



Power to the People: Using Cloud Native Technology to Democratize Process Mining



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1. Introduction

Process Mining is a fascinating technology. Using transactional data to reverse engineer business processes, Process Mining shows how each process performs, isolating bottlenecks, revealing compliance violations, and highlighting potential improvements. Over recent years Process Mining (or Automated Process Discovery) has matured, and gained significant credibility in the business community. Therefore, it should be no surprise that several Process Mining tools have also successfully established themselves in the market.

In the early days of this technology, most Process Mining tools were geared towards individual specialist users. These desktop-based products delivered on the promise of Automated Process Discovery for the first time, turning academic algorithms into practical solutions.

More recently, enterprise-grade Process Mining tools have been added. These On-Premises systems can directly integrate with source systems such as SAP or Oracle, and add Business-Intelligence-like capabilities, going well beyond just Automated Process Discovery. However, enterprise-level Process Mining is often targeted at very large organizations with very deep pockets, and often requires large numbers of experts and consultants to deliver value. This approach has resulted in organizations struggling with legacy software, and lacking the ability to truly unlock the potential of their employees.

As a result, we are at an inflection point, in the same way Process Modeling was ten years ago, and CRM, Salesforce, and similar products were 20 years ago. With organizations questioning the relevance of high-priced, On-Premises solutions that are hard to roll out to all of those who need access, the central question now is whether Process Mining will remain a technology for the few, or achieve mass adoption.

In other words, when can we expect to see the full democratization of Process Mining?

2. Starting with Process Modeling

“Back in 2009, people asked me why I would want to bring another Process Modeling tool to market”, remembers Gero Decker, co-founder and CEO of Signavio. “At the time, a dominant On-Premises product was known to have all the features that you could imagine. However, many of the large organizations that chose this heavyweight On-Premises system were reporting slow adoption and costly overheads.”



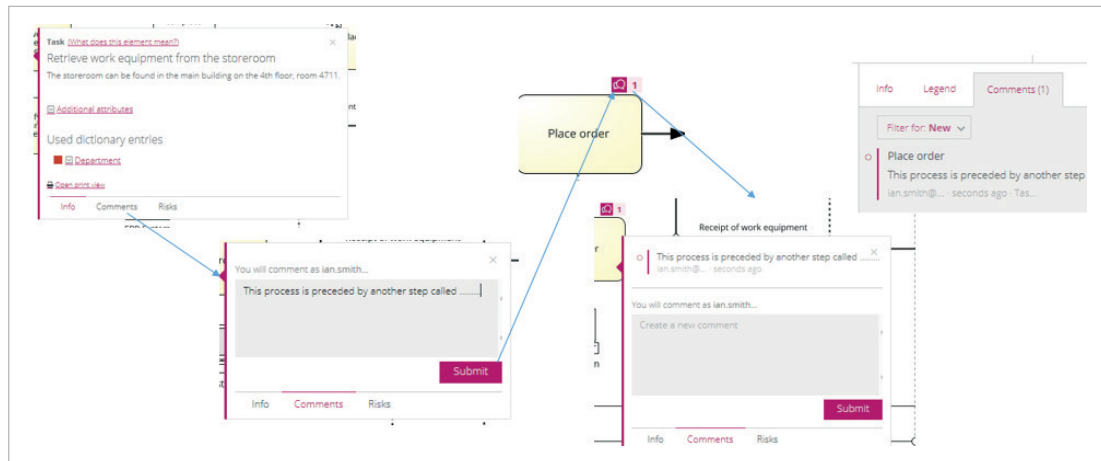
At the other end of the spectrum, specialist tools for individual users, often desktop-based, had become popular with independent consultants and early adopters within organizations. These tools were much more reduced in functionality, focusing on the core task of process mapping.

“In 2009, it was unclear whether Process Modeling would stay in its niche or really have the potential to be applied on a broad scale,” Gero Decker continues. While the early adopters were convinced about the potential of Process Modeling, many organizations were struggling to see how they could best apply it, since it lacked the capacity to share business information with a wide range of people.

So what was the turning point that enabled ‘Process Management for the masses’?

3. Cloud Native Solutions

"The main point that both the large On-Premises solutions and the lightweight desktop tools missed was collaboration. Cloud native solutions changed this forever," Gero Decker explains. "The true power of Process Management only unfolds when people work together, and organizations leverage the wisdom of the crowd. Cloud native is ideal to achieve exactly that. It allows people to get going quickly as a team and share their insights easily."



In the early days, cloud native solutions lagged behind On-Premises solutions. Fortunately, the advantages of cloud native soon outweighed this functionality gap: Starting quickly without high upfront investment, and the ability to scale up all the way to enterprise-wide usage over time, were both appealing features for many organizations.

We can see this functionality gap opening in the opposite direction now, to the point where previously ubiquitous organizational data centers are becoming outdated technology. Organizations with existing Process Management solutions are closing down these centers, while organizations considering a solution for the first time rightly wonder why they would add extra steps to their effort, and simply move straight to a cloud native product.

There was a second big driver for the adoption of cloud native, too: For the first time, these systems not only targeted the few analysts but supported organization-wide knowledge sharing. Inspired by sites like Wikipedia and enterprise social networking, these cloud native solutions embraced the concept of 'business process management for everyone' to serve a wider range of users within organizations than ever before.

4. Benefits of Cloud Native

Imagine you were asked to research a new Process Mining tool for your organization. Even a brief investigation reveals the significant advantages of a cloud native approach. You could feel comfortable returning to your senior management and stakeholders with a list that looked something like this:

- Get started faster: No lengthy wait times for IT infrastructure to be available.
- Built for the average user, not the specialist: No lengthy training or certification required.
- No technical administration: No one needs to operate the system, so the full focus is on actually using it.
- A more reliable and faster system: The cloud provider takes care of running the system at maximum speed and uptime, instead of 'yet another' application lodged in the On-Premises data center (which may very well become obsolete soon, anyway).

- › **Faster product innovation:** Businesses stay up-to-date on the newest product version, without having to worry about rolling out the upgrade to users.
- › **Accessible anywhere:** Using the system over the web means working on the go, and support for personal devices.
- › **Scale seamlessly:** No need to install new license files or restart a server when adding more users.
- › **Total cost of ownership:** No hardware cost, no additional software license cost, no setup costs, no operating costs, and a lower license fee.

A note on license fees: The lower license fee often comes as a surprise to customers that are new to the world of cloud native. A common question is, "Shouldn't software be cheaper if I take care of hosting it myself?" What you may not realize, however, is that the advantages of more efficient software development and support far outweigh the cost of running the software in the cloud. In this sense, we can consider cloud native a classic win-win situation.

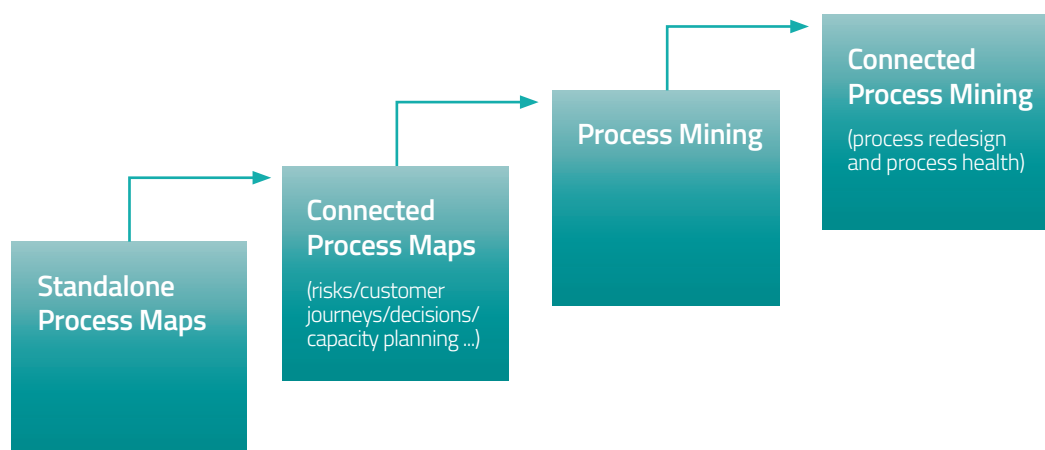
5. Evolution of Process Mining

Early adoption of Process Mining has seen an emphasis on the sophistication of analysis capabilities, with data then interpreted by a select group of experts or specialists. Collaboration has been a secondary consideration at best. So much so, the traditional On-Premises approach actively limits an organization's ability to share information with their staff.

What more and more organizations are realizing is that Process Mining is not a magic system that turns data into insights at the push of a button. It is rather a highly iterative approach, blending system-generated analyses with interpretation and feedback from people who know the process.

No doubt, Process Mining helps to find patterns and behavior that might otherwise go unnoticed, dramatically speeding up the time to insight. However, collaboration is actually key to leveraging the insights from Process Mining. Only if hypotheses, analysis, and discoveries are shared, discussed, and agreed upon with a wide range of people can really meaningful insights be generated; only an integrated approach can turn insights into action.

Here you can see a similar pattern to the early days of Process Modeling. At first, process models were developed standalone, with no connection to other aspects of the business. This 'process maps only' approach provided a big step forward in terms of bringing visibility to processes, but only the connection to customer journeys, risks, decisions, capacity planning, IT implementation and so on allowed them to move toward mass acceptance.



In the same way, 'process mining only' is another significant advance, but only a connection to actual process redesign, and a holistic concept of process health, will bring Process Mining to the people.

6. Challenges

However, as with any new technology, overcoming perceived issues is just as important as building a strong use case. When it comes to Process Mining via the cloud, two objections seem to arise often: scale and security.

6.1. Scale: What about the sheer amount of data?

Some people argue that any Process Mining system should sit directly next to the source system, allowing for faster data transfer and analysis. Of course, in cases where the source systems are cloud native (like Workday or ServiceNow), this is a moot point: a cloud native Process Mining solution must be the default choice.

Even if a source system is still On-Premises, however, a cloud native Process Mining solution does not add any significant disadvantage. In most cases, data must be duplicated anyway, as the process spans multiple systems and/or data preparation is required to provide fast and meaningful analysis. Transferring data over the cloud does not add any significant overhead, either. As we can see with common uses like video streaming, even the largest data volumes can be transferred easily.

In fact, cloud native has a major benefit when it comes to large data volumes—leveraging the elasticity of the cloud. No matter how much data you need to load into the system, the cloud provider can easily scale the system up and down. Not only does this mean no hardware sizing for your organization, it also ensures the Process Mining tool is making optimal use of your system resources.

6.2. Security: How does the cloud deal with sensitive data?

Process Mining certainly operates on very sensitive data, and the option to anonymize or pseudonymize data before processing it in cloud native Process Mining tools is always available.

But as with other domains where cloud native has already established itself as the default (for example CRM and the rise of Salesforce) most cloud vendors will forgo this route in favor of investing heavily in data privacy and security, and treating this as a core competency of their organization.

Recent research also shows that cloud native environments are actually safer than traditional On-Premises data centers: they have [experienced fewer security incidents](#), and will continue to [suffer fewer security failures in future](#). (It is worth noting that hosted cloud solutions, where the provider sets up dedicated environments for individual businesses, are even more of a security liability than On-Premises deployment options.) Overall, cloud native solutions are [already welcomed by a majority of organizations](#) as preferable to On-Premises options.

"I am not aware of any customer who regretted their decision to go for cloud native for CRM or Process Modeling. But I do know quite a number of customers who migrated from an On-Premises deployment to cloud native," concludes Gero Decker. "Just like with Process Modeling, Signavio is not the inventor of Process Mining, but we are pretty good at making it applicable to the masses by delivering a great cloud native experience."

7. Democratizing Process Mining

We are at an inflection point for Process Mining. On its path to mass adoption, we will see Process Mining become more integrated with other areas such as process design, and also become more supportive of collective responses informed by individual knowledge.

This democratization of Process Mining is made possible by cloud native technology, ensuring a collaborative, de-centralized approach that empowers staff of all levels within an organization to work together towards the most efficient and effective processes.

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