SMA TECHNOLOGIES

eBook

Optimizing Data Strategy Through Automation

Table of Contents

Data Defines the Age of Personalization

The future of business is a road paved by data. To best understand and meet their customers' needs, organizations must be able to access, aggregate, and analyze information quickly and accurately. Consider the impact that Big Tech is having on how data is shared by consumers and used by organizations.

Household companies like Amazon, Apple, Meta, Google, and Netflix have changed how people expect to interact with the companies they do business with. Consumers have become exceedingly comfortable with sharing the most intimate details of their lives—from their shopping habits to birthdays to life milestones—in exchange for better, faster, and more customized experiences.

The result of all this data sharing is mind boggling. In 2020, every person generated 1.7 megabytes of data every second. And by 2025, the world will have produced 181 zettabytes of data.

This shift toward personalization is showing no signs of slowing down, and organizations must be able to access robust, validated data sets in order to analyze and deeply understand their customers' behaviors and preferences.

With the exception of the biggest banks, which have greater access to the funding and resources needed to innovate quickly, the financial services industry as a whole has been relatively slow to adapt to this personalization trend. Most community and regional financial institutions, including banks and credit unions, are challenged to access and aggregate the most relevant transactional and behavioral data available on their customers or members.

But access to this data is critical for enabling financial services organizations to make intelligent, strategic decisions about where to invest and how to grow most effectively for the future.

This is where workload automation and orchestration can help financial institutions keep up with evolving customer expectations.

Key Processes in the Data Life Cycle

The data life cycle is data's journey from creation and usage to archiving and, eventually, deletion.

Creation

- Manual data entry
- External acquisition
- Capture from devices

Storage

- Security
- Backup and recovery

Usage

- Data sharing
- Data viewing, processing, modification, and saving

Archival

- Data archived and protected
- Available for use

Destruction

- Purging

When it comes to the key components of accessing, aggregating, and analyzing data, it's worth taking a moment to define several related technologies and processes:

1 Production systems

The production (or transactional) system is where data is born. Within the financial institution context, this is often the core processing system, but it can also refer to mortgage or loan origination systems. Other transactional systems that house customer or member data include payment networks, accounting databases, statement processing systems, broker-dealer systems, and more.

2 Extract, Transform, and Load (ETL)

ETL is a three-step process for pulling data from production systems and uploading it to a data warehouse in a common format for analysis. ETL processes allow users to extract requested data from production systems, transform it—by normalizing and standardizing the data to a common format that can be read and analyzed—and then load it into the data warehouse for analysis.

3 Data Warehouse

In its simplest definition, a data warehouse is where an organization stores its business data for querying, research, and analysis. The data warehouse is separate from production systems, which compile and store data for use in transaction processing. Production databases are not optimized for querying research and business intelligence and are not the ideal place for such analysis to occur. The data warehouse is designed to be a repository of data from the transactional sites for optimal analysis, without risk of disturbing, impacting, or interrupting production. Data warehouses also allow for the aggregation of data from multiple discrete systems for storage and analysis.

4 Business Intelligence (BI)

Business intelligence is a broad term referring to the ability to analyze, report on, and gain insights from data. While the data warehouse is the repository for raw information, business intelligence refers to the output—those deep data insights that are needed for leaders to make informed strategic decisions. To this end, BI solutions often include visualization and reporting tools like dashboards and customized reports that enable executive leaders and management to digest and make decisions based on the intelligence provided.

5 Data Lakes

Data lakes have emerged in recent years as an alternative or complement to data warehouses. Data lakes are very large storage repositories that can hold a massive amount of structured and unstructured data. A key difference between a data lake and a data warehouse is that in a data lake, the data is typically kept in its raw, native form, and is only transformed when it's ready to be used for analysis. In contrast, a data warehouse extracts, cleans, and transforms data from transactional systems to be used specifically for analysis.

FIs Face Multiple Challenges with Data

Poor data quality costs the U.S. economy over $3 trillion a year. This is why 95% of organizations cite their inability to manage unstructured data as a business problem.

The mishandling of data is costing organizations across a wide range of industries significant money, and it's a problem that's only growing more acute.

In the past, organizations struggled to access the data housed within their production systems. Before the advent of easy-to-use visualization tools, organizations had to hire highly skilled data specialists and coders to write custom queries.

Beyond the time and expense wasted on developing and running these custom queries, they were designed to access the transactional system, which could potentially slow down or interrupt critical business processes. This, in turn, would lead to unplanned downtime and even critical outages that impacted customer-facing applications.

Today, even with the introduction of data warehouses that can store data separate from production systems, organizations need to pull information from a wide variety of databases. More often than not, these systems don't speak with each other—they utilize different coding languages, file formats, and naming conventions. This results in slower file transfers, a greater incidence of manual error, and increased frustration.

In addition, adhering to a well-orchestrated order of operations when pulling data from these various systems of record is key to ensuring accuracy and quality in the data. Getting data to the warehouse at the right time and in the right way every time is critical and a requirement that's not managed easily through manual processes. If files aren't delivered at the right time and in the right order, that can result in interrupted or aborted processes that negatively impact internal and external reporting, or even customer service.

Workload Automation Enables Access to Deep Data Insights

Fortunately, a solution exists that's designed to maximize efficiencies within data retrieval, storage, and analysis processes. Workload automation and orchestration can enable financial institutions to glean powerful, deep data insights, while freeing up resources to focus on strategic innovation and growth.

The value automation provides to data warehousing, ETL, and business intelligence centers around orchestration. Dedicated ETL tools are very good at normalizing data and transforming it from transactional systems to systems optimized for querying and analytics. Quite often, however, they aren't very good at coordinating all of the data movement that needs to occur.

Automation may not be necessary for simple systems, where all that's required is to move

data from one transactional system into a warehouse. However, for complex organizations that pull data from multiple unrelated systems, modern automation tools can add a tremendous amount of value. Specifically, they ensure that the movement of the data happens when it's supposed to and runs successfully in the right order.

Automation can also help when things invariably go wrong. For example, if an institution needs to pull data from eight different sources into the data warehouse in a specific order, automation can be designed to ensure the steps occur in sequence. If, hypothetically, a particular step takes too long, automation can remedy a potential problem through error and exception handling. Alternatively, automation can be programmed to reverse processes due to failure in any single step, in order to ensure that reports always contain complete and 100% accurate data.

> We've had jobs fail because the file name wasn't right. SMA's watch program will wait and look for a file. If the file isn't found, it sends an email to alert staff. This feature keeps our files processing in a timely manner."
> Kathy Aspenson, Operations Manager at Westby Co-op Credit Union

Through clean, simplified integration with third-party platforms and solutions, workload automation reduces the need for maintaining specialized skill sets on staff, while also helping financial institutions retain their best talent by elevating their responsibilities beyond the mundane. Workload automation is also adept at bridging highly varied hybrid tech environments, while strengthening compliance and security and improving business continuity planning and testing.

With workload automation, FIs can use data to:

- Make data-driven decisions to run their organization
- Better manage and track performance
- Use their data to drive personalized offers and marketing to grow revenue
- Deliver a more personalized user experience for their customers
- Streamline or eliminate many manual tasks
- Get time back to focus on strategic growth initiatives

Automation Can Help at Every Step of the Data Life Cycle

Modern workload automation and orchestration solutions like OpCon are designed to streamline processes at every step of the data life cycle. These include:

- Data warehousing
- Managing and scheduling file movement and data loads
- Extract, transfer, and load (ETL)
- Report distribution
- Data extracts
- Financial and Board reporting

OpCon has pre-built integrations and APIs with many of the leading data solutions and vendors used by banks and credit unions, including Data Library, Microsoft Azure Data Lake, SAP Business Objects, and Informatica.

Automation That Delivers Results

OpCon is designed to streamline data capture and ETL processes in a repeatable way to enable the efficient use of data warehouses, data lakes, AI, business intelligence, and other applications. And with the support of SMA's financial services automation experts, implementation is a breeze.

"Before OpCon, [we spent] a lot of time flowing data to and from vendors' secure FTP sites. We had a full-time employee dedicated to this task because of all the manual intervention required. Now, OpCon handles the file transfers in a lot less time," said Joni Van Ooyen, Assistant Vice President of Information Systems at CoVantage Credit Union.

With OpCon's workload automation solution, CoVantage was able to redeploy one full-time employee to other responsibilities, saving over $99,000 per year.

One state's department of revenue uses OpCon to automate its data management across multiple tools and programming languages.

"This tool is just awesome. It can do anything we want done. If they took it away, I'd quit my job," says one manager. "It lets us mesh everything together seamlessly—from Unix to Unisys, Linux to SAP, and more. There's almost no human intervention needed now. That's really cut down on errors."

Another manager said, "None of the other products we looked at could run the same scope of platforms that OpCon could."

A senior systems programmer at a financial services firm with over 200 employees adds, "It reduces the time involved versus somebody having to individually move the files around. It has reduced what we would have done manually at one point by 98 percent."

And an IT operations executive at a financial firm with more than 500 employees says, "OpCon has reduced our data processing times by, as an estimate, 25 to 30 percent."

Getting Started with Workload Automation

In order to access and analyze the full complement of customer and transactional data at their disposal, today's financial institutions must deploy a modern workload automation and orchestration solution that goes well beyond traditional job scheduling software. Today's leading solutions are designed to work seamlessly with transactional systems, data warehouses, business intelligence platforms, and ETL tools to extract and deliver meaningful data in a format and structure that enables deep insights that drive strategy and growth.

Financial institutions also require an easy-to-implement solution that provides full orchestration, can be rapidly deployed, and offers 24/7 service reliability through the support of a world-class, client-first service team that understands the financial services industry from the inside out.

It's wise to invest the time to build automation the right way from the beginning to ensure it runs without any issues and provides business intelligence tools with a continuous flow of the data you need to service your customers and run your business.

Workload automation and orchestration is a solution designed to help financial institutions access and analyze the data they already have in their organization, enabling strategic growth and decision-making in a fast-moving, competitive industry. In the age of personalization, data automation is one of the most important and impactful tools at your disposal.

To begin your data automation journey, contact SMA's workload automation experts.

Contact Us