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## Choosing A New Path

By tapping into the growing realization of the importance of data among many financial firms, organizations can use data federation to create more agile systems and processes while still maintaining quality. **Pauline McCallion** reports

**D**ata is an asset that can provide real business value, if used correctly. By offering organizations a way to integrate multiple data sources without major infrastructure-related costs, federation can lead to the creation of flexible data management systems and processes that deliver accurate information in a timely and cost-effective way—both for compliance purposes and for business use.

While data federation is certainly not a new concept, organizations currently facing a new era of increased reporting requirements and lower yields, coupled

with growing markets and investors on the hunt for the next new opportunity, are searching for ways to use data more efficiently and effectively.

“The trend towards federation is mainly happening because data volumes are growing at such a pace, and also different types of data are growing,” says Edward Boag, chief data officer at Pioneer Investments. “It’s becoming more difficult to collect everything in one place and link it all in the old-fashioned way. It’s much easier to federate data, leaving it where it is and putting links in place instead.”

### Tackling silos

For most organizations contemplating this type of model, finding one source for data is the best way to manage the process of federating data, because it will ensure accuracy and prevent repetition or inconsistencies within an organization’s systems. However, it can be a challenge for organizations to identify this single source, particularly those that have grown via mergers or acquisitions. “When it comes to reference data or master data, it can be very confusing as to what constitutes an authoritative source for a piece of reference data,” says James

Hardy, State Street's chief data officer. "This is typically the case for any large financial institution that may have grown up in silos, which tends to lead to fragmented data. Therefore, trying to find the right source of the truth, who owns it and who is accountable to manage it, is crucial—as is making sure that, once the source is identified, the resulting data is well managed, high quality, and is used only for the purposes for which it has been designed."

To tackle this issue, Hardy says State Street has developed a system based on data domains. The organization has defined specific domains, such as risk or compliance, and it drives ownership of the related data at the domain level. "Ownership is the number one focal point there—not just as in taking responsibility for managing the data itself, but in both the consumption of data from other owners, making sure it is fit for purpose, as well as the provision of data from that domain to other consumers," he says. "Each domain owner has an obligation to ensure this happens."

This process relies on exploring core reference data and deciding how to master different sets, depending on the area. For the area of "customer", for example, the organization uses external sources as well as internal information such as that derived from its know-your-customer processes to identify and master the authoritative source relating to customer information.

State Street's relationship with the customer is also key here, Hardy explains: "The mastering of customer data not only includes the identification of that customer, but also defining the relationship it has with State Street as a whole. The creation of those relationships is very much federated, it's very much pushed out to the businesses or the geographies that have the relationship or have the legal contracts with our customers. So that is very much a federated model, but we master it centrally, meaning we monitor and measure the quality of that centrally."

## Centralized elements

Robust quality control measures are key, and a federated system must be supported by a data governance program that provides structure. Boag argues that this



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control should extend as far upstream as possible and points out that identifying one source will make it much easier to create and maintain the necessary data governance strategy and ensure data quality information in a federated system. "You can fix something quickly when it comes in the door, but once it's gone downstream into all the various reports and applications, it will take a lot more time and effort because [any fix] must be done multiple times," he says. "Fixing the quality as far upstream as possible is [also] obviously easier if there is only one source ... a federated system requires control through governance to make sure apples come from one place and pears come from another place. Otherwise, you may as well just spend the money on a centralization project."

This control should be in the form of a central data governance strategy that enforces enterprise-wide agreement on basic issues, ideas and definitions. Roberto Maranca, chief data officer at GE Capital International, says that many companies are relinquishing the idea of having a headquarters with total control of everything data-related, but want to develop an effective and efficient replacement structure. "To do that, there is a need to create some level of standardization, some level of agreement about 'how

we do things,'" he says, suggesting the use of a "memorandum of association" of sorts, which specifies that the federated model allows for different systems but enshrines a common language among these systems.

However, Maranca warns that this is the "trickiest" challenge in federating data. "Federation involves a localization of the data, so everyone speaks their own lingo," he explains. "So, if someone asks for [information], I have to find it and bring it back to that person with the right level of quality and integrity." In this respect, a centralized dictionary and clear, agreed-upon requirements around data are crucial to the act of federation.

Amy Harkins, senior vice president and managing director, head of enterprise client onboarding and global tax operations at BNY Mellon, adds that, while agreeing on these data definitions tends to be a time-consuming activity for organizations embarking on this type of project, it is an important step in developing a robust data governance infrastructure. "Getting agreement on what 'legal entity' means, or gaining consensus on where 'security industry classification' is obtained, and making decisions on which name and address to put on a field all sounds very simple, but these are the areas that many organizations spend a great deal of time normalizing and defining in order to create an effective reporting system," she says.

## Establishing benchmarks

Data sourced from other internal systems should also be scrubbed to prevent discrepancies, Harkins says. BNY Mellon, which operates on a centralized basis but implements federated systems as required for certain business lines or regulatory needs, uses a software tool to scrub data used in multiple applications.

"Before we allow a system to source another internal system, we use the scrubbing tool and ensure the data is in line with our data rules before it is loaded, because

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that could cause data discrepancies when we do our reporting,” she explains. “Every organization can improve upon its data [in this way]. Whether it is security master data or client master data, every organization should have a best practice that they continuously reexamine, asking how they can improve that data, clean it up and make it better than it was the day before.”

Benchmarking data quality in this way will enable an organization to ensure that its data is accurate, clean and consistent, and that it continues to be so—in other words, it will ensure the federated data model is working. It will also create a data management system that users across the organization can and will buy into, taking ownership of their data and taking responsibility for its quality. “People need to either feel the pain when it’s wrong or see the value when it’s right,” says Boag. “So the right benchmarks must be in place to show quality is improving and to ensure that users tell data managers what ‘right’ is. That’s as big a challenge as the technical challenge.”

This leads back to the sense of data ownership that State Street focuses on creating. State Street’s point of view is that everyone has a stake in data management, and quality makes sense for organizations that believe data can add significant value to the business. “There is a cultural shift going on in the industry, and certainly within State Street, that relates to the growing understanding that data is not just an IT problem, per se, but something that everyone must understand, nurture, care for and treat like an asset,” Hardy says.

While users know that data is important for regulatory reporting, Hardy believes many have started to see the value in better organizing their data. “As a result, we’re having more reference or market data conversations about where this information comes from than we have been in the past, even down to the last two or three years,” he says. This development underlines the important role that an orga-



nization’s culture and the attitudes of individual users of data play in creating and maintaining a federated system.

Assigning ownership of data is important to ensure quality, as previously discussed, but to really understand the data—where it comes from, who needs it and why—data managers must have people throughout the organization that recognize the value that data can bring to the business and

that want to create best-practice systems and processes to harness that value. “It is important to find people with passion and understanding and catalyze on their motivation in trying to solve their problems on a micro level,” Hardy says. “If you start there, as we’ve found, then a movement starts happening—one person starts discussing their achievements, leading to more and more people, until everyone realizes that problems can actually get resolved if people understand who is accountable for what.” Alongside a strong data governance structure, a supportive organizational culture will ensure the data management system continues to work smoothly.

Developing the necessary sense of ownership over data among users should be a key consideration in any move to create and implement a robust data management strategy, but particularly in the case of those based on a federated data system. For such a model to work, it is important to implement the necessary controls, standards and benchmarks to ensure that all users are on the same page when it comes to quality. Data is increasingly being seen as an asset that can provide value to the bottom line, prompting users on an enterprise-wide basis to take a greater interest in the success of an organization’s data management strategy. This will pave the way for the development and success of strategies such as data federation.



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