

Leica Geosystems

Leica Geosystems has supported customers globally for over 200 years. Learn how its SmartNet business, launched under a radically different business model, overcame the challenges of change, reaped numerous benefits and is now upheld by the rest of the Leica Geosystems organization as the poster child for successful deployment to a public cloud.

business profile

Leica Geosystems North America is based in Atlanta, Georgia with regional offices throughout the United States. Leica Geosystems' customers range from "Mom and Pop" businesses to Fortune 500 companies that use its products for precision alignment. Typically wherever there is a need for precise measurement as the basis for actionable geospatial intelligence, Leica Geosystems can be found. The company is confident as to the reason for its success over the last 200 years. Wendy Watson, director of reference station operations for Leica Geosystems, states, *"Our customer service and quality sets us apart from our competition, along with the fact that very few organizations in the world do what we do."*

a different strategy creates new challenges

The story begins with the launch of Leica Geosystems' SmartNet business in 2010. SmartNet was developed to provide high-precision, high-availability Network RTK (Real-Time Kinematic) corrections for any application, using any constellation, while simultaneously being open to all. With a robust, traceable and repeatable Network RTK correction, users of SmartNet obtain centimeter-level accuracies tied to a common datum.



PROFILE

- ▷ SIZE: Enterprise
- ▷ TYPE: Software
- ▷ INDUSTRY: Technology
- ▷ CLOUD APPLICATION: SaaS & Production
- ▷ HEADQUARTERS: Atlanta, Georgia, USA

CHALLENGES

- ▷ Had to transition from a sales business model to a subscription business model
- ▷ Needed to scale quickly and easily
- ▷ Limited in-house VMware knowledge

BENEFITS

- ▷ Redirected focus onto SmartNet's core business
- ▷ Over three years, SmartNet has grown in size, scope, scale and sales by more than 300%
 - From 200 stations to over 600 stations
 - From around 20 servers to 60 servers
 - From servicing a few hundred customers to over 2,000 customers

Leica Geosystems' business includes designing, developing & manufacturing hardware and software products for sale. However its traditional business model was turned on its head with the launch of SmartNet, a software-as-a-service business. SmartNet's initial strategy was to use Leica Geosystems' infrastructure and software and build a network of GPS receivers throughout North America. The data generated from those receivers would be streamed back to central servers and accessed by users with the correct identification and password in real time on a subscription basis. Understandably, introducing this new type of business model into a standard corporate sales environment created numerous challenges for an organization that had been used to selling product for 200 years.

Initially, SmartNet used a small bank of Leica Geosystems' servers for testing purposes and to determine how it would be able to host and stream data. It soon outgrew that initial equipment so Wendy, and her Leica Geosystems colleague, Tyler Collier, product engineer, moved the setup to a different location. Wendy explains the issues they faced, **"We had moved the setup to another corporate IT office in Rhode Island, but by doing that, we were faced with the challenge of IT staff sometimes being unavailable to help when there were network issues because the office operated from 9-5 while we were operating 24/7. We also had expansion challenges because every time we needed to purchase additional servers or software, we had to put in a fixed asset request which slowed the process down."**

Armed with the knowledge they needed equipment that was available 24x7, Wendy and her team began researching other alternatives — including using outsourced infrastructure. Wendy comments, **"As we grew the business, we had to be able to make a phone call and access more servers when we needed them without having to go through a lengthy approval process for fixed assets. We also wanted to be able to stay current without making big investments in hardware that would become old and obsolete before it was completely depreciated."**

The team came up with a strategy to lease IT infrastructure and let somebody else worry about the assets, software updates and ensuring access to SmartNet's network, which has to run 24x7. But the SmartNet team also knew that if the network did go down, team members would need immediate access to someone at the facility to fix the problem. That was a key requirement that simply wasn't available at the corporate office.

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— Wendy Watson, Director of Reference Station Operations

finding the right solution

Where do you go for information on leasing IT infrastructure? Wendy and Tyler initially consulted an IT manager in Hexagon's Metrology department (Hexagon owns Leica Geosystems). He conducted preliminary research and came up with a number of options that he thought would best fit SmartNet's requirements, handing the team a list of five vendors that was then narrowed down to three for interview. The SmartNet team conducted a rigorous interview process that covered overall requirements, pricing, and the solution that was presented. Wendy comments, *"At the end of the day, we looked at the technology behind iland as well as our comfort level in speaking with the iland staff. It was apparent that this was the resource we wanted. There was one other cloud provider that was slightly less from a cost perspective but their overall solution wasn't as complete for our requirements."*

how is Leica Geosystems using iland's cloud?

Leica Geosystems' SmartNet team is using iland for a full virtual machine environment that currently hosts approximately 60 servers. There is an active configuration with disaster recovery set up in iland's Dallas datacenter with SmartNet's primary facility based in Boston. The system works by streaming data second-by-second from 600 real-time sites spread across North America. The data is processed and then re-provisioned as a correction service to customers in the field that need precision GPS applications – primarily in the engineering, surveying, agricultural and construction markets. SmartNet's demands are unique – it is latent intolerant, which, when coupled with its SaaS offering, has presented the SmartNet team with a few challenges, such as trying to figure out the right recipe for success as far as server configurations, resource configurations and allocations are concerned. Wendy is complimentary of the iland team in that respect. *"The support staff at iland has always been there to analyze and endeavor to understand what we're trying to do, and then they recommend or work with us to come up with a solution that helps optimize our environment."*

why iland?

Although Leica Geosystems' SmartNet team had some previous experience with VMware environments in other areas where they had either managed, operated or helped to set up the environment, the team's in-house VMware experience was very limited. As a result the SmartNet team encountered problems including operation of VMware environments and getting changes made in order to optimize the environments.

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Consequently, iland's extensive knowledge of VMware played a key role in Leica's decision to opt for the cloud provider. **"The overall knowledge of VMs and the VMware environment, itself, was a key factor. We felt comfortable knowing that this was what we needed to effectively transition to and be able to scale. iland's knowledge, service culture, expertise, partnership and relationship with VMware were major selling points for us. We could lean on the experience of iland as opposed to us bringing all the expertise,"** commented Wendy.

The difference a public cloud makes...

Leica Geosystems' SmartNet has seen phenomenal success both operationally and financially. Tyler reports, **"Over the last three years we've grown in size, scope, scale and sales by over 300 percent. We went from 200 stations to over 600 stations, from around 20 servers to 60 servers, and from servicing a few hundred customers to over 2,000 customers."** One of the key benefits is the ability to scale as needed because the team no longer needs to worry about acquiring more fixed assets. It no longer faces the bottlenecks and performance issues incurred by having to spool up, configure and rework a new server as was the case in a traditional environment. Now the team can simply add or reallocate resources based on bandwidth and the needs of Leica Geosystems' customers. Tyler offers an example of the time-saving benefits that Leica Geosystems' SmartNet has gained since moving to iland's cloud environment. **"One of the internal software applications we run required an OS change from Windows 2003 to Windows 2008. We were able to preset 50 virtual machines with all the appropriate information, ready to be configured, ready to go live, and move them from a setup environment to a production environment in a matter of hours. In the past, deploying 50 new servers with 50 new operating systems would have taken weeks and weeks. Configuring and setting up the VMs took a little time, but the transition from the old OS to the new OS in the cloud took a matter of hours. We were able to take the system down for only four hours instead of 3 or 4 days. That's a huge difference for us because our customers expect access 24x7x365."**

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— Tyler Collier, Product Engineer

what does the future hold for Leica Geosystems' SmartNet?

Immediate plans include transitioning from a disaster recovery facility to a full failover plan where Leica Geosystems simultaneously has two concurrent active sets of servers. Instead of employing a basic disaster recovery facility, a secondary site will be pulled up in the event something unfortunate happens. Full cloud-based disaster recovery will enable Leica Geosystems to failover to an active server without any effect on customers, who wouldn't even notice the transition.

As a result of Leica Geosystems' success employing the services of an external cloud provider in North America, the company's European and Australian operations are reviewing their infrastructure with a view to modeling it after the Leica NA/iland partnership. *"It's been a very successful partnership with iland,"* commented Wendy. *"The ability to grow and scale so quickly and easily is amazing. It's much easier to go to management and sell infrastructure-as-a-service as an operational expense that appears in our P&L. We pay iland monthly, which is more digestible because as we scale, cost increases are much smaller than they would be if we were purchasing fixed assets. From a business perspective it's a vast improvement because we're not trying to manage hardware any more. We don't have to worry about hiring people to do that and we don't have to worry about old servers."*

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about iland

With datacenters in the U.S. and U.K., iland delivers proven enterprise cloud solutions that help companies do business faster, smarter and more flexibly. Unlike any other provider, iland's technology and consultative approach mean anyone—regardless of expertise, location or business objective—can experience the benefits of a hassle-free cloud. From scaling production workloads, to supporting testing and development, to disaster recovery, iland's secure cloud and decades of experience translate into unmatched service. Underscoring the strength of its platform, the company has been recognized as VMware's Service Provider Partner of the Year, Global and Americas.

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