Software Company Enriches On-Premises Workflow Solution with Cloud-Based Services

Overview

Country or Region: United States
Industry: Professional services—Software engineering

Partner Profile

Based in Bellevue, Washington, and supported by a global partner network, Nintex is an independent software vendor that provides easy-to-use workflow solutions.

Business Situation

Nintex wanted a simple way to make web services available to customers who were designing workflows with its flagship product, Nintex Workflow 2010, which extends Microsoft SharePoint Server 2010.

Solution

By using the Windows Azure platform, Nintex developed a cloud service that can connect Office 365, Windows Azure Marketplace DataMarket, and other web services to its on-premises workflow software.

Benefits

- Reduced development time by one-half
- Sped up deployment time
- Improved focus on innovation
- Maintained competitive advantage

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> Mike Fitzmaurice, Vice President of Product Technology, Nintex

Nintex delivers software that everyone can use to design, execute, and manage workflows quickly and easily. The company received requests from customers to add web services to its on-premises Nintex Workflow 2010 application. Nintex responded by developing a catalog of web services that customers can access and use to run web services as part of the workflows they create. Nintex hosts the catalog on the Windows Azure platform; and it includes web services Nintex developed for Microsoft Office 365 and, in the future, those from Windows Azure Marketplace DataMarket. When building the service that connects on-premises workflow software to the cloud, Nintex reduced its development time by half and improved its ability to rapidly deploy software updates; and, without infrastructure to maintain, it is free to focus on innovating new solutions that help maintain its competitive advantage.

Situation

Nintex is an independent software vendor and a Gold ISV member of the Microsoft Partner Network that develops a number of solutions that help customers extend how they use Microsoft SharePoint products and technologies. Its vision is simple but powerful: to build software solutions and tools that enhance information-sharing and collaboration for everyone.

Per the company's tagline "Workflow for Everyone," Nintex works diligently to make it so everyone in an organization, even people without workflow development or design expertise, can create automated business workflows. One way the company does this is through its flagship product, Nintex Workflow 2010, which adds a drag-and-drop workflow designer to Microsoft SharePoint 2010. By using the intuitive solution, users can automate their business processes in SharePoint 2010 in minutes, with no additional development work. "SharePoint is already very powerful when it comes to automating workflows," explains Mike Fitzmaurice, Vice President of Product Technology at Nintex. "We extend that power by adding best-of-breed tools that are easy to use and make workflows accessible by everyone."

As part of its "everyone" approach to workflows, Nintex wanted to make publicly available web services easily accessible to customers who use Nintex Workflow 2010. For instance, if a customer needs to integrate information from a financial services bureau, such as exchange rate calculations, into a workflow process, Nintex wanted to be able to provide straightforward access to that web service. In another example, many customers ask for social-networking integration with their workflows; they want to be able to post an update to Twitter or to their company's Facebook page. "There are countless web

services that are capable of carrying out these tasks," explains Fitzmaurice. "However, either we would have to develop custom code for each request, or customers would need their own developers to add these capabilities. Both options are competing ideas to our 'everyone' approach."

Nintex also wanted to offer its customers a simple way to distribute a single workflow process across a geographically dispersed organization that has multiple server farms for SharePoint Server. "Customers that use both SharePoint Server 2010 and Nintex Workflow 2010 crave the ability to be able to start a workflow in one location and have it finish in another location, which can be difficult to accomplish with on-premises installations," says Fitzmaurice. "We wanted a solution that would enable a workflow in one server farm to interoperate with a workflow in another server farm, no matter where it was located."

Not least of all, Nintex wanted to introduce cloud-based workflows to its existing on-premises solution. The company recognized that many of its customers were introducing software-as-a-service (SaaS) business applications into their systems, but such services were not easily consumable by user-designed workflows created for SharePoint Server. "Several customers are moving in a cautious but deliberate fashion to Microsoft Office 365, as an example," explains Fitzmaurice. "They want to be able to interact with those cloud-based solutions through their on-premises solutions. So, we needed a way to connect cloud and on-premises systems."

While the company wanted to add new capabilities to Nintex Workflow that would enable the scenarios that customers demanded, Nintex remained steadfast that it needed a solution that would not

complicate its existing offerings. To stay true to its vision, Nintex must provide solutions that are simple enough that everyone can use them to create and execute business workflows.

Solution

In 2010, Nintex decided to develop Nintex Live, a cloud services broker that connects to Nintex Workflow 2010 within SharePoint and exposes public web services to the workflow solution. After evaluating several cloud services platforms, including Amazon Elastic Compute Cloud (EC2), Nintex chose to develop Nintex Live on the Windows Azure platform based on two criteria. First, it wanted a cloud platform that offered service management, not just an infrastructure for virtual machines. Second, as a member of the Microsoft Partner

Network, developers at Nintex were already familiar with Microsoft .NET Framework 4 and the Microsoft Visual Studio 2010 Professional development system.

"We looked at all of the usual suspects for cloud services and were underwhelmed. Other companies are really only providing servers in the cloud and that's not what we wanted," says Fitzmaurice. "We wanted a platform, and the Windows Azure platform gives us exactly what we need—it's an entire Windows environment in the cloud."

Nintex launched a beta version of Nintex Live in February 2011 to a select group of customers and partners. In May 2011, it released a production version and made Nintex Live available to all customers using Nintex Workflow 2010. At of the end of June 2011, the company already had a

Figure 1. Customers can browse the catalog for publicly available web services and then add them to their workflow by using simple drag-and-drop functionality.
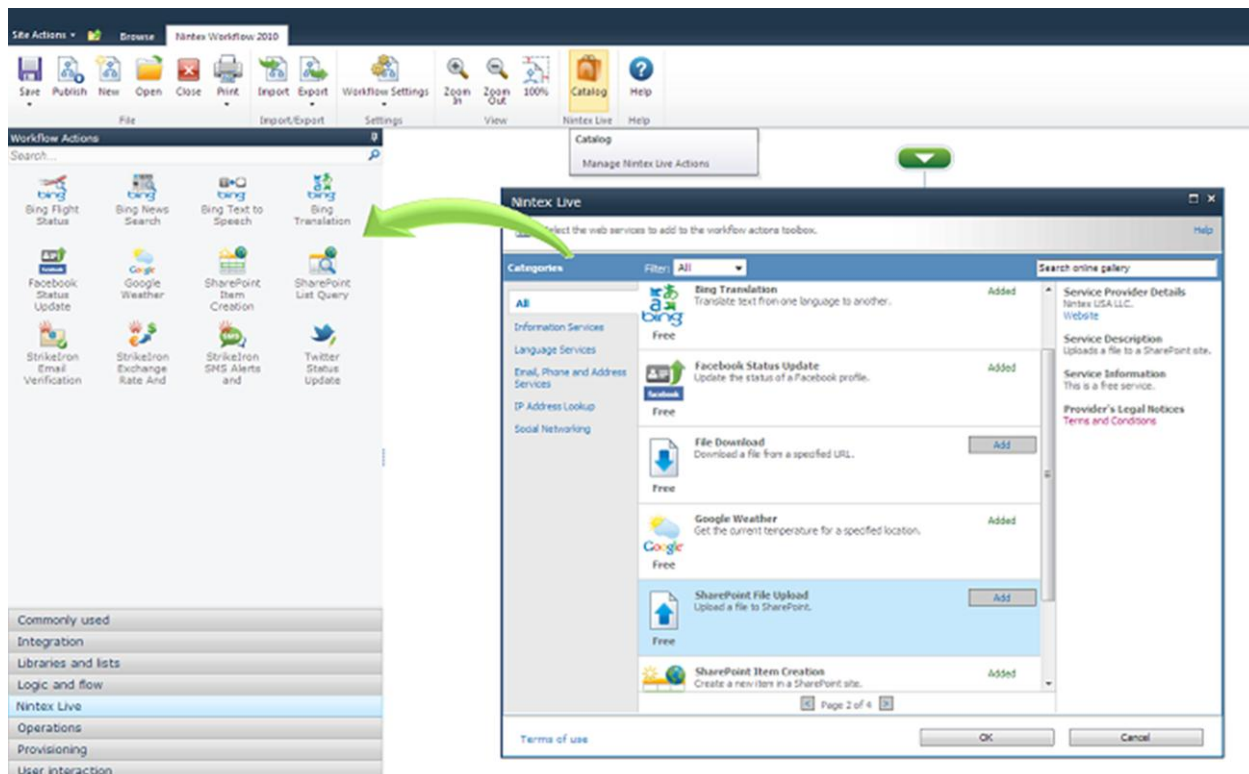
customer base for the service that numbered well into double digits.

Easily Accessible Web Services for Everyone
Customers who already use SharePoint and Nintex Workflow can access Nintex Live by adding a connector component, which was also developed by Nintex. The connector component surfaces the Nintex Live catalog to workflow designers. Then, when a workflow that a customer designs reaches a step that involves a web service, the connector component sends requests to, and receives results from, Nintex Live. Nintex uses Windows Communication Foundation to connect the on-premises components to Nintex Live.

Nintex Live is hosted in web roles in Windows Azure, which serves as the Microsoft cloud services development, hosting, and management environment, and is hosted in Microsoft data centers. Nintex Live includes a catalog that customers browse to find published web services that address their workflow process requirements. The catalog displays real-time web services from a wide range of sources that will soon include the Windows Azure Marketplace DataMarket. By using

DataMarket, Nintex will be able to offer customers access to a wider variety of datasets, such as demographic, environmental, weather, and financial information, which they can integrate into their workflows. For instance, if a customer is designing a workflow for expense report approvals and has locations that use different currencies but needs to report using U.S. dollars, it can browse the services catalog for a web service that calculates exchange rates. Then, the customer can easily drag and drop the web service into its workflow rules to automate the business process. (See Figure 1.)

In addition to the publicly available web services that Nintex is exposing from sources like DataMarket, the company developed some of its own web services for the catalog. For instance, it developed an XML–based web service that connects to Office 365 for those customers that need to connect on-premises solutions to Office 365 services.

The company uses Windows Azure AppFabric Service Bus to connect the core components of Nintex Live to the wide variety of web services that interoperate with cloud services. "By using AppFabric Service Bus, we implemented an extremely reliable and flexible cross-component communication architecture that is critical for different services that require different integration patterns," explains Fitzmaurice. (See Figure 2.)

Nintex uses Microsoft SQL Azure to store relational data, including metadata collected from web service calls, and monitoring and reporting data. SQL Azure is a cloud-based, self-managed, relational database service built on SQL Server technologies. "SQL Azure is the only database solution that makes sense for us," says Fitzmaurice. "It's self-managed and has

Figure 2. Nintex hosts Nintex Live in web roles in Windows Azure and offers a catalog of publicly available web services to Nintex Workflow designers.

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built-in redundancy and high-availability, so we don't have to worry about any of that."

By developing Nintex Live and using the Windows Azure platform, Nintex effectively delivers to customers the ability to access and incorporate rich data from web services with the workflows they create using on-premises versions of SharePoint and Nintex Workflow.

Future Plans for the Cloud
In the future, Nintex plans on giving other companies the ability to publish web services to its Nintex Live catalog. "We work with partners that are very good at what they do," says Fitzmaurice. "It only makes sense to let them do what they excel at and provide their services to our customers through our solutions."

Nintex Live is just the first of many cloud solutions that the company plans to offer. "What we did with Nintex Live is to bring the cloud down to earth and make the wealth of services that are in the cloud accessible to on-premises workflows," explains Fitzmaurice. "The Windows Azure platform helped us get there, and we have every intention of building more solutions on the platform. It's going to be a logical trip that starts with Nintex Live and ends with everything in the cloud."

Benefits

By using the Windows Azure platform, Nintex was able to quickly develop a cloud-based service that meets customer needs to use published web services with on-premises workflows and connects distributed servers. Nintex not only cut its development time in half, but also improved its ability to rapidly deploy and manage updates for its on-premises solution. Having removed hurdles that are

associated with managing infrastructures, Nintex can focus on innovation and maintaining its competitive advantage.

Cuts Development Time by 50 Percent
By using the Microsoft-hosted Windows Azure platform instead of another provider's cloud services offering, Nintex developers are freed to focus on writing application logic and do not have to worry about writing additional code to implement service management or self-maintenance functionality. "If you examine most of the code that you have to write to develop a service like Nintex Live, more than half of it is there to simply help manage the application, not to execute any of the amazing features that the application is designed to offer customers," explains Fitzmaurice. "The Windows Azure platform takes all of that housekeeping and self-maintenance code out of the picture for us. We cut our development time in half by using Windows Azure and SQL Azure, and we don't have to worry about constant monitoring, performance management, or other application maintenance issues."

Improves Ability to Add Features Without Deploying Complicated Updates
After developing Nintex Live for the cloud, which the company now includes for any customer that uses Nintex Workflow 2010, Nintex realized that it could easily add new workflow actions and features to its workflow software without deploying code to customers' on-premises software. "With the Windows Azure platform, we can add services to the Nintex Live catalog and deliver an increasingly rich toolbox to workflow designers at a rapid pace without deploying software updates," explains Fitzmaurice. "In fact, this is exactly how we added an exciting feature—support for Office 365—just one month after we debuted Nintex Live."

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"By using the Windows Azure platform, we have greater control and manageability over our software update process," says Fitzmaurice. "Plus, we can develop new features or make updates on a rapid cycle without worrying about scheduling updates for customers to install. We release updates every few weeks through the cloud, as opposed to quarterly."

Keeps Focus on Innovation—Not on Operational Hurdles
Nintex is thrilled that the Windows Azure platform offers it the ability to focus on innovation and delivering business value to its customers rather than maintaining infrastructure. "What we need to focus on is our vision of making workflows easy for anyone to execute and innovating ways to deliver compelling services that customers want," says Fitzmaurice. "What I do not want to worry about is how many virtual servers I have running or how I am going to find the time to maintain that infrastructure. Windows Azure takes all the worry out of load balancing, configuration, and other infrastructure-related tasks and lets us focus on what we do best."

Helps Maintain Competitive Advantage
By focusing on its mission to provide easy-to-use workflow solutions that anyone can use, and by developing new cloud-based capabilities that enrich its solutions, Nintex maintains its competitive advantage. "We believe that usability is an enterprise feature that sets us apart from other companies. Usability does not define a solution; it's what defines whether a solution will be of any value across an organization," explains Fitzmaurice. "We used the Windows Azure platform in order to make SharePoint workflows usable for the widest variety of customers, industries, and business scenarios. We took powerful cloud capabilities and made them easy for

customers to use. That's what sets Nintex apart and gives us an advantage."

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Windows Azure Platform

The Windows Azure platform provides developers the functionality to build applications that span from consumer to enterprise scenarios. They key components of the Windows Azure platform are:

- **Windows Azure.** Windows Azure is the development, service hosting, and service management environment for the Windows Azure platform. It provides developers with on-demand compute, storage, bandwidth, content delivery, middleware, and marketplace capabilities to build, host, and scale web applications through Microsoft data centers.
- **Microsoft SQL Azure.** Microsoft SQL Azure is a self-managed, multitenant relational cloud database service built on Microsoft SQL Server technologies. It provides built-in high availability, fault tolerance, and scale-out database capabilities, as well as cloud-based data synchronization and reporting, to build custom enterprise and web applications and extend the reach of data assets.

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