



Delivering better government services with IBM Process Mining

One of America's largest state governments
employs in-depth process analysis to improve
its procure-to-pay process

by Jasmine Bonds

8-minute read

In the US, public services like healthcare, road maintenance and education are provided by state governments. States deliver these services through a four-step procure-to-pay process that includes: service selection, compliance, receipt and reconciliation, and finally, payment. When done correctly, this process ensures government agencies can improve the quality and availability of public services without increasing government spending.

“In 2020, one of America's largest state governments found itself in search of a new process analysis solution. The state had just integrated a second



management system into its procurement process, which required the two systems, SAP SRM and SAP ECC, to exchange data in real time.

The SAP SRM system generates purchase contracts, shopping carts and purchase orders. These purchase orders are then replicated onto the SAP ECC system, which manages accounting duties such as purchase order finalization and invoicing.

Because the data transfer occurred between different systems and process

activities, traditional business intelligence failed to correctly scan the data for inefficiencies. With no way to analyze the collected data, the state couldn't monitor the impact of its newly integrated SAP SRM system or detect deviations during the procurement process—creating an expensive problem.

The state turned to IBM to implement a process mining solution that could identify and remedy costly process issues.

“The state approached us in the midst of a digital transformation. The SAP SRM integration was supposed to help drive this transformation. Instead, it was costing them more time and money. To get to the root of the issue, we proposed a process mining solution with the ability to read activity cross-platform and mid-process.”

Stefano Pedrazzi, WW Sales Leader
Process Mining, IBM

Decreased
process lead
time from 5
days to

15 hours

after completing send payment task

Reduced
maverick
fees by

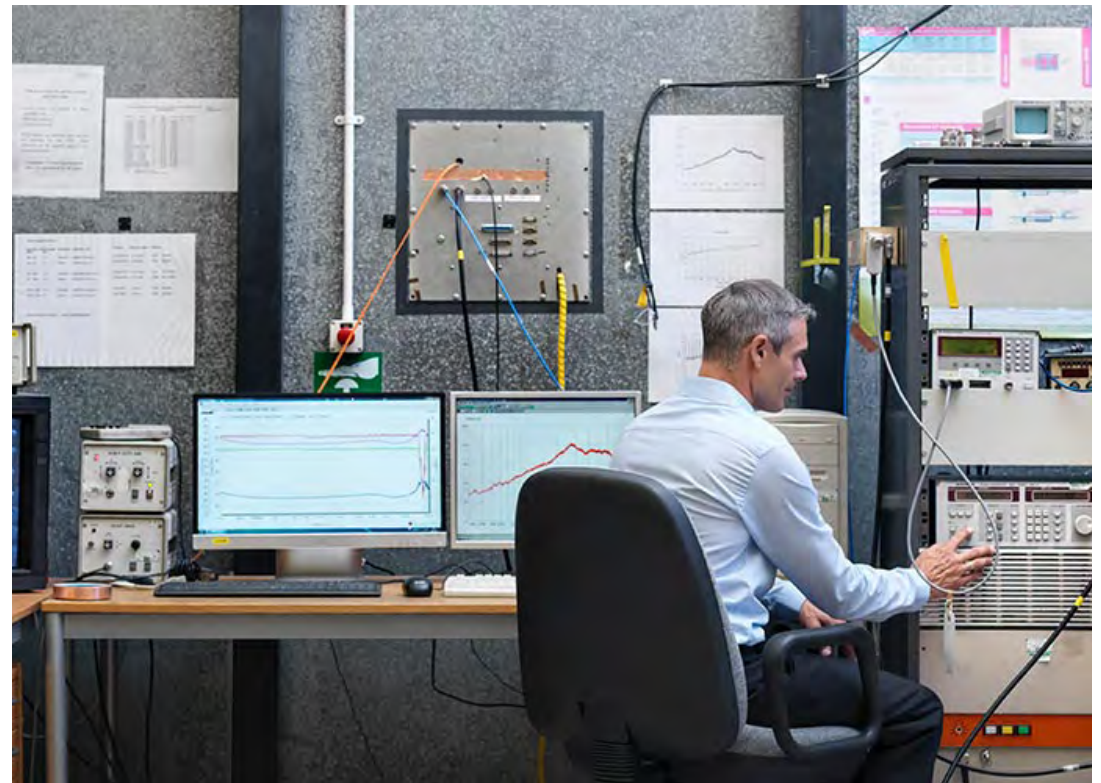
USD 1.4 million

after correcting invoice processing sequence

Reading and understanding the data

Process mining is a technique that applies specialized data mining algorithms to system processes in order to better understand workflows, uncover bottlenecks and gain actionable insights into process management.

IBM developed the [IBM® Process Mining](#) tool, a software solution that automatically discovers, monitors and optimizes business processes to achieve operational efficiency. The Process Mining solution is included as a foundational capability across all [IBM Cloud Pak® for Automation](#) offerings, including [IBM Cloud Pak for Business Automation](#).



The state used IBM Process Mining to map out its current workflow and track the progress of the SAP SRM system integration. Using the software's discovery tool, data from both management systems was optimized to create a single, comprehensive process model. With the end-to-end process mapped out, the state was able to monitor all its process activities and review the performance of specific agencies.

This process analysis revealed a few critical areas of opportunity.

First, the state expected purchase order data to be transferred to SAP ECC instantaneously. IBM Process Mining discovered that in most cases, data transfers were taking the agencies about seven days to

complete. This delay created longer process lead times and hindered the state's ability to provide new public services.

Next, the state learned that some agencies had created an inverse data transfer flow during the purchase order activity. In Department A, 70% of purchase orders were created directly on SAP ECC and then replicated on SAP SRM, while Department B carried out 100% of its purchase orders the same way. The latter resulted in an unexpected data transfer flow that caused process deviations, longer lead times and compliance issues.

Lastly, the state discovered that two agencies were completing invoice steps in the wrong order. The proper procedure for paying invoices is: invoice

registered, invoice send payment and invoice cleared.

Department C wasn't performing the send payment activity. The agency also cleared invoices before registering them, a process deviation that cost the state USD 1.2 million on over 60 million spend. When invoices were registered before clearance, the process resulted in a significant decrease in these expenditures.

Department D was sending invoice payments, registering the invoices and then clearing them. Performing the process out of order cost the state another USD 0.2 million on 10 million spend. When the process was done in the correct sequence, the state was able to avoid noncompliance and its associated fees.

Achieving complete process transparency

IBM Process Mining gave the state an intricate view of its end-to-end procurement process. This new level of visibility helped the state eradicate its process gaps, manage and monitor process activities between systems and develop a successful governance structure for all agencies to follow.

Additionally, the state utilizes a custom dashboard to visually verify agency statistics and compare process variants across different departments. The IBM Process Mining dashboard provides:

- **Performance View**, which drills down into specific activities, showing the performance of each process



activity in terms of time (duration and transition), reworks, cost and KPI alignment. The state used Performance View to analyze the data transfer time between its two systems, an analysis that traditional business intelligence was unable to perform.

- **Path Analysis**, which pinpoints the most frequent paths between activities using the software's case variant feature.

- **Conformance Checking**, which identifies the time and cost impact of process path deviations by comparing the *actual* behavior of the running process with the *expected* behavior of the process.

The detailed analytics on the IBM Process Mining dashboard allows the state to fully analyze the impact of its new SAP SRM system on process lead

times, variant detection and process gaps for change management.

With these data-driven insights at its fingertips, the state finally has the power to improve the procurement processes that deliver better, faster and more cost-effective services to its citizens.

“The benefits of IBM Process Mining extend beyond the initial process analysis. It's a tool built for longevity. Monitoring process flows on a weekly or monthly basis to identify trends and opportunities for automation helps clients stay on a path of continuous improvement.”

Stefano Pedrazzi, WW Sales Leader Process Mining, IBM



“By providing complete transparency during process analysis, IBM Process Mining also became a strong educational tool for everyone involved in process execution. The detailed analyses allowed the state to identify its best performers, establish best practices and training materials based on their results and use those departments as the standard of process excellence for the whole organization.”

Lorenzo Lucchi, IBM Process Mining Elite Team,
Business Development Leader, IBM

About the state

This US state government is responsible for administering public services that contribute to the success and well-being of its citizens. The state uses IBM Process Mining to provide more public services without increasing its spending.

**The client featured in this case study initially engaged with myInvenio, which began conducting business as IBM on August 1, 2021. The myInvenio product in this case study, myInvenio Process Mining, is now known as IBM Process Mining.*

Solution components

- IBM Cloud Pak® for Business Automation
- IBM® Process Mining