

Case Study: Mohawk Fine Papers Uses a CSB to Ease Adoption of Cloud Computing

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Paper manufacturer Mohawk Fine Papers needed a comprehensive service-oriented architecture (SOA)-based backbone to support interoperability between all its internal and external applications, services and data. This Case Study examines how the company uses a single connection to Liaison Technologies' cloud for access to all its trading partners, simplifying Mohawk's B2B strategy and facilitating the adoption of cloud computing. The study provides useful lessons for anyone considering using cloud services brokerage (CSB).

Key Findings

- Having one cloud services provider relationship (e.g., with a CSB) can make the transition to using cloud computing much easier than having multiple relationships.
- It is possible for (and desirable to have) one IT services provider to support hybrid IT projects that combine traditional supply chain integration with cloud services integration.
- Integration brokerage (outsourcing the implementation and management of B2B and software-as-a-service [SaaS] integration) can lower barriers to cloud computing adoption and deliver cloud benefits faster than doing it in-house.
- B2B/e-commerce providers that focused on delivering integration brokerage to address traditional supply chain integration requirements can (and most will) evolve into the CSB role and will provide further value by assuming responsibility for addressing interoperability with various cloud services providers.

Recommendations

- Companies that desire agile multienterprise business process innovation should adopt an integration and SOA strategy that spans application to application (A2A), B2B and cloud.
- Companies that seek to adopt cloud computing and already leverage integration brokerage for traditional e-commerce projects should consider whether they can leverage the same provider in the CSB role.
- Providers of integration brokerage should leverage core competencies in integration to adopt the CSB role, in addition to the B2B or e-commerce role.

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WHAT YOU NEED TO KNOW

Consumers of integration brokerage rely on integration service providers to implement and manage complex supply chain integration projects. As these consumers begin adopting cloud computing, they sometimes need help with cloud services integration. Providers of integration brokerage are well-positioned to expand their value proposition and target market opportunities by applying their core competency in complex B2B integration to IT projects that involve trading partners and cloud services, therefore assuming the role of a CSB. Companies will benefit from this evolution when it enables them to single-source integration services for traditional e-commerce and cloud services integration.

CASE STUDY

Introduction

Mohawk Fine Papers is the largest premium paper manufacturer in North America (see Note 1). To compete effectively in the highly competitive and fast-moving paper business, it requires operational and supply chain excellence, but has only six people on its IT team.

The Challenge

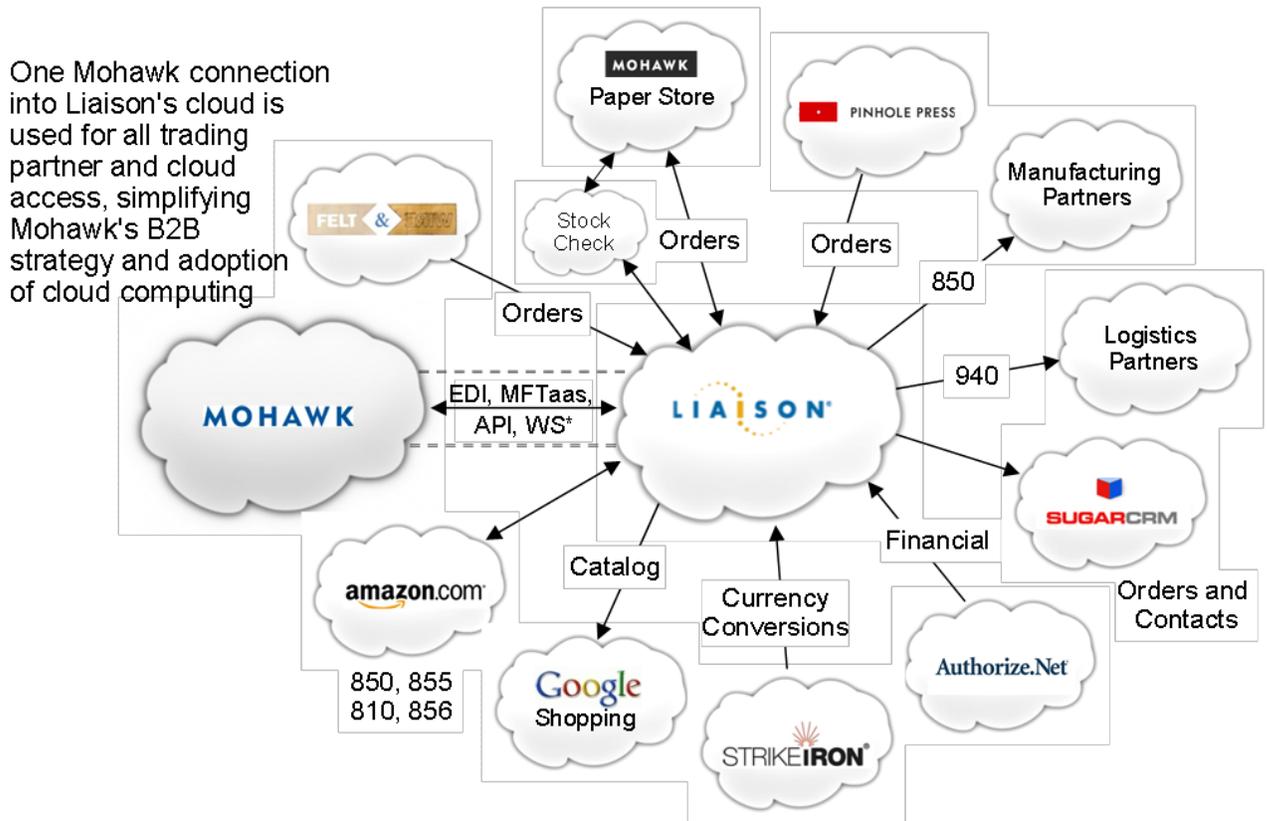
Mohawk needed a comprehensive SOA-based backplane to support interoperability among all its internal and external applications, services and data. This included its customers, suppliers and external business partners (for traditional B2B e-commerce) and its external service providers, such as Amazon.com, Authorize.net, Google Shopping and SugarCRM (for cloud computing).

Approach

Mohawk considered a number of alternatives focused on cloud services integration, because of its adoption of cloud computing, including providers of integration appliances and integration platform as a service (iPaaS; see "Integration Platform as a Service: Moving Integration to the Cloud"). Citing concerns with the capital expense of integration products and its reluctance to hire more IT staff to do integration work, Mohawk decided to outsource all its integration work.

It chose to work with its provider of integration brokerage (see "Integration Brokerage Provides Facilitated Intermediation for B2B E-Commerce and Cloud Services Brokerage") for supply chain integration, Liaison. As Figure 1 shows, Mohawk maintains one set of connections into Liaison (for electronic data interchange, managed file transfer, Web services and so on) for all external electronic interactions.

Figure 1. Mohawk's Extended Enterprise and External Business Partner Ecosystem



Source: Mohawk Fine Papers

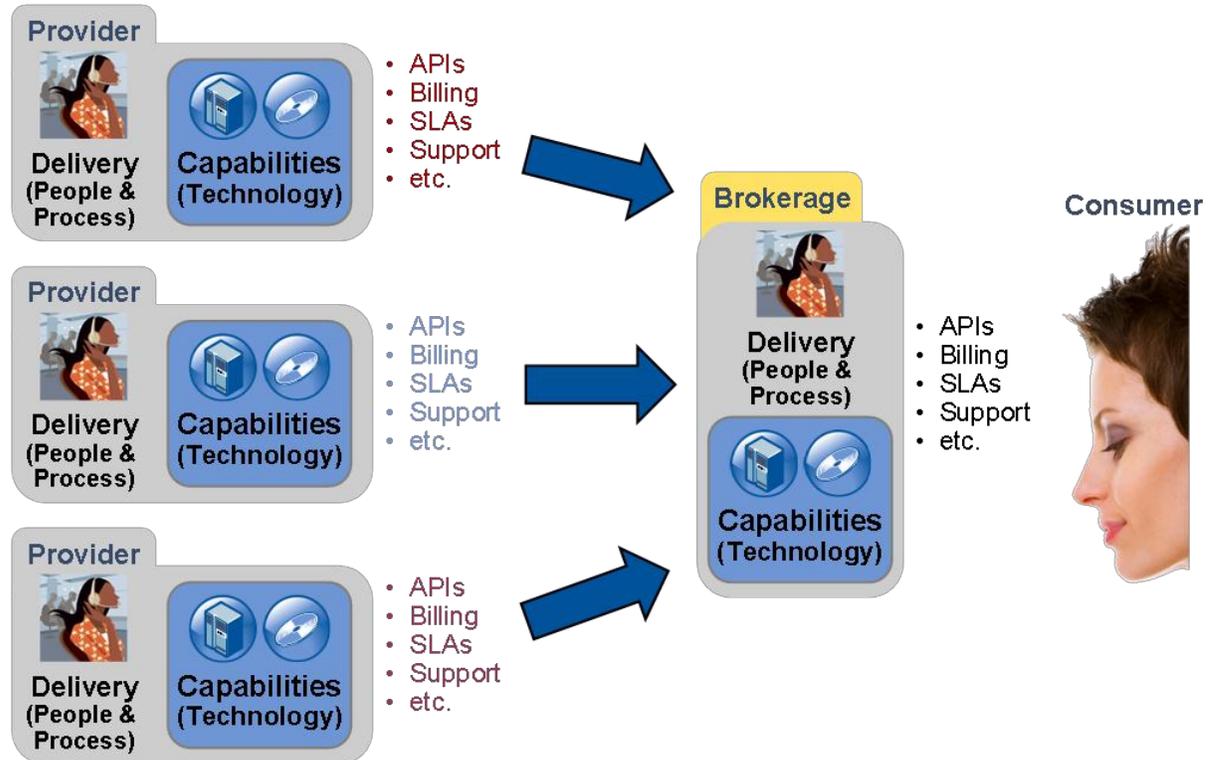
Mohawk relies on Liaison for project implementation and managed services for:

1. On-premises (A2A) integration, leveraging a combination of third-party enterprise service buses (ESBs) and Liaison Contivo technology as an SOA backbone
2. Supply chain integration for its 300 customers, 100 suppliers and various other external e-commerce business partners, including banks, third-party logistics (3PL), etc.
3. Intermediation of all its third-party cloud services providers, including doing integration, provisioning, monitoring, billing and SLA compliance

In addition to implementing and managing Mohawk's on-premises integration backbone for 24 applications and 66 maps that are on-premises, and managing connectivity with hundreds of external e-commerce business partners, Liaison also provides all the technical, support and commercial aspects of linking with third-party cloud services providers via its network. By virtue of adding cloud services intermediation to its e-commerce role, Liaison assumed the role of a CSB (see "Cloud Service Brokerages Create a New Role for Integration Service Providers" and "Defining Cloud Services Brokerage: Taking Intermediation to the Next Level"). Mohawk's extended enterprise includes its on-premises infrastructure, the Liaison network and direct links to approximately 12 cloud providers. Liaison's prominent general contractor role for integration infrastructure gives Mohawk a single point of contact for IT services accountability across its external business partners and cloud services providers.

In assuming a CSB role (see Note 2) with regard to third-party cloud services providers, Liaison offers Mohawk only one set of technical and commercial interfaces (e.g., one API and one bill) for its entire external business partner ecosystem (see Figure 2).

Figure 2. The CSB Role Consolidates All Third-Party External Technical and Commercial Interfaces



Source: Gartner (July 2011)

To support traditional B2B e-commerce, as well as SOA Web services and cloud services APIs, the link between Mohawk and Liaison had to support traditional message- and file-based integration, as well as SOA publish-and-subscribe communication protocols. This was addressed by a Liaison implementation of a configurable bidirectional single Web services between the company and provider that could:

- Invoke a database action — e.g., to execute create, read, update, delete (CRUD) operations against application data
- Place a message payload in a file directly or on an ESB (for internal integration routing)
- Publish or consume Web services, using Mohawk's SOA backbone

For example, Liaison receives purchase orders directly from Mohawk's traditional e-commerce trading partners or from cloud providers, such as Amazon, translates these "in network" (using maps for translation hosted in Liaison's data center), and then delivers consistently formatted purchase orders directly into Mohawk's order entry application. This approach enables end-to-end process flow, bidirectional and seamless process integration that can be data- or services-centric, event-driven. It also can support synchronous or asynchronous interactions.

Results

Mohawk reports that Liaison successfully integrated its internal applications and data with hundreds of e-commerce trading partners and (more recently) with approximately 12 external providers, including Amazon, Birst, Kronos, Strikelron (another CSB), SugarCRM and MercuryGate. Mohawk cites that, by shifting responsibility for e-commerce and cloud services integration work to Liaison, it has improved time to deployment for new integration work from months to weeks, and has realized an overall reduction of integration project cost (up to 30%). The use of a canonical form (see "How a Canonical Messaging Approach Can Help You Simplify and Reduce Interface Assets") was specifically cited as a key factor in helping reduce the life cycle cost of doing integration.

Mohawk says that outsourcing SaaS integration to Liaison was instrumental in its decision to deploy more SaaS applications than it would have if it had to do the integration itself. Mohawk now approaches SaaS opportunities primarily on their commercial merits (relative to traditional software), with the confidence that it can readily integrate applications using on-premises software or SaaS.

Examples of bidirectional integration projects include:

- A client service representative (CSR) invokes a feature on the ERP order entry system, which calls for a shipment rating, routed via Liaison (outbound) to Mohawk's SaaS TMS application, and returns the result to the CSR (in near real time).
- The Mohawk customer's ERP systems can directly call inventory Web services, routed via Liaison (inbound) to access Mohawk's internal ERP inventory application, and return the result (in near real time).

Mohawk has indicated that, by outsourcing integration as a competency, it was able to shift its strategic focus onto its core competency of managing business processes and master data (from its prior focus on acquiring integration technology and development work). For example, when it needed reliable currency conversion to drive additional native-currency sales of its paper products, rather than on-premises or custom interfaces, it worked with Liaison to integrate and extend Strikelron's foreign currency conversion service onto its SOA backplane. While Liaison focused on the technical implementation of doing that, Mohawk focused on successfully incorporating the external service into its various applications and processes to meet new business requirements.

The shift of focus from technical implementation to business process focus has also allowed Mohawk to pursue new business models around e-commerce and service-provisioning. For example, this shift allows Mohawk to more quickly support new channels for its paper products through websites where consumers and businesses develop digital photo books, because it is not distracted or deterred by the scope or technical challenges of developing new forms of integration to support that new focus.

Mohawk also sells its products via Amazon, which requires new customers to access the Amazon partner portal, familiarize themselves with the Amazon EDI specifications, and then implement them within 30 days. Mohawk relied on Liaison to do all of that, which developed, tested and implemented the new Amazon EDI 850, 855, 810, 856 transaction interfaces in less than two weeks for less than \$1,000 (comparable to the typical cost of onboarding a new direct EDI e-commerce trading partner). Mohawk also cited that working with Liaison helps it reduce risk. For example, Liaison provides Mohawk with version control (e.g., for when applications, APIs or B2B standards change) and governance (e.g., security, life cycle management and visibility).

After several years in production, Mohawk reports no significant Liaison network outages or lapses in IT services fulfillment capacity.

Critical Success Factors

Mohawk took a holistic approach to achieving multienterprise business process agility across its extended enterprise by seeking a comprehensive approach to its integration and SOA strategy for A2A, B2B and cloud computing.

Mohawk clearly delineated between Liaison's responsibility as a CSB to manage all technical interactions (for integration and SOA) and Mohawk's responsibility to identify and drive new business processes and their improvement.

Mohawk defined a secure, configurable bidirectional gateway between itself and Liaison, which allowed both parties to quickly implement and execute new SOA services and file exchanges (e.g., both still use EDI) between their data centers. Mohawk cites that new bidirectional SOA services are often implemented in just a few days.

In response to the proliferation of inbound and outbound data updates, message exchanges and Web services calls between the two organizations, Liaison developed a collaborative full life cycle approach to governing each integration to Mohawk, including referential integrity, version management and planned obsolescence.

Trust: Mohawk Fine Papers has developed confidence that Liaison can deliver new projects in a timely manner and support them reliably in production.

Lessons Learned

Mohawk discovered that it could successfully leverage an external service provider to deliver and maintain an SOA and integration services backbone for an extended enterprise that combines A2A, B2B and cloud services integration. Gartner has identified this an emerging trend where companies can increasingly seek to single-source all their integration needs. Under the right conditions, this can be a viable part of a company's integration strategy (see "The Pros and Cons of Seeking a Single Source for Your Application Integration Solutions").

Having a consistent approach to on-premises integration and SOA, B2B e-commerce integration and cloud services intermediation enabled Mohawk to define one coherent service-based IT architecture and a corresponding governance model upon which to seamlessly deploy new business processes that spanned its extended enterprise.

Mohawk has been a longtime Liaison customer. The traditional B2B e-commerce pricing models — which included kilo character-based transaction pricing as part of the overall fee structure — were not a good fit for pricing cloud integration project work. Both parties worked together on new pricing models that incorporated fixed and unit-based cost components for integration.

Although Mohawk has not reported any significant outages or service problems, and thus has a high degree of confidence in Liaison, the IT infrastructure used to support Mohawk's operations include on-premises technology (to support A2A integration requirements involving SOA and heterogeneous integration) and the Liaison network (to support e-commerce and cloud services integration requirements). Mohawk has cited that while the on-premises infrastructure (composed of a combination of third-party ESBs and Liaison's Contivo technology) is working and likely will continue to meet its requirements for years to come, it prefers the more inherently scalable cloud computing environment, where it can rely on additional capacity on-demand, and where upgrades and enhancements are thoroughly transparent.

There is some concern about vendor lock-in. Liaison's use of Contivo on-premises and in its network, which allows maps for integration to be deployed on different platforms, is highly differentiated and can mitigate that concern to some degree. Mohawk indicated that by turning over its A2A, B2B and cloud integration work to Liaison, it could be adversely affected if Liaison began underperforming or pushed up costs. While there's no evidence that such adverse behavior is imminent between Liaison and Mohawk, we believe that this type of concern is warranted and that consolidating all your internal and B2B integration work with one provider underscores the importance of the viability of your provider and the quality of your relationship with it. With regard to your provider's CSB role, the consumer's due diligence should include a systemic review of how its provider will address outages for all third-party providers in its cloud services value chain. The CSB's response to different third-party failures can range from one extreme of transparently switching to alternative service providers, to the other extreme of interrupted service.

IT providers that formerly focused on traditional e-commerce integration can incrementally evolve their technical and go-to-market capabilities to address cloud services intermediation and evolve into the CSB role (see Note 3).

RECOMMENDED READING

Some documents may not be available as part of your current Gartner subscription.

"Cloud Service Brokerages Create a New Role for Integration Service Providers"

"Defining Cloud Services Brokerage: Taking Intermediation to the Next Level"

"Key Issues for Cloud Services Brokerages, 2011"

"Cool Vendors in Cloud Services Brokerage, 2011"

Note 1

Mohawk Fine Papers

Mohawk Fine Papers makes several hundred million dollars in annual revenue. In addition to premium paper manufacture, it offers writing, text, cover and digital papers for corporate reports, corporate identity systems, brochures, packaging, on-demand photo books, personalized direct mail, custom packaging, and everyday communication for businesses of all types and sizes. It sells to a diverse and complicated customer ecosystem that includes retailers, merchant houses and manufacturers.

Note 2

The CSB Role

The CSB role consolidates all third-party external technical and commercial interfaces into one on behalf of cloud services consumers. This benefits consumers by normalizing and simplifying their consumption of multiple third-party cloud services. This also shifts more responsibility and risk onto the CSB, since it assumes responsibility for the combined outcome of all cloud services consumed by its consumers.

Note 3

IT Providers Can Evolve Role

We have predicted this transition and expect that, by 2015, 75% of the largest 25 integration service providers will have explicit CSB go-to-market strategies (see "Cloud Service Brokerages Create a New Role for Integration Service Providers").

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