



30 minutes to complete purchase
vs. 11 days to receive a price quote for HPE GreenLake

Get up and running faster with Dell APEX Data Storage Services

APEX Data Storage Services provided a smoother STaaS procurement and deployment process compared to an HPE GreenLake storage solution

By investing in a Storage as-a-Service (STaaS) solution, organizations can gain the convenience of pay-as-you-go cloud consumption models while maximizing flexibility and control by keeping the solution on-premises or in a co-location facility. STaaS solutions that offer easy pricing and procurement, quick time-to-value, and proficient support can help organizations make their IT and business goals a reality without delay.

In the Principled Technologies data center, we compared the procurement processes (through regular customer channels) of two STaaS solutions: Dell APEX Data Storage Services and an HPE GreenLake storage solution. The process of acquiring the APEX Data Storage Services solution was quick and easy, while the HPE GreenLake storage solution acquisition had several delays and issues. We received pricing immediately through the APEX Console, while it took 11 days to receive a price quote for the HPE GreenLake storage solution. In just 13 days from purchase, our APEX Data Storage Services solution was up and running, while the HPE GreenLake storage solution wasn't ready for operation until 95 days after purchase.

With supportive customer service; quicker pricing, delivery, and activation; and strong management support, we found that APEX Data Storage Services provided a better overall purchasing and deployment experience for moving to STaaS compared to the HPE GreenLake storage solution.



Activation in under 2 weeks
vs.
over 3 months for HPE GreenLake



No flaws in installation
vs. 3 weeks of troubleshooting connection issues with HPE GreenLake

At-a-glance comparison

To compare the procurement processes of two STaaS solutions, Principled Technologies technicians ordered solutions from Dell Technologies and HPE, documenting our experiences from first contact through installation. Table 1 details some key differences in the Dell APEX and HPE GreenLake procurement processes. More details are available in the sections that follow.

Table 1: At-a-glance comparison of the procurement processes for the two solutions.

APEX Data Storage Services	HPE GreenLake storage solution
Ordering process, from quote to purchase, all online	Order through sales contact via emails and calls
Immediate pricing available	Lengthy process to get a price quote—11 days
Arrived cabled together in a fully assembled cabinet	Arrived in multiple boxes. Field engineers arrived and performed installation.
Active management, using always-on connections, monitoring hubs, and virtual jump boxes to address issues as they occur	Relies on phone home/streaming for monitoring, and requires a customer provided virtual machine for metering.
All sales and support through Dell*	Sales through a third-party reseller, support through HPE

**In our study (paper originally published September 2021), we conducted all sales and support through Dell. As of October 2021, US partners can act as resellers. To learn more visit <https://www.dell.com/en-us/blog/delivering-customer-choice-and-flexibility-with-apex/>.*

About APEX Data Storage Services

Part of the APEX portfolio that offers a variety of infrastructure as-a-Service options, APEX Data Storage Services is “an as-a-Service portfolio of scalable and elastic storage resources built on industry-leading technologies.”¹ Through the APEX Console, administrators get self-service access that allows them to quickly respond to changing business needs. An actively managed solution, Dell Technologies monitors status around the clock to ensure high availability and that all service levels are met. Dell Technologies offers a 90-day money-back guarantee for APEX Data Storage Services.

To learn more about APEX Data Storage Services, visit <https://www.delltechnologies.com/APEX-Storage>.

Spend less time getting price quotes through the APEX Console

If your organization is looking to adopt a STaaS solution to increase business and IT agility, setbacks in the procurement process can prove frustrating. After landing on your desired solution, the next step is to receive price quotes and make a purchase. In our efforts to obtain pricing for APEX Data Storage Services and the HPE GreenLake storage solution, we found that the Dell APEX team made ordering simple. Obtaining pricing for the HPE GreenLake storage solution involved ordering through a reseller and had considerable delays. Once we filled out our initial request form on the HPE website, HPE called to ask which reseller we wanted to work with to begin the sales discussion.

After we obtained access to the web-based APEX Console by creating a user account, we were able to quickly and easily get a price quote, simply by logging in and answering a few questions about our requirements; the process was entirely online. Conversely, we had to order the HPE GreenLake storage solution through a third-party reseller, and had little to no contact through online sources during the beginning purchasing stages. In all, it took 11 days to receive the quote for our desired HPE GreenLake storage solution (see Figure 1).

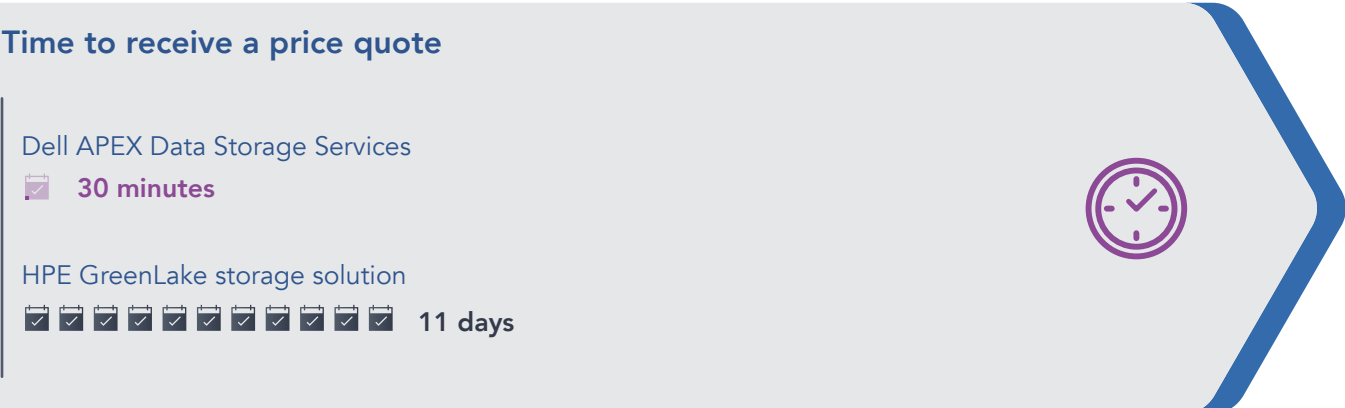


Figure 1: Time to receive pricing for the two Storage as-a-Service solutions. Source: Principled Technologies.

We selected standard, non-custom configurations for both the APEX Data Storage Services and HPE GreenLake storage solution. With pricing available on demand through the APEX Console, it was easy to order the APEX Data Storage Services solution we desired. The significant delays in getting pricing for the HPE GreenLake storage solution meant that by the time we received our price quote, the APEX Data Storage Services solution was just a few days from being activated in our data center.

Quicker time-to-value with APEX Data Storage Services

In the pre-deployment stage, the APEX team sent us forms to fill out for planning and offered a STaaS kickoff with our assigned Customer Success Manager, Managed-Services Project Manager, and other team members to prepare for the next steps.

At every stage of the process, the APEX team was communicative and gave us the assistance we needed. They gave us frequent updates throughout the delivery process. For the APEX Data Storage Services solution, the time from purchase to activation in our data center was only 13 days.

The delivery process for the HPE GreenLake storage solution took 7.3 times longer—the time from purchase to activation in our data center took over three months, or 95 days. (See Figure 2.)

Time from purchase to activation



Figure 2: Time from purchase to activation for the two Storage as-a-Service solutions. Source: Principled Technologies.

The timeline for the HPE GreenLake storage solution procurement was as follows:

- Date order was placed - 6/14/21 (Expected shipping date: 7/12/21)
- Date order shipped - 8/17/21
- Date order arrived - 8/19/21
- Date of installation - 8/26/21
- Date of activation complete – 9/17/21 (*defined as storage is installed and configured and monitoring is operational)

HPE changed our shipping date four times, because HPE held the shipment for “quality assurance validation.” The initial planned shipping date was 07/12/21. The HPE Service Advisor did not keep us updated as the shipping dates continued to shift—we had to reach out to them six separate times for updates on our order status.

Getting the arrays up and running in the data center and integrating them into the respective services

Integrating the APEX storage solution was streamlined and quick, delivering excellent time to value

The APEX Data Storage Services solution arrived in a pre-built cabinet and was internally pre-cabled. In meetings with the APEX services team and from pre-deployment documentation, we learned we would need to power the system on and have all drop-cables in place prior to installation. The APEX team made sure we had access to all systems and walked us through the APEX Console upon delivery. After delivery, the APEX team had our service up and running within a day and we were able to use the array within 14 days of ordering the solution. The team scheduled follow-up learning meetings so we could ask questions as we continued to use the solution.

Integrating the HPE GreenLake solution was fragmented and lengthy, delaying time to value

While we experienced no issues activating the APEX solution, the problems with our HPE GreenLake storage solution deployment didn't end with a slow delivery process. From the time the HPE GreenLake storage solution arrived in our data center, it took an additional 22 days before our solution was up and running. We also experienced more delays during the integration process while trying to gain full access to the HPE GreenLake Central console.

The HPE storage array arrived in our data center in several boxes on a pallet. The HPE field service technicians unboxed and installed the array and powered it on. After a brief initial configuration, they gave us login credentials, verified that we could log into the array, and left. This process took approximately three hours. After the technicians completed the installation and initial configuration, HPE began the process of activating the array so that they could begin importing it into the three consoles that comprise the GreenLake solution:

- InfoSight, a platform that HPE describes as using “the power of cloud-based machine learning to drive Global Intelligence and insights for infrastructure across servers, storage, and virtualized resources”²
- The Data Services Cloud Console (DSCC), which HPE states “provides a suite of cloud services across your edge, core, and cloud to accelerate data, agility, and innovation”³
- GreenLake Central, which includes billing information, among other things

You can launch all of these, and more, from the GreenLake one-stop landing page, which also lets you onboard devices and manage users and subscriptions.⁴

The process of importing the HPE storage array into these consoles was complex and lengthy, taking several weeks on top of the 22 days between installation and activation. We used multiple interfaces and worked with individuals from disparate teams, including the GreenLake team, the GreenLake Central team, the Nimble team, and the North America Services Enablement team. In addition, we worked with a delivery manager (DM). The DM did not appear to have direct insight into the status or progress of issues we were encountering, and had to request information on our behalf from the various teams. We are unaware of any dashboard or ticketing system we could have used to check on the progress, so we had to reach out for updates. In total, we exchanged 46 email messages (23 from HPE to us and 23 from us to HPE) related to the metering VM and GreenLake Central console onboarding. Note: In the [science behind the report](#), we provide greater detail on the process of importing the HPE storage array into these consoles.



Dell APEX Data Storage Services solution

Billing and subscription information

An overview of the GreenLake Portal

The GreenLake Portal provides centralized Single Sign-On (SSO) capabilities to the consoles to which it links, including the GreenLake Central console, the Aruba Central console, and the Compute Cloud Console—both found within the App Catalog portion of the GreenLake portal. (The HPE GreenLake storage solution deployed at PT did not include the Aruba or Compute Cloud consoles.) Additionally, the GreenLake Portal also offers controls such as hardware onboarding, user creation and role assignments, and organizational (tenant) management.

Within InfoSight, we could launch the local array manager, though we had to access it using either the local network or a VPN connection. Additionally, logging in to the array manager requires an additional separate authentication.

Within the DSCC, we could access additional consoles. We navigated to InfoSight and Data Ops Manager within the DSCC, though we found that InfoSight required an additional login rather than relying on SSO from GreenLake. Additionally, the DSCC offered a preview of the Block Storage console, which is a tool for users to provision storage on a cloud connected array, and a Backup and Recovery console, which we could not access due to limits to our subscription.

The GreenLake Central console provides the service-level view, including the GreenLake Billing element, which provides the monthly charges summary; a Capacity Planning Summary, which provides a consumption view element; and a launching point for the HPE Consumption Analytics Portal.

A look at the Dell APEX Console

Among other useful management features and views, the APEX Console provides a view of Active Subscriptions, which users can drill down into to see subscription details such as timing, pricing, locations, and any orders in progress. For users looking to purchase additional services, they can access documentation under the Catalog to learn more about Dell APEX services. The Console also offers information to begin the purchasing process and a process for getting immediate quotes for additional storage.

For questions and concerns, the Support menu provides access to the Tech Support ticket site and 866 number. We also found that the Metrics section gave an overall system health view—both with a numerical score and a colored green/yellow/red visual indicator.

We were able to launch the storage array Element Manager and CloudIQ from the APEX Console. Element Manager enables users to manage block or file storage. We found that accessing its management page required local network access or a VPN connection. Additionally, logging into Element Manager requires an additional separate authentication. CloudIQ, which provides a way to monitor storage, performance, and a system's overall health, utilized SSO capabilities, not requiring us to enter additional credentials.

Besides what we outline above, there are additional management features available in the APEX Console (see Figure 3).

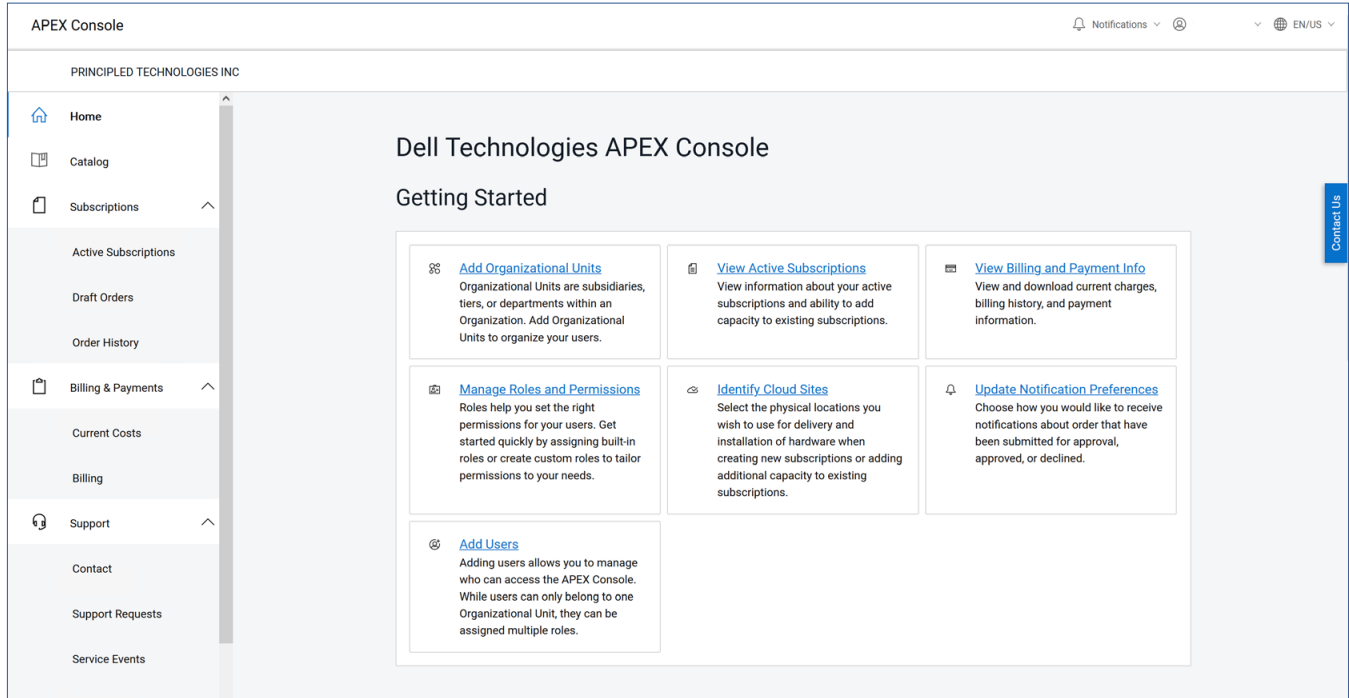


Figure 3: Home screen of the Dell APEX Console. Source: Principled Technologies.

The APEX Console also shows detailed usage, cost, and billing information. We were able to see our most recent invoices and their paid status (see Figure 4).

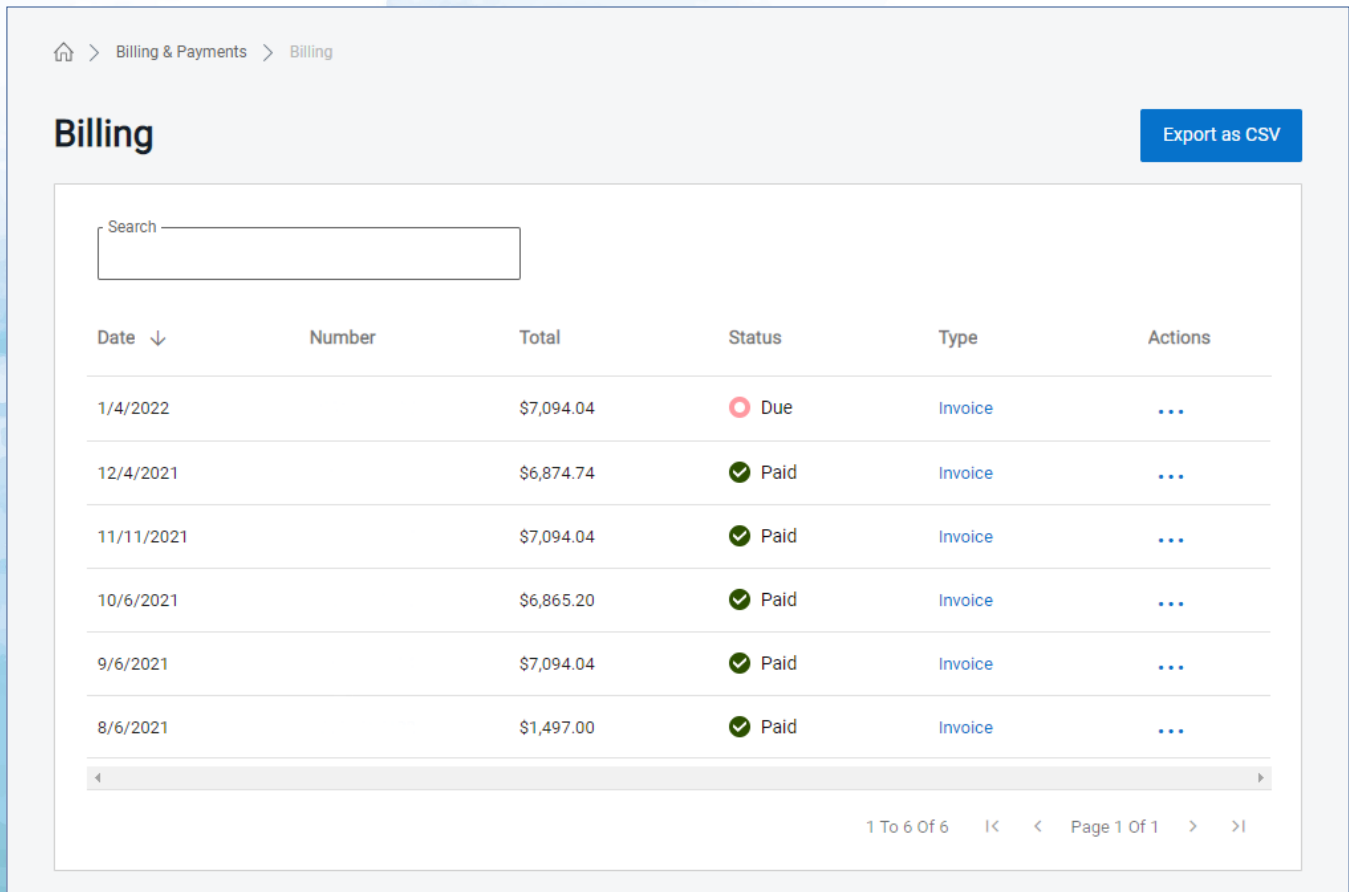


Figure 4: The Billing screen within the APEX console. Source: Principled Technologies.



Conclusion

Compared to the HPE GreenLake storage solution, we found that APEX Data Storage Services offered a better overall purchasing experience and a faster time-to-value. Based on our experiences, organizations looking to Dell APEX Data Storage Services can expect a knowledgeable team that walks them through the process of delivering an active management STaaS solution without delays during the purchasing and deployment processes. In contrast, our experience with HPE GreenLake was lengthier and more fragmented.

- 1 Dell Technologies, "APEX Data Storage Services," accessed September 2, 2021, <https://www.delltechnologies.com/APEX-Storage>.
- 2 "HPE InfoSight – Artificial Intelligence for autonomous infrastructure brochure," accessed January 28, 2022, <https://www.hpe.com/us/en/collaterals/collateral.a00043401enw.HPE-InfoSight-E2-80-93-Artificial-Intelligence-for-autonomous-infrastructure-brochure.html?rpv=cpf&parentPage=/us/en/solutions/infosight>.
- 3 "Data Services Cloud Console," accessed February 2, 2022, <https://www.hpe.com/us/en/storage/data-services-cloud-console.html>.
- 4 GreenLake one-stop landing page, accessed February 2, 2022, common.cloud.hpe.com.

To learn more about Dell APEX Data Storage Services, visit [DellTechnologies.com/APEX-Storage](https://www.delltechnologies.com/APEX-Storage)

Note: A previous version of this report contained a less-detailed description of the "Getting the arrays up and running in the data center and integrating them into the respective services" section and did not include the "Billing and subscription information" section.

Science behind the report

We concluded our hands-on testing on December 10, 2021. The results in this report reflect configurations that we finalized on June 14, 2021 or earlier. Unavoidably, these configurations may not represent the latest versions available when this report appears.

System configuration information

Table 2: Detailed information on the systems we tested.

System configuration information	Dell APEX Data Storage Services solution	HPE GreenLake storage solution
Data services	Block	Business Critical
Base capacity	100 TB	92 TB
Subscription term	1 year	3 years

Details of our experience importing the HPE storage array into GreenLake consoles

Importing the HPE storage array into InfoSight and the GreenLake one-stop landing page

- We began the process of importing the HPE storage array into the GreenLake consoles by working with one services enablement engineer from the North America Services Enablement team. This individual could not provide an explanation for the issues we were seeing, was ultimately unable to perform the import, and had to transition off the project.
- Roughly 2 days after we received the last email from the first engineer, we had an onboarding meeting with the second enablement engineer. They asked us where we were in the enablement process, because the only information they had received was that the enablement was unsuccessful. We walked this engineer through our progress and issues.
- The second services enablement engineer succeeded in getting the HPE storage array working in InfoSight, but not the GreenLake one-stop landing page or the GreenLake Central console. They opened a ticket with the Nimble support team on our behalf.
- After 2 days, the Nimble team onboarded the HPE storage array into a newly created "organization." (This is basically a customer organization on the main GreenLake portal, repository for information relevant to all of the users you'll invite in under that organization, with the roles and privileges affecting only that organization and no higher.) We received instructions on how to merge the GreenLake organization we had created with the first services enablement engineer into the new GreenLake organization so that we could continue. Once we had merged the organizations, we discovered that only an older asset was visible; the new one was not immediately available, but showed up later that evening in InfoSight.
- We then experienced issues with InfoSight authentication using HPE Passport. Our services enablement engineer provided us with a link to utilize the InfoSight legacy website, which gave us access to the portal.
- Next, the appliance showed as disconnected in GreenLake Data Ops Manager, which one accesses through the DSCC portal/console. Addressing this required opening a support ticket with the GreenLake team. After six days of escalation through support, the team had connected the HPE storage array to our unified GreenLake organization, but we lacked access to the GreenLake Central console.

Importing the HPE storage array into the GreenLake Central console

- After we had correctly configured all of the other consoles, we asked the DM about access to the GreenLake Central console. They said we needed to configure a “metering VM.” Our DM sent us the first of a series of emails containing partial instructions and requests for information.
- We configured the metering VM with an HPE engineer for connection to the GreenLake Central console.
- We sent an email to the HPE engineer who helped us set up the billing, asking about access to the GreenLake Central console. We received a response from the DM that creating access occurs after the onboarding, and they’d be following up with an email regarding the portal.
- We sent an email directly to the HPE engineer who performed the metering setup (copying the DM), requesting a status update. The engineer responded that they were in the process of sending the details to the GreenLake Central team shortly, after which we’d be able to find the details. We never did.
- We sent a follow-up email to the HPE engineer, requesting another status update. We received no response.
- We sent an email indicating that we still hadn’t heard anything from the GreenLake team, and had created an account on our own to see if we could gain some traction. The DM indicated that the GreenLake Central team had not created the GreenLake Central tenant ID, and the fact that our account was not a member of a created tenant was the reason that our account had no access. We also indicated that we had no way of accessing the billing statements that should have started the previous month.
- We received an email from our DM, who wanted to confirm that we had received an email with access for the GreenLake Central console. We replied that we had not received this email.
- Having heard nothing else from HPE regarding instructions or confirmation, we attempted to log into the account we previously created. After about a minute of what seemed to be circular redirects, we landed at the GreenLake Central console and were able to navigate.

In total, we exchanged 46 email messages (23 from HPE to us and 23 from us to HPE) related to the metering VM and GreenLake Central console onboarding. We also received multiple automatically generated emails each day from our SMTP server—which GreenLake required us to use for the metering server—alerting us about records being uploaded.

This project was commissioned by Dell Technologies.



Facts matter.®

Principled Technologies is a registered trademark of Principled Technologies, Inc. All other product names are the trademarks of their respective owners.

DISCLAIMER OF WARRANTIES; LIMITATION OF LIABILITY:

Principled Technologies, Inc. has made reasonable efforts to ensure the accuracy and validity of its testing, however, Principled Technologies, Inc. specifically disclaims any warranty, expressed or implied, relating to the test results and analysis, their accuracy, completeness or quality, including any implied warranty of fitness for any particular purpose. All persons or entities relying on the results of any testing do so at their own risk, and agree that Principled Technologies, Inc., its employees and its subcontractors shall have no liability whatsoever from any claim of loss or damage on account of any alleged error or defect in any testing procedure or result.

In no event shall Principled Technologies, Inc. be liable for indirect, special, incidental, or consequential damages in connection with its testing, even if advised of the possibility of such damages. In no event shall Principled Technologies, Inc.'s liability, including for direct damages, exceed the amounts paid in connection with Principled Technologies, Inc.'s testing. Customer's sole and exclusive remedies are as set forth herein.