D&H Distributing

Modernizing operations integration to increase volume transaction by 2x

The Challenge

- D&H's high volume of hourly transactions had expanded significantly due to its focus on building the company and increasing business growth, to a point where its existing integration platform required much greater scalability
- D&H was looking to upgrade its integration platform to one that was "Built For Growth," providing the ability to rapidly meet a wide range of integration requirements and leveraged existing knowledge base
- Its current integration platform was too costly to maintain and made it challenging to extend or scale to meet their needs

The Solution

- D&H conducted its COTS evaluation process, which included industry-leading platforms and solutions
- Replace the existing integration platform with a scalable solution to meet its current and future growth of transaction processing volume while reducing its development and costs
- Implement a platform with Microsoft expertise and a .NET developer user experience to align with their existing .NET resources
- Separate core applications and break out business functionalities to independent REST API services

The Benefits

- D&H can now process a daily average of 1.5 million messages with a daily peak volume of 7.5 million messages
- Peregrine Connect allowed them to facilitate their adoption of REST APIs for core integrations using Peregrine Connect's Microservice Hosting Model
- Doubled their sales orders processing
- Seamless integration with their ERP, Microsoft Dynamics CRM, General Ledger, Accounts Receivable, Accounts Payable, and line of business systems
- Pricing and the total cost of ownership was less expensive than other competitive vendors
- Flexibility to implement the solution without changing endpoints for constant consumer data synchronization
- Modernize technology without having to rework all applications that consume integrations
- Completely automating their deployments allowed them to reduce resources significantly

The Client

D&H Distributing has been a privately held company for nearly 105 years, specializing in distributing IT and consumer electronics across North America. D&H is top-ranked on the Forbes list of America's Largest Private Companies and one of the largest private employers in Central Pennsylvania. The company propels its partners' success, infusing innovative strategies, consultative support, and leading technology solutions to fuel sustainable growth. D&H customizes solutions to each partner's needs and provides operational support that helps them to capitalize on new and incremental market opportunities. Their partners feel prioritized, taking advantage of dedicated teams, knowledgeable support, service experience, efficiency, and ease-of-doing-business. D&H's team prides itself on being a close family, traditional work ethic, progressive in vision, operating with a partner-first mentality, and an unmatched tenacity and passion for helping partners grow.

The Challenge

D&H processes millions of transactions a day throughout its operations, and this volume was increasing along with the expansion of D&H's business. The complexity and scalability of the existing integrations platform, coupled with exponential transaction volume growth, was positioned to surpass the existing platform's ability to scale to meet this new need. This would potentially impact their customers, reporting, and internal processes.

Due to D&H's rapid growth and the above constraints, D&H was approaching a point where it would no longer be able to rapidly push out changes to customers and processing transactions in a timely fashion. For example, if a payment processing change affected 100,000 customers, D&H would need to publish that customer update across a variety of applications, which could easily result in more than 500,000 messages being sent to all the relevant systems. Due to the number of messages and the platform's inherent constraints and throttling, it would take excessive time before the target applications receive all the customer updates. This would be compounded further by receiving more than 100,000 high-priority messages that require real-time processing. The existing system was limited in its ability to process this volume of high-priority messages, which could cause long backups behind the customer update messages.

Along with scalability and performance issues encountered in the production environment, D&H was facing other obstacles due to its rapid growth.

This included issues that impacted the time involved to create and maintain the development artifacts associated with the solution, as well as updating the solution.

In addition to the existing integration constraints, D&H evaluated the prospect of moving some of its accounting systems onto the Microsoft AX platform. During the evaluation, they realized that it would require more integration effort, at least temporarily, to make all the account systems work during the transition. In the end, the existing platform's complexity, high development costs, and integration challenges motivated D&H to evaluate other platforms.

The Solution

D&H realized that the complexities of the existing platform were threatening to hinder their continued growth, leading to the need to evaluate other platforms. D&H did a COTS evaluation, which included industry-leading platforms and solutions. The assessment included design sessions and building use case driven proof of concepts. One of D&H's critical points was to find a model that could work with its existing endpoints and core applications. Another technology compatibility request for their future integration platform was extensibility using Microsoft .NET. D&H wanted to leverage its existing Microsoft expertise and .NET developer experience without changing its architecture.

D&H quickly recognized the value of Peregrine Connect's ease of adoption during the development of the use cases and found the implementation process seamless. Peregrine Connect also had a selection of out-of-the-box connectors that D&H was familiar with.

During onboarding, D&H had a week of onsite training with developers and leadership from Peregrine Connect. D&H was extremely satisfied with the support they received from the Peregrine Connect product team. They were responsive in communicating how to leverage the existing platform to solve any issues. The onboarding implementation process of Peregrine Connect lasted around six months. D&H picked their highest volume integration to transition over to the new Peregrine platform and then gradually added the bulk of other integrations over the year. They progressively converted 350 different integrations, tested various patterns, high-volume and low-latency requirements.

It was imperative for D&H to connect all systems and applications. Using Peregrine Connect's Microservice hosting, Connectors, and Business Process engine, -

D&H was able to move quickly from message-based queued services to the adoption of REST APIs without changing their endpoint logic.

D&H was able to further extend the capabilities of Peregrine Connect by building custom Connectors to work with some of their lesser-known applications. For example, D&H connects to a variety of backend systems using Connectors. The Business Process designer uses Peregrine Connect's built-in service broker to expose those connections as APIs. Therefore, providing D&H the flexibility to adopt REST APIs without changing logic or writing and maintaining service-oriented code.

D&H initially used Peregrine Connect to replace its existing integration platform. It has since scaled effectively to decouple core applications to break out business functionalities into independent services. D&H now has more than 30 different Microservices hosted by Peregrine Connect to handle areas like shipping, tax calculation, address validation, and they are all REST APIs orchestrated together using Peregrine Connect.

The Benefits

D&H has successfully modernized its technology without reworking all the applications that consume integrations. Peregrine Connect allowed them to facilitate their adoption of REST APIs for core integrations using Peregrine Connect's Microservice Hosting Model, Connectors, and Business Process engine. Operationally, they realized efficiency gains with their workflows and ease of managing its development and automated deployment. D&H is currently processing a daily average of 1.5 million messages with a daily peak volume of 7.5 million messages.

Peregrine Connect allows D&H to manage the data integrations and interactions within their organization for multiple Lines of Business systems such as Accounts Payable, Accounts Receivable, Sales, Microsoft Dynamics AX, Microsoft Dynamics CRM, Warehouse Management System, and other ERP modules. In other cases, D&H uses Peregrine Connect's built-in Connectors such as Rabbit MQ, MSMQ, and File to receive inbound messages which are forwarded to backend, long running Workflow processes.

Peregrine Connect's pricing was competitive compared to other vendors. Ultimately, Peregrine Connect gave D&H the flexibility and stability to tackle its most critical issues since its implementation. With Peregrine's Connect's platform, D&H can confidently support its current and projected business growth, provide rapid integration with their systems, and reduce the total cost of ownership. D&H has found a solid partner to move forward with future goals and successes in order to best serve its partners in the marketplace for years to come.