layer. The key question shifts from "Is the system up?" to "Is the user experience great?"

- **Structure:** Open, collaborative culture; outcome-based operations.
- **Techniques:** Predictive analytics, quantitative management, high situational awareness.
- **Outcomes:** Unified operations mission, resilience across domains, full-stack insights.

Experience-focused observability unites SRE, network, and digital teams around a shared mission: delivering frictionless experiences for users, whether they're customers on your website or employees on internal SaaS platforms.

Here, observability becomes predictive. Machine learning, APM, NPM, and IPM data are combined to forecast degradation, understand the performance of each component under load, and quantify experience in terms of business impact.

The maturity framework describes this stage as one where broader performance monitoring is embedded into digital operations, integrating visibility from backbone to browser, from API to end user. The data informs not just IT response, but also CX, marketing, and business continuity decisions.

In this stage, the IT function evolves from a technology function to a critical business partner that enables the business and is responsible for all digital interactions across the organization.

Stage 4: Value Focused — From Insight to Business Differentiation

The final stage, value-based observability, represents a cultural and operational shift. Observability becomes a driver of business value, innovation, and continuous improvement.

- **Structure:** Continuous improvement and innovation-led culture.
- **Techniques:** digital experience-driven business decisions, proactive optimization.
- **Outcomes:** Optimized user experiences, brand protection, productivity gains, resilience.

At this level, observability is tightly coupled with business outcomes. Organizations use predictive insights not only to detect or prevent issues but also to improve customer retention, employee productivity, and brand reputation.

GigaOm Research defines this stage as one in which observability aligns directly with strategic business goalsusing IPM and AI/ML analytics to drive continuous optimization across digital experiences.

For example, one global retailer used IPM insights to identify intermittent latency in a third-party API during high-traffic periods. By addressing it proactively, they avoided checkout failures during Black Friday, preserving millions in revenue and reinforcing customer trust.

Charting the path from monitoring to mastery

Taken together, the four stages form a clear maturity continuum from reactive, technology-driven monitoring to proactive, value-driven observability. Each stage builds on the last, strengthening organizational resilience and aligning performance data with business success. The next section delves into how these distinctions reshape traditional approaches and establish a new standard for observability excellence.

Transitioning beyond the maturity stages

The journey through the four stages lays a foundation for a transformed approach to operations, but what does that transformation look like in practice? As organizations progress, they begin to redefine not just their tools and workflows, but their very mindset toward digital performance. This next section explores how value-based observability diverges from traditional practices, highlighting the principles that distinguish modern, business-aligned observability.
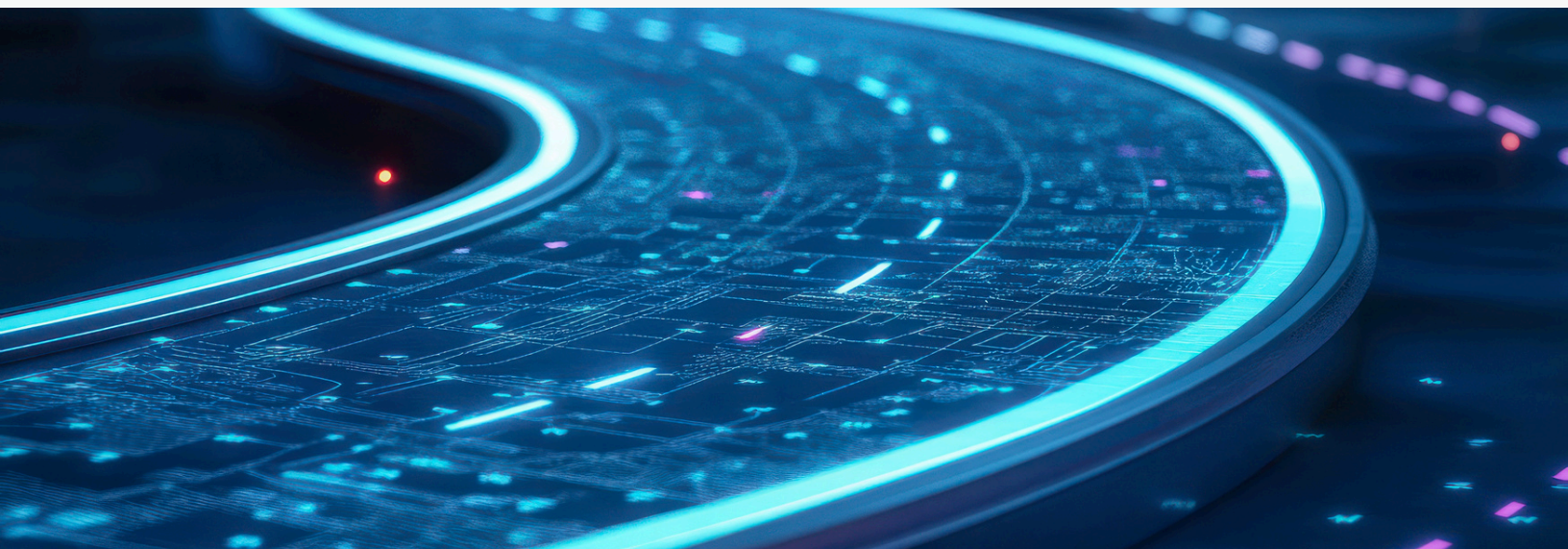
How value-based observability fundamentally differs from the status quo

1. From system-centric to outcome-centric: Traditional APM-driven observability focuses on system health, including CPU utilization, query latency, and error rates. These are useful, but they stop short of showing whether the business is healthy. Value-based observability reorients telemetry around business outcomes and user experiences, whether customers can complete a checkout, employees can access SaaS apps, or APIs are delivering value in real time. Instead of dashboards full of green lights, the question becomes: *Is the experience great, and is it driving value?*

2. From internal visibility to end-to-end digital awareness: APM tells you what's happening inside your code. But today's user experience depends on the broader Internet as your new production environment, your application fabric networks, APIs, microservices, and internal and external cloud services. Value-based observability uses to close that visibility gap. It measures from the real-world user experience, tracking reachability, availability, and performance across the full digital supply chain, not just your app servers.

3. From noise to narrative: Average teams drown in telemetry because every tool produces its own flood of data. Without context, all that data becomes white noise, more heat than light. Value-based observability uses correlation, context, and business metrics to create a coherent narrative: what's happening, why it matters, and who's affected. As one observability leader put it, "We went from reacting to graphs to explaining stories, the 'why' behind the metrics."

4. From firefighting to foresight: Most operations teams still operate in a reactive posture: detect, diagnose, and repair. They're judged on MTTR rather than issue avoidance. And they spend too much time in very disruptive war rooms. Value-based observability uses proactive monitoring and real-time data to get ahead of outages, minimize their severity and duration, and prevent customer impact altogether. The shift is from "monitoring for problems" to engineering for resilience.

5. From IT cost center to strategic partner: In traditional observability, success is measured in uptime and alert resolution. In value-based observability, success is measured in customer satisfaction, revenue protection, and brand trust.

When observability connects directly to digital business KPIs, IT operations leaders are no longer back-office operators. They become business enablers.

And that's where the personal upside emerges: The observability leader who drives this evolution earns a strategic voice at the executive table. They can demonstrate, with concrete data, how observability investments improve customer conversion, retention, and productivity. That's a career shift from keeping systems running to keeping the business winning.

Why IPM Is the Enabler of Value-Based Observability

The transition from "minimum viable observability" to "value-based observability" hinges on a simple but powerful realization: **you can't manage what you can't see across the internet.**

In today's digital-first world, every click, API call, and DNS lookup is part of a complex, interdependent supply chain that sits mostly outside your direct control. Cloud, CDN, SaaS, and third-party APIs make up the backbone of your business. The failure of any link can ripple across digital experiences instantly.

Traditional observability focuses on infrastructure and code, including the metrics, logs, and traces they produce. But as GigaOm notes, the digital experience now depends just as much on dependencies beyond application code, including APIs, cloud services, DNS and SSL protocols, SASE and Auth, ISPs, edge services, and many other layers we can refer to as the Internet Stack.

The layers of the Internet Stack
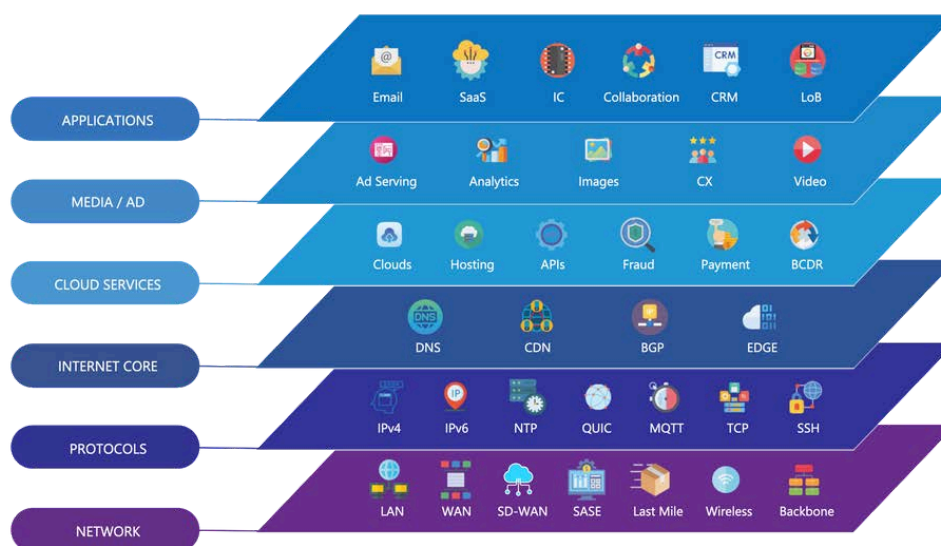
IPM closes this visibility gap, providing an external perspective that complements internal observability.

By measuring experience from the user's perspective (via internet synthetics and RUM) and the internet's perspective (via global vantage points that reflect real-world user experience), IPM turns observability into a strategic differentiator.

In this context it is critical to keep in mind that monitoring from a cloud datacenter is not an effective way to measure digital experience. Monitoring exclusively from hyperscaler environments misses essential real-world variables like last-mile congestion, ISP routing, CGNAT, local DNS resolution, and edge/cache viability. These are not theoretical gaps; they materially affect how users experience applications every day.

At the highest maturity levels, IPM data is not just consumed by IT, but it informs marketing (campaign readiness), product (feature performance), and business leadership (risk and brand protection).

Measuring and advancing maturity

The original IPM maturity model was developed by Constellation Research in combination with Catchpoint. We've since evolved and refined it over the years, based on practical experience and customer outcomes. Lately, it has been further developed by GigaOM, with a greater focus on elevating IT operations.

According to GigaOm, assessing your maturity level begins with four key steps:

1. **Identify key domains:** Network, application, website, workforce, and customer experiences.
2. **Evaluate coverage:** Assess observability across performance, availability, experience, and resilience.
3. **Determine current vs.** desired maturity: Benchmark existing practices against the model's four stages.
4. **Develop a roadmap:** Define actionable steps to evolve, ensuring at least *minimum viable observability* in all domains while progressing toward *value-based observability*.

Catchpoint's own IPM Maturity Assessment builds on this framework, using quantitative scoring across solutions and resilience pillars. The results produce a maturity index, a data-driven baseline for continuous improvement.

The payoff: resilience, experience, and business alignment

Organizations that evolve their observability through IPM maturity gain measurable advantages:

- **Faster detection and resolution:** Shifting from reactive firefighting to predictive prevention.
- **Unified visibility:** A single operational mission across network, app, and experience domains.
- Improved customer experience: Reduced friction and higher satisfaction across digital touchpoints.
- **Enhanced resilience:** Proactive detection of internet-level risks before they impact business.
- **Business alignment:** Observability data that speaks the language of outcomes — revenue, brand trust, and workforce productivity.

GigaOm summarizes it well: at the value-based stage, *observability is not an IT function* — it's a business function. It delivers strategic value by ensuring reliability, speed, and trust across the digital supply chain.

Conclusion: the journey to value-based observability

Achieving value-based observability isn't about deploying more tools. It's about connecting the dots between **performance**, **experience**, and **business impact**.

The Catchpoint and GigaOm maturity model gives technology leaders a framework for that journey:

- From silos to systems.
- From systems to experiences.
- From experiences to business value.

Internet Performance Monitoring is the bridge across those stages. It turns observability from a tactical necessity into a strategic advantage. It's the key to operational excellence and digital resilience in an internet-dependent world.
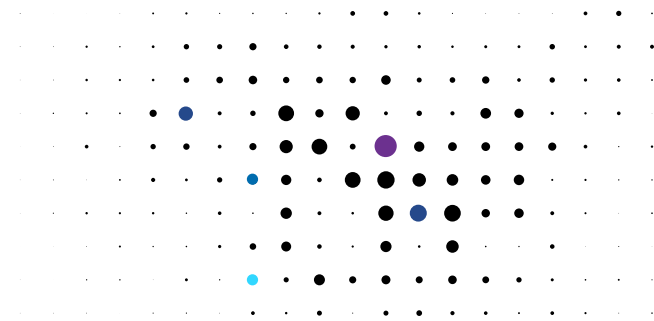
The Internet relies on Catchpoint

Global 5000 companies, top online retailers, financial services, cloud infrastructure and services companies, and xSPs trust Catchpoint's Internet Performance Monitoring (IPM) to detect and resolve internal or external issues across the Internet stack before they impact customers, employees, or digital experiences.

Offering Internet Synthetics, RUM, BGP, Heartbeat Monitoring, Distributed Tracing, and performance optimization with high-fidelity data and flexible visualizations, Catchpoint is powered by the world's largest active agent network to provide real-world user experience visibility and internet stack insights that complement Application Performance Monitoring (APM) to give IT Ops team instant awareness of incidents, root cause insights, and quick resolution.

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