

IT isn't what it used to be. Software-defined datacenters, continuous delivery of services, bimodal IT and the shrinking datacenter—with the adoption of virtualized and cloud environments—are reshaping IT infrastructure.

For IT to stay relevant, it needs to drive technology enablement and innovation into business process and operations, as well as monitor and manage system health and services delivered. This is a big expansion of the role and scope of IT teams, and IT must become more deliberate to accomplish these objectives. Not just for IT's sake, but for the sake of the business.

### What's Wrong With the Current State of Affairs?

IT infrastructure is changing—from a physical hardwired infrastructure in a large datacenter to logical and decoupled applications and services in a more distributed architecture. IT is becoming one large, interconnected logical system that expands beyond traditional boundaries. Let's take consumerization—it leads to higher user expectations of service while commoditizing infrastructure. On the other hand, "bring your own device" (BYOD) leads to a sprawl of client devices that torments traditional IT operations. Virtualization and cloud computing blur the responsibilities between formerly distinct IT disciplines.

With these transformative datacenter trends, business users have begun to expect the same level of performance and support as they experience with consumer-based applications and services. However, IT is still stuck in silos and struggles to simply manage organizational and service health.

IT must become smarter, more relevant and align its transformation to meet business demands, but unfortunately the deck is stacked against it. This is due to an:

- **Inability to troubleshoot effectively:**

The average datacenter is built up of many silos. IT organizations have traditionally consisted of teams of specialists, each focused on a specific technology domain. These specialists use tools that also operate in silos. When trouble strikes, IT groups circle their wagons and use these siloed tools to prove their innocence. The result? Poor collaboration, increased costs, reduced efficiencies, increased troubleshooting times and poor end-user experience.

- **Inability to measure service performance:**

Today, any service interruption—such as server failure, issues within the code, a problematic database, network latency or user device compatibility—can directly impact the bottom line. IT departments must understand their role in the larger purpose of what they support and maintain—in essence, how they aid and enable business goals, objectives and outcomes. "Single-source-of-truth" service-management solutions *attempted* to manage service health, but with poorly integrated connectors and products that relied on fixed, relational stores (that required herculean yet fragile custom interconnects), they failed. Filtering and normalizing data to fit these predefined constructs often left IT with shallow business- and IT-service-centric views. These views lacked depth in their understanding of root cause, service levels and business impact.

In short, many IT organizations are stuck between a rock and a hard place. On one side, they are constantly bombarded by the business to improve the availability, performance and quality of user experience. On the other, they are also trapped with legacy tools and silos that are not ideal for solving modern-day problems. And with the expansion of IT services<sup>1</sup> to support key revenue-generating functions, IT organizations must maintain maximum end-to-end availability and performance of services that span multiple application, network, server and storage tiers.

<sup>1</sup> While the concept of services is well known in many spheres, it is often misconstrued in the IT domain. A service refers to functionality that an end user receives. Services could be horizontal services (such as authentication services that span multiple services), technical services (including virtualization and IaaS) or business services (online banking, bill payment).

## Service Intelligence Is the Path to Success and Business Value

While siloed tools are a fact of life, a fragmented approach to operations doesn't have to be. The key is to gain a unified view that cuts across your silos so you can effectively manage your infrastructure and gain end-to-end visibility.

This demands that IT organizations rethink the traditional ways of managing services and operations. They must be able to break down silos and evaluate the success of operations holistically. They must proactively prevent incidents or problems, efficiently prioritize actions and understand exactly how issues impact businesses goals, objectives and outcomes. In short, IT needs **service intelligence**.

### WHAT IS SERVICE INTELLIGENCE?

#### Enabling a business-aware IT

Measuring and reporting on indicators that matter

#### Unlocking operational efficiencies

Collaborating across silos to improve service operations

#### Data-driven decision making

Solving problems and anticipating pitfalls with sophisticated analytics and powerful insights

### Applying a Big Data Approach to Service Intelligence

New data collection, processing and storage technologies have changed IT conversations forever. We've moved from "What do we absolutely need to store?" to "What can we do now with more data?"

So, how does big data solve the challenges of fragmented operations and improve the business value of IT services? As Jay Parikh, VP of Infrastructure Engineering at Facebook, noted: "Big data is really about having insights and making an impact on

your business. If you aren't taking advantage of the data you're collecting, then you just have a pile of data, you don't have big data." With big data, IT departments can begin to effectively operate and deliver insights into the services they provide and by using the right data at the right time to drive conclusive decision-making.

However, as you collect more data, it often gets harder to act on it. The volume and complexity of the data become too overwhelming. Needless to say, data that's managed in disparate silos undermines the quality of decisions across the enterprise, increases risk, reduces efficiency, and drives up costs—resulting in IT reverting to its operational silos.

To solve these issues and derive service intelligence, an enterprise-wide approach to data gathering and machine-driven analytics is required. To do this correctly, it's critical to first define which success metrics you want to measure—ones essential to keeping operations up and running or those that deliver insights into what matters to the business. Then map those success metrics to data sets that will contribute to those measurements. An effective approach includes:

- Integrating relevant data across the enterprise to break down data silos
- Providing a simple, yet powerful framework to map data into services
- Weighting and thresholding data to define service rules
- Visually mapping services to deliver real-time insights
- Organizing and correlating metrics and events to enable faster investigations
- Trending and alerting on anomalous behavior proactively to prevent service degradations
- Translating operational data to business impact to drive data-based decisions

While this may seem like a daunting task, this exercise helps you to align tactical execution with business strategy, measure performance against defined business goals and objectives and deliver service intelligence.

## How to Get Started

To help your business leaders understand the value of the IT services delivered to the business, you need to map them to the business processes that the organization uses. This process of service modeling and mapping to relevant metrics clarifies the dependencies between SLAs, technologies, the customer experience and impact to service delivery. The process can be implemented with a 3-step approach (Figure 1).



Figure 1: Best practices for service modeling

### 1. Uncover the problem worth solving

The most effective approach to building a model usually starts with identifying a business opportunity and determining how the model can improve performance and outcomes. Solving a business problem is thinking beyond the symptom or finding and fixing “issues.” It’s about understanding how the delivered services impact operations and the business. This can be accomplished by creating a comprehensive list of services, noting how they match to the priorities of the business and corresponding SLAs, and determining which services have the biggest business impact (Figure 2).

Critical Services	Issue Frequency	Impact
<ul style="list-style-type: none"> <li>• What are the top business services in your enterprise?</li> <li>• How do you measure the customer experience with these services?</li> <li>• What is the customer experience with these services?</li> </ul>	<ul style="list-style-type: none"> <li>• How often do customers experience issues with the service?</li> <li>• When issues arise, who gets involved in resolving them?</li> <li>• How do teams work together to resolve issues?</li> </ul>	<ul style="list-style-type: none"> <li>• What’s the average time to issue resolution?</li> <li>• What’s the impact when customers have a bad experience with your services?</li> </ul>

Figure 2: Uncover the problems worth solving

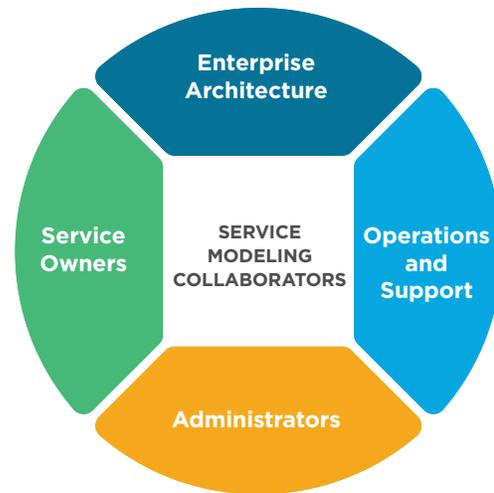


Figure 3: Your service intelligence collaborators

### 2. Bring subject matter experts together

Bringing together business and IT stakeholders and subject matter experts helps get a clear vision of the desired business impact (Figure 3). This ensures a collaborative approach to optimize outcomes, alignment in prioritizing services, and the ability to record key measurements to construct an accurate service map.

### 3. Design before configuring

Organizations often articulate priorities using business terminology, such as “improved customer service” or “reduced time-to-market.” To make sense of this, IT stakeholders must break down the organization’s value chain into its constituent technologies—what are the applications, services, hosts and devices that make up the value chain. IT operators must be able to create KPIs that turn data into meaningful information that the business can understand. This can be accomplished by sourcing

the precise data and defining interactive service topology maps, to provide an overall perspective on the health of your critical services and supporting infrastructure.

## Big Data Analytics for Service Intelligence With Splunk

The benefits of service intelligence are many and a treasure trove of critical service insights can be gained via analyzing big data. However, the challenge lies in the collection, storage and analytics on these very large datasets with a single solution. Through monitoring, reporting and analyzing both real-time and historical machine-generated big data across all tiers of the service stack, Splunk software provides business-critical insights that enable service intelligence.

Whether it is deployed on-premises or in the cloud, Splunk software indexes machine-generated data, just as Google indexes the Internet. It does not use a database as a backend datastore, thus eliminating the need for pre-normalization or parsers. With its disruptive ability to ingest and store data and apply schema at the last possible moment, Splunk software makes data integration across data and tool silos easy and enables rapid search through terabytes of data.

### MACHINE DATA

Machine data—the largest class of big data—contains a record of all activity and behavior of customers, users, transactions, applications, services, networks and mobile devices. Organizations can use machine data and analytics to get holistic visibility of their environment by collecting and analyzing all of their data assets and seamlessly integrating new data sources.

Splunk IT Service Intelligence (ITSI), built on top of Splunk software, makes the machine data in Splunk “service-aware.” The solution delivers an analytics-driven approach to deliver a consolidated and holistic view of your services. No more accusations in hastily arranged war-room meetings—instead, you can quickly and accurately isolate problems by integrating service models with metrics and event data, and deliver integrated incident workflows. With Splunk ITSI, you can also:

- Visualize meaningful and contextual inter-relationships and dependencies across all service delivery components
- Monitor business and service activity using metrics and KPIs that are aligned with strategic goals and objectives
- Define, map and provide deep insights into service health and performance
- Create and use intuitive dashboards (that help you deliver a concise, accurate, real-time mapping of services), and support IT components and inter-relationships
- Monitor services in real time and gain at-a-glance insights into KPIs that matter to IT and the business
- Easily prioritize incident investigation by business impact, using an accurate and always up-to-date service map
- Baseline normal operations (based on analysis of historical trends) and dynamically adapt thresholds based on seasonality and time of day/week/month
- Use machine learning to detect subtle changes in patterns (to identify anomalies and get analytics-driven insights)
- Analyze issues, enrich events and initiate incident response quickly to streamline operations

## Conclusion

With the digital revolution evolving at a rapid pace and a shift in emphasis to a services perspective, IT organizations need to achieve a service-aligned view of their operations. To continue to improve their operations and deliver on the promise of partnering with the business, they are being challenged to leave behind their traditional ways for newer approaches.

The convergence of data availability, efficient processing and analysis of large datasets is helping unlock the potential of big data. A process and solution that enables this convergence can enable IT to drive operational visibility and service intelligence. Splunk IT Service Intelligence is one such solution that can help you monitor business and service activity using metrics and performance indicators that are aligned with strategic goals and business objectives. It's time to redefine the role of IT and apply big data analytics to enable deeper insights for IT and the business.

[Learn more](#) about Splunk IT Service Intelligence or [download splunk for free](#).



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