The Essential Guide to Process Mining

Don’t wait for your processes to break down before fixing them
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Introduction

Business operations is difficult work—but you probably don’t need us to tell you that. Sure, it’s an opportunity to offer tangible business value, but that comes with above-average levels of stress. If that describes your life, you have our sympathy. If you’re like other business operations and process improvement professionals we’ve talked with, your day is filled with constantly moving targets, demands for information and questions that lead to more questions. Keeping business processes healthy on a given day might feel like juggling chainsaws blindfolded, but that doesn’t have to be the case.

At this point, nobody doubts the transformative power of data. Organizations everywhere are turning to their data, using what they learn to make informed and intelligent decisions for their business.

The first groups that benefit from real-time systems monitoring and data analytics are the technical and security teams—teams that are typically associated with in-depth data analytics and monitoring practices. Real-time data analytics helps them stay ahead of issues and outages. It helps them stop problems from affecting the quality of their services and, ultimately, revenue. To fix things before they break.

Organizations that want to thrive in a data-driven future and ride the enormous data wave that will arrive with new technologies need to bring data to every applicable area of their business—every question, every decision and every action.

When it comes to bringing data to business operations, the solution is process mining—it’s what continuous data analytics looks like when it’s applied to business operations. And as it does with every other facet of business, the application of real-time data and sophisticated analytics tools is unlocking new opportunities and disciplines in business operations and process management.
All Business Is Digital

The business world has moved beyond the “becoming digital” phase—organizations of every stripe, in every vertical and with every type of consumer do some or all of their business digitally. Mobile technologies and the ubiquity of the internet have made doing digital business a matter of survival.

For some companies, like Domino’s, that means hundreds of thousands of orders coming in from different platforms that need to be processed, routed, cooked, tracked and delivered quickly enough for the pizza to stay hot and the drinks to stay cold. Can they afford to let problems and hangups in their order fulfillment process linger, waiting to fix them until they’ve got the time?

Absolutely not.

The Tragedy of Today’s Approach

The systems that support business operations and process improvement today are the same elements that slow it down. The digital revolution may be old news at this point, but that doesn’t mean most organizations have adopted new methods. Many are still making do with the same combination of spreadsheets, PowerPoint and basic business intelligence tools they’ve been using for decades. Teams have to wait for IT groups to provide reports on business processes—reports that require significant manual work to understand, are often incomplete and arrive long after any present issues have impacted business. The unfortunate reality of today’s approach is that business operations teams are reactive by nature—constantly putting out fires instead of fortifying processes and strengthening the business.

Traditional approaches to process analytics are invariably lacking: maybe they place too much emphasis on building a model of the current workflow and lack direction—or they’re costly and time-consuming relationships with specialist vendors.

Why Has Business Intelligence Failed Business Operations Professionals?

Process mining differs from traditional business intelligence (BI) in the speed and depth of the analysis. Traditional BI assumes a prior knowledge of underlying processes, and as such, focuses on repeated calculation of aggregated metrics for reporting. But while these business intelligence dashboards can illuminate the aggregate performance of known areas, they do little to provide visibility into operational issues that can cause unexpected problems.

Process mining, on the other hand, is based on the premise that processes don’t always go according to plan and that problems creep up in places that cannot be anticipated. Thus, deeper and continuous introspection into how the processes are performing is essential to ensuring operational excellence.
What Is Process Mining?

Process mining is an innovative approach to analyzing event data from across an organization’s systems to gain an understanding of the efficiency and effectiveness of business processes and customer journeys. It delivers transparency into existing business processes, helping organizations accurately and continuously streamline and improve on them. It quickly uncovers problematic “needles in the haystack” that can impact productivity, and ultimately illuminates the opportunities in core business processes that will have the biggest impact on customers and bottom line.

Process mining can be used to examine performance across three key areas:

- **Time:** How long does it take to complete a particular process?
- **Cost:** How much does it cost to complete a particular process?
- **Quality:** Does the outcome of this process meet established criteria?

Process mining offers significant advantages over more traditional "as-is" analysis—based on its ability to access real-time event data. Process mining also looks at historical data, with an ability to closely examine a series of event logs to achieve an in-depth understanding of what’s going on—a stark contrast to the slow and manual heavy-duty data infrastructure previously used to conduct the same calculations. Rather than relying on traditional data infrastructure to analyze transactions, process mining can surface what is currently happening to:

- Discover the actual digital behaviors of people, organizations and machines and compare it to existing models.
- Correlate events to show how reality is different from perceptions, opinions and beliefs.
- Provide a foundation for continually improving and building better processes.

Above all, process mining allows business operations and process improvement teams to accurately understand the current state of their business processes while offering a faster and more targeted way to identify and correct any deviations and aberrations.

How Is Process Mining Transformative?

Process mining is regularly used as part of larger-scale digital transformation efforts because it can provide objective data-driven insights into delays and inefficiencies within business processes, while also giving you the clear insights required for process improvement that enable systems to run faster, smoother and leaner. As such, process mining can help prioritize the highest value-added opportunities for digital transformation as well as evaluate if transformation efforts have actually yielded the benefits they intended. Process mining becomes an invaluable tool to maximize the return on investments in digital transformation initiatives.

Among other things, it can:

- Provide visibility that can accelerate process times and increase productivity that impacts the bottom line.
- Identify bottlenecks in business processes, as well as detect aberrations and locate the biggest time-wasting issues.
- Offer more up-to-date monitoring, enabling you to drastically reduce risk by addressing problems as they emerge.
What Problems Can Process Mining Solve?

According to Harvard Business Review, process improvement professionals are well aware that there's much more than data involved in improving complex cross-functional business process. Process mining techniques help organizations address a plethora of process pain points caused by lack of visibility, insight, staff and appropriate tools. Challenges include:

- **Too many systems**: Enterprises of all sizes are dependent on dozens of systems and complex infrastructure that can be exceedingly difficult to monitor. It’s far harder still to achieve a clear, end-to-end view across the entire environment. Process mining can break down the silos that separate different types of data and merge it all into one dataset.

- **Too much data to handle manually**: Increasing volumes of data from your internal networks, connected devices, your website, supply chain management, purchasing, quality control and dozens of other systems create new and rapidly growing challenges. A good process mining solution can automate data cleansing and preparation while analyzing ever-larger datasets.

- **Not enough help**: While data might be the most valuable asset in your organization, you often don’t know what to do about it or how to use it to your advantage. Process mining solutions are designed for you to use on your own, without specialized data skills or expertise. It also allows you to free yourself from manually weeding through the data so that you can focus on business growth and other mission-critical tasks.

- **The wrong tools**: Chances are you’ve spent a lot of time trying to fit data into a spreadsheet and build formulas to make sense of it, all to realize that you weren’t providing real business value. In addition to surfacing data, process mining can help you use it to drive decisions.

- **Inflexible, unreliable reporting**: You’ve also probably spent hours or days organizing important data that only leads to more questions when it’s presented. Process mining gives you flexible reliable reporting, lets you express process analytics in easily shared (and understood) visualizations and dashboards and customize them, no matter how many questions your boss asks.
What This Means in Practical Terms

How can process mining help business operations?

The goal of business operations teams is to ensure that business goals and commitments are met completely and efficiently. Among other things, process improvement professionals are tasked with driving transparency into existing processes by assessing and monitoring key performance metrics to detect bottlenecks, fallout, escalations and other problems that threaten service quality, customer satisfaction, employee productivity and overall business and profitability objectives. Process mining is the engine that drives business operations—it enables teams to do their job more effectively and efficiently.

Process mining provides opportunities for business operations teams to reimagine how they do their jobs. It provides a toolkit that enables preventative measures—you won’t have to fight fires when you can predict where they’ll happen and stop them before they start.

How Is Process Mining Used?

Process mining can be used for process improvement in any industry. Organizations of all kinds in virtually every industry generate data from their digital processes—that extensive data exhaust can be used to identify deviations in processes from their intended behavior can have expensive consequences.

Financial Services: Digital banking—from mobile devices in particular—has become the norm. Ensuring that new customers are onboarded effectively and the experience of existing customers have is optimized requires visibility into user behavior. Process mining provides an up-to-date and continuous view of the whole process, giving customer experience teams the ability to tell precisely where processes can be improved.

Telecommunications: As subscriber volumes continue to grow and activations become ever more automated in the world of telecommunications, the risk of failed activations becomes significant. Process mining helps telecommunications firms faced with greater volumes of orders the opportunity to discover expensive problems and customer fallout in their Order-to-Activation processes.

Healthcare: As data about patient experiences and outcomes continues to grow, the risks around maintaining population health and individual patient journey outcomes also increases. For healthcare organizations faced with an exponential increase in data, process mining helps deliver efficient and high quality end-to-end patient journeys, from before an initial doctor consultation through treatment regimens to closed treatment cases.
Retail: Retail organizations have experienced costly customer fallout from complex e-commerce flows due to system or process issues. Faced with increasingly high transaction volumes, process mining helps retailers ensure that customers are able to complete orders quickly and effectively without problems.

Human Resources and Recruiting: Every applicant for a position at an organization needs to be processed by a recruiter—the more applicants, the higher the cost to the organization. Process mining can be used to increase efficiency in the applicant review process along with providing crucial feedback on how roles are presented to potential applicants to ensure that only the most relevant and qualified applicants apply.

Shipping and Logistics: In intralogistics warehousing, every delay between order release and dispatch can mean significant losses. Monitoring the steps of the journey and using intelligent systems to identify the kinds of orders that might present issues translates to huge boosts in efficiency, reducing overall costs and increasing revenue.

Getting Started With Process Mining

The starting point for any process mining project is analysis, which closely examines the current state of the business processes, maps out shortcomings and identifies opportunities for improvements.

Here’s a time-tested method for testing the value of process mining.

• **Identify the problem:** Pick a problem that matters to the business, and that you can realistically tackle with process mining. Then determine the business value of solving it and what metrics you’ll use to measure success.

• **Identify the data:** First, you’ll need to identify the sources of the data that you’ll need to comprehensively understand to address any glaring business process problems. Similarly, you’ll need to identify which applications and systems must provide feeds of event data for continuous transparency into the end-to-end processes.

• **Pilot a discreet project:** A pilot project can be vital to proving the potential value of a process mining solution. Make sure the project can be accomplished relatively quickly and can deliver specific, measurable outcomes everyone in your organization can understand.

• **Embrace the truth:** Among other things, process mining gives you a clear picture based on facts—so be transparent about the results of your analysis. While challenging, process mining can be just the tool to validate the uncomfortable realities of your business process environment, as well as being a constructive springboard for you to ask the right questions that get the problems fixed.
Remember, process mining is more than just a tool—it’s a methodology for change that requires skilled administrators to discover issues and take action to solve them. In turn, they have the ability to open up a dialogue with the rest of the organization to comprehensively and objectively address systemic issues that have impeded productivity and effectiveness.

How do you get the most value out of process mining?

The central benefit of process mining is that it is an active and automated investigation and analysis tool, rather than a manual post-event recap. It allows operations teams to identify and address (potential) problems so that the organization as a whole can extract the most possible value out of the solution. Focus on the potential value of process mining, and investigate how it can improve the areas in which you need the most help. Key areas of potential include:

- **Freeing time and resources for IT staff:** Because process mining provides a clear and accurate picture of business processes reconstructed from IT data, administrators spend less time investigating process issues on their own and more time on value-add projects that help the organization realize business growth objectives. And by having a solid grasp of the current state of business processes as a starting point, time spent on other issues and projects can be more productive.

- **Clear and accurate big-picture of process environment:** The data provides a realistic picture of business processes, as well as a foundation for accurate analysis and diagnosis. All variables, delays and other issues are incorporated as part of that holistic view, so decision makers can take action based on fact rather than opinion.

- **Improved business performance:** When teams can continuously monitor and improve business processes, fewer investigations are necessary overall. And when something requires investigation, the visibility into business processes as they’re happening speeds up incident resolution.

- **Efficient and improved audits:** Organizations can rely on process mining to help more efficient and accurate audits that avoid guesswork and opinion-based findings. This means less wasted time with uncertainty and subsequent retesting.

How do you choose the best process mining software?

A good process mining solution should excel in three functions—process discovery, conformance checking and performance analysis.

- First, your process mining solution should include flexible discovery capabilities, the ability to utilize any event data to understand what is actually happening, then compute an accurate process visualization of the entire organization’s business process.
- Second, it should feature robust conformance checking, which notifies analysts when actual business performance deviates from expected behavior.
- And third, your solution will need investigative capabilities that enable analysts to drill down into the actual event data easily and determine whether and how it can be improved to drive improvements.
While the right process mining solution will vary depending on the size of your organization, business needs and goals, key features included in your solution should enable you to:

- Identify bottlenecks as well as opportunities to optimize processes.
- Gain insights into failed process steps.
- Obtain an end-to-end view of the entire business process.
- Perform continuous business process monitoring.
- Monitor key performance indicators in real time.
- Conduct preparation and data cleansing.
- Perform compliance verification and gap analysis.
- Improve process models.
- Correlate data across heterogeneous systems.

An organization’s ability to measure, monitor and optimize business processes has a direct impact on its revenue and customer satisfaction—which is selecting the right solution for your particular organization and needs is vital.

What Happens Next?

We believe every problem can be approached as a data problem, which is why a data-to-everything mindset is an essential part of any solution. More and more business processes today are digital, complex and generate increasing amounts of data. The simple truth is that organizations cannot afford to let problems fester while waiting for antiquated analytics processes to serve up outdated data. Now is the time for business operations and process improvement teams to embrace tools that can make effective use of the data their systems are generating in real time.

Organizations need an approach that transforms previously complex and chaotic data into an opportunity instead of a risk or an impediment—and that’s where process mining comes in. It represents a better way to analyze and correlate disparate information, identify weaknesses and quickly take action. Rather than wasting hours, days or weeks of your time tackling process dysfunction on spreadsheets, adopting the right process mining tool will enable you to use the data you have more effectively and drive more business value. And while tackling the data chaos in your organization might seem like a daunting task, putting the wheels into motion now will reap many rewards down the road.
Get **Started.**

Talk to your Splunk account team to **learn more.**