

Genpro: From Real Truckloads to Virtual Workloads

A Faction Case Study



Background

Read how Genpro made the decision to utilize Faction's cloud to provide business-critical virtual desktops to its employees. It all started with an effort to reduce their costs while enhancing cyber security and business agility and needing to free up IT leadership's time to create business value through new applications.

INTRODUCING 



Named as one of the top companies in their industry by independent analysts, Genpro is a “transportation management” provider. For example, suppose a major grocery chain needs to move 100 truckloads of fresh cabbage from growers in California to supermarkets all over the Northeast for St. Patrick’s Day. Genpro will act as a broker and use a mix of algorithms and human insight to select 100 trucks from thousands of small trucking firms each with one or a handful of trucks.

Genpro’s customers rely on them for a variety of solutions. These solutions include on-demand transportation for everyday transportation or to handle unexpected load spikes, as with specialty items for holidays—say, pumpkins for Halloween—or bumper crop promotions; preferred contracted rates with reserved capacity for volume commitments; and outsourced transportation management, where, in effect, a customer can outsource some or all of their transportation to the Genpro team, and focus on their core business.

Genpro, then, is something like Uber, Airbnb, or eBay, matching thousands of buyers and sellers of transport capacity, without owning any trucks or employing any drivers itself. In fact, while it is a transportation company, it can also be viewed as—at its very heart—a high-tech information management company. Complex algorithms, combined with human insight, not only match transportation capacity buyers with sellers, but also optimize routes, optimize combinations of LTL (less-than-truckload) shipments, help manage risk, dynamically track shipments in real time, offer business intelligence and data mining to support supply chain optimization, and much more.

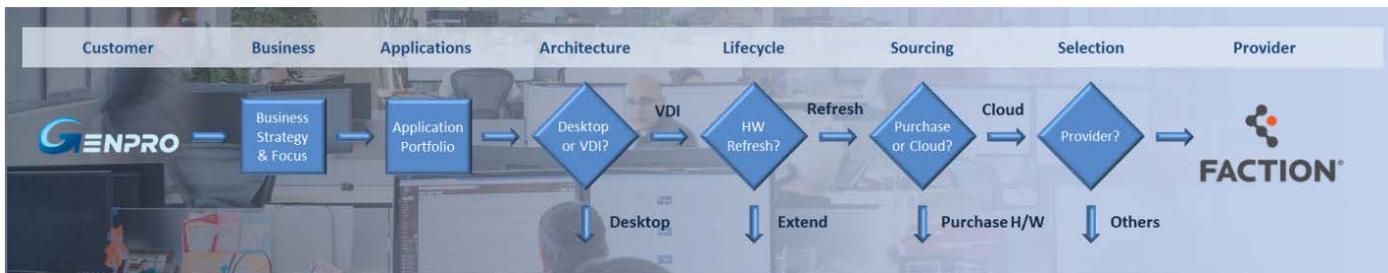
IT AT GENPRO

Genpro faces the IT challenges that many other small and medium businesses do: IT is essential to Genpro's business operations and customer satisfaction, yet there are always staff and budget constraints and a continuous need to do more with less. Their small staff of IT professionals must support 80 users brokering transportation 24 hours a day, 7 days a week. This staff supports the development of algorithms, systems, and user interfaces for all information-based functions such as transportation brokering and route optimization. This team focuses on investing in information technology capabilities that will enable Genpro to continue growing and differentiating itself.



Genpro Team members

Clearly, a fundamental requirement is how to best provide team members with desktop functionality, to perform tasks ranging from transportation brokering, to client communications, to spreadsheet and document editing, to browsing the web. Genpro's decision process followed several steps, beginning with Genpro's business drivers to determine the portfolio of applications; the architecture required to support those applications and whether to retain existing physical infrastructure, and then a determination of how best to support that infrastructure ultimately leading to a leading-edge cloud solution from Faction.



DESKTOP OR VDI?

The first major question Genpro had to answer was whether to run a traditional desktop environment or to exploit virtual desktop technology. Traditional desktops have numerous challenges. They are costly in terms of capital outlays vs. thin clients. Equipment breaks, causing outages and loss of data. Support staff has to crawl around under desks to replace desktop hardware. Users load a variety of applications, which may be of unknown provenance. They may accidentally download viruses, ransomware, adware, or spyware.

Even if all applications are authorized, various combinations of applications or differing update cycles or patches may cause spurious behavior and transient errors on one desktop not seen on another, driving a need for additional time to be spent by limited IT personnel on troubleshooting. As a result, Genpro decided to run a virtual desktop—Citrix XenDesktop—with a single “golden image,” i.e., preconfigured set of authorized applications for all users to run.



In this architecture, “thin clients” with limited functionality are used to access virtual desktops which are actually running in a remote location. The thin client has a keyboard, mouse, and monitor, and presents the same user interface as on a traditional desktop. However, because of the limited functionality and lack of moving parts, the thin client is less prone to failure, and in the rare case that it does fail, can be easily replaced by a normal user. More importantly, virtual desktops can be more easily locked down, eliminating problems such as viruses or unusual combinations of interacting applications that could cause transient problems.

The bottom line: the total cost of the system—across thin clients, the server farm, and networking—is greatly reduced—including capital expenditures, operating expenses, IT support costs, and user downtime. At the same time, customer satisfaction and revenues are maximized through higher availability.

REFRESH HARDWARE?

Thin clients are low cost, highly reliable, and long-lasting. However, their performance—and thus user productivity and customer satisfaction—ultimately depends on the capabilities of the remote server farm. As desktop application suites become more complex due to richer interfaces and more sophisticated applications, old hardware can cause applications to run more slowly. Even a few seconds of difference in opening or closing a file or running a transportation brokering application add up across thousands of transactions and scores of users. Moreover, one might think that today's cloud-based software-as-a-service is supposed to reduce endpoint processing, but in reality, increasingly rich user interfaces—even in browsers—increasingly require more memory and more CPU.

Genpro traditionally operated its own Citrix XenDesktop server farm in a hosting / colocation facility, but several factors acted as catalysts for change. First of all, the hardware that Genpro was using was five years old. Still serviceable, but productivity-impacting and ripe for a refresh. Second, the colocation provider that Genpro had been using had challenges remaining at its current site and was requiring that Genpro transport its equipment to a new site.

This presented an opportunity for Ari Weinstock, IT Manager at Genpro, to consider three options:

1. Move the existing hardware and delay the refresh cycle;
2. Purchase new equipment to deploy in the new location with the existing colocation provider,
3. Or bypass an equipment purchase entirely and instead outsource infrastructure to a cloud provider.

The first option was quickly ruled out due to the age of the server infrastructure.



THE QUESTION IS PURCHASE EQUIPMENT OR LEVERAGE CLOUD?

Ultimately, then, the decision came down to whether to purchase and operate its own equipment or leverage a cloud provider and if so, which one. This decision needed to be evaluated in terms of not just hardware costs, but business strategy and the overall applications context including things like WAN backup. There were two ways to evaluate the decision: qualitatively and quantitatively.

The strategic benefits of leveraging a cloud partner were clear. After all, Genpro is in the business of taking on its customers' transportation challenges, which is not their customer's core business; in the same way, it would make sense to outsource Genpro's IT infrastructure, which is not Genpro's core business, allowing its IT organization to focus on higher value tasks, such as advanced algorithms and optimizing the suite of applications to support its ever-growing business and portfolio of transportation management solutions. In addition, a cloud provider with rapid provisioning and infrastructure agility could increase Genpro's business agility. For example, new customers, new markets, new competitors, new business applications, new risk factors, new compliance requirements, or other rapidly shifting conditions such as seasonal peaks or macroeconomic factors demand a responsive infrastructure.

From a quantitative perspective, the analysis needed to look at tradeoffs across a multi-year window: the time period from the current change until the next potential refresh cycle.

For an equipment purchase followed by ongoing operational expenses, the total hardware outlay would include:

- redundant 10 Gigabit / second Ethernet switches to connect thin clients to connect the back-end components to each other and to the thin clients
- midrange performance 10 Gigabit / second Ethernet-based network storage for data backup
- higher performance storage for application, database, and file servers
- Xen Server hosts for running virtual desktops and virtual machines
- redundant firewalls
- miscellaneous hardware such as cables; software licenses
- and services such as consulting and maintenance

THE DECISION

Weinstock's comprehensive analysis showed that the percentage of cost savings over a multi-year period would be well into the double-digits by utilizing Faction rather than another cloud provider or compared to an initial hardware refresh expenditure, plus the annual recurring expenses.

Also, the strategic and qualitative factors that outsourcing to Faction offered, such as greater agility and having the ability to focus on value-added applications was an important part of the decision.



SUMMARY

Ultimately, Genpro followed its own corporate theme: focus on your core business and leave non-core activities to a strategic partner that can save you money, while increasing your flexibility, agility, reliability, and performance through on-demand resources.

ABOUT FACTION

Faction® is an enterprise-class IaaS cloud provider offering private, public and hybrid cloud solutions. Faction® has SOC 1 & 2, HIPAA compliant and PCI capable cloud nodes in 8 geographies in North America. It provides services directly to enterprise customers and through channel partners. Faction® is a Platinum-level NetApp Service Provider, and a member of the VMware Cloud Provider Program (VCP). For more information, visit factioninc.com or call (855) 532-4734.

ABOUT GENPRO

Genpro provides cost effective expedited delivery services, maintaining clear and transparent client communications throughout the transportation lifecycle with a single point of contact who understands its customers' unique business needs. Genpro is regarded as one of the top Domestic Transportation Solutions Providers. Its 20+ year relationships and retention are a clear testimonial to its impeccable integrity and customer service.

Today Genpro operates as both a transportation provider for on-demand needs as well as an extension of its customers' transportation department. With a dedicated staff of professionals who are available 24/7/365, Genpro provides continuous shipment visibility and communication through its Transportation Management (TM) Services. From load tender to final delivery, Genpro is there to ensure that shipments are on schedule and its customers are informed "real-time" as to the status of their freight.

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