

ESG Lab Review

HDS HCP Anywhere: Easy, Secure, On-Premises File Sharing

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Abstract: This ESG Lab review documents hands-on testing of the Hitachi Content Platform (HCP) Anywhere solution with a focus on ease of use, security, and efficient deployment.

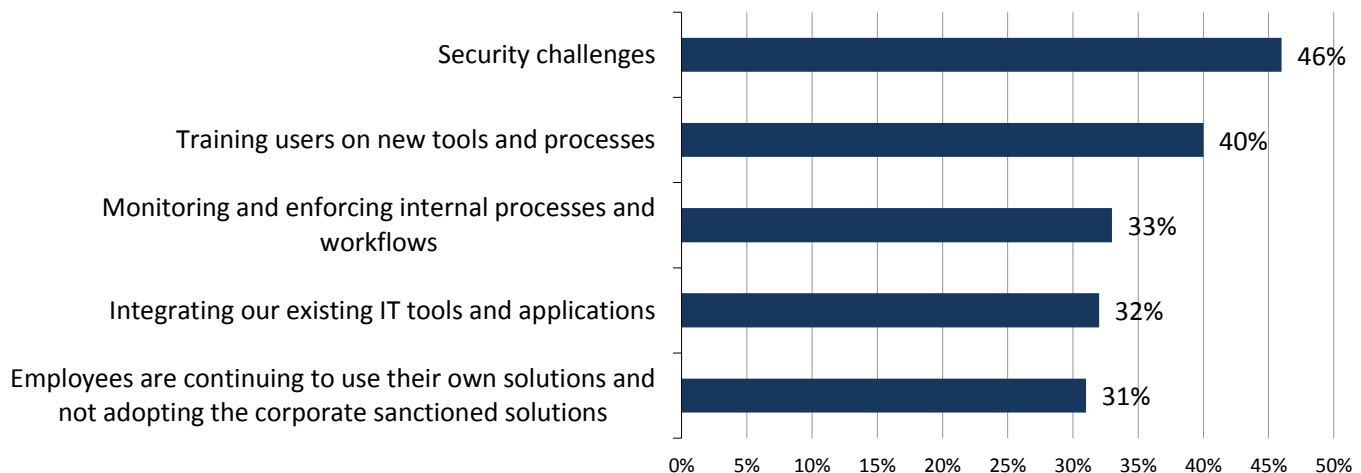
The Challenges

Online file sharing (OFS) and collaboration solutions enable users to store, access, and share documents and files from laptops, desktops, smartphones, and tablets using the Internet. These solutions have made it very easy for users to access and distribute content and can improve employee productivity. Unfortunately, they also expose organizations to data security, corporate governance, and regulatory compliance issues. Users can quickly and easily create their own accounts on free services—sometimes referred to as “shadow IT”—and place business documents in public clouds, leaving IT with no control of data, no protection, and no way to track information flowing out of (or into) the organization.

According to ESG research with IT professionals from small, medium, and enterprise organizations that have deployed these solutions, security remains the most cited challenge (see Figure 1), but is accompanied by other challenges as well.¹ Organizations also struggle with training users, integrating existing tools, and monitoring and enforcing processes and workflows.

Figure 1. Challenges with Online File Sharing and Collaboration Solutions

What challenges – if any – has your organization experienced since deploying an online file sharing and collaboration solution? (Percent of respondents, N=139, multiple responses accepted)



Source: Enterprise Strategy Group, 2013.

¹ Source: ESG Research Report, [Corporate Online File Sharing and Collaboration Market Trends](#), November 2012.

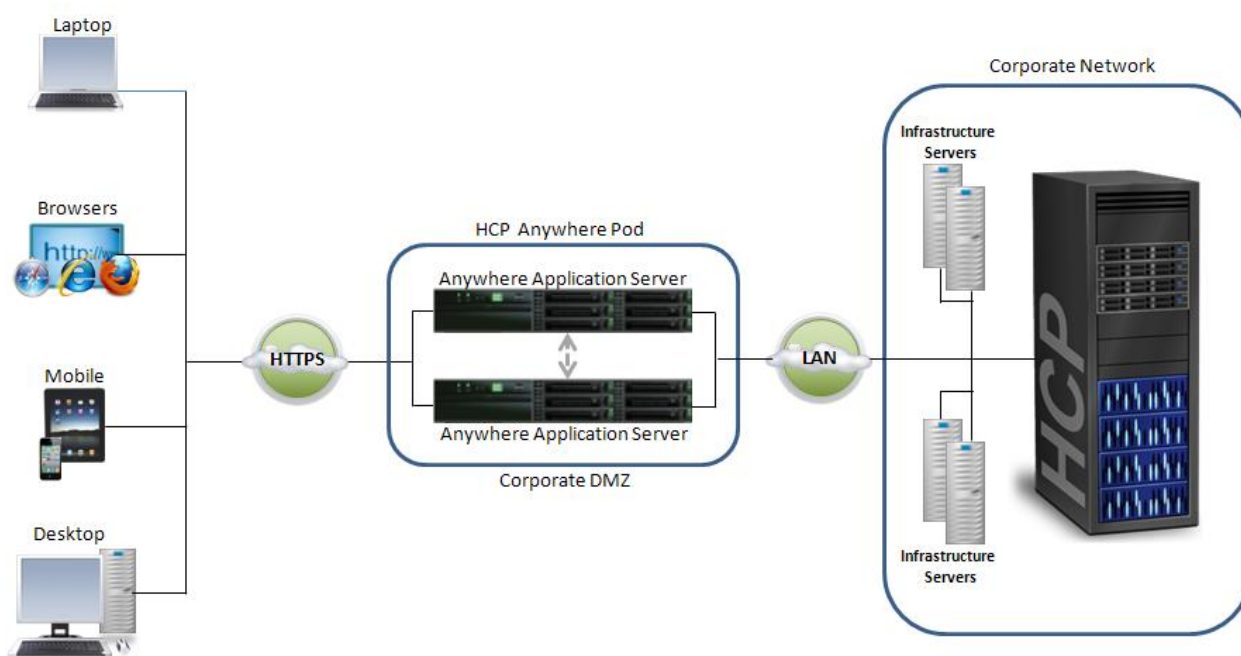
The goal of ESG Lab reports is to educate IT professionals about data center technology products for companies of all types and sizes. ESG Lab reports are not meant to replace the evaluation process that should be conducted before making purchasing decisions, but rather to provide insight into these emerging technologies. Our objective is to go over some of the more valuable feature/functions of products, show how they can be used to solve real customer problems and identify any areas needing improvement. ESG Lab’s expert third-party perspective is based on our own hands-on testing as well as on interviews with customers who use these products in production environments. This ESG Lab report was sponsored by Hitachi.

The Solution: Hitachi Content Platform Anywhere

HCP Anywhere is a solution for file sharing and content distribution that improves end-user productivity while maintaining corporate control of data. HCP Anywhere leverages internal corporate resources that are managed and protected by IT according to established policies. Public networks are used only for links to content stored behind the firewall.

As Figure 2 shows, HCP Anywhere consists of the HCP Anywhere pod containing the server and database infrastructure as well as HCP Anywhere software, with the corporate network connecting to a Hitachi Content Platform object store. Other parts of the corporate infrastructure can be integrated, such as Active Directory servers for user authentication and permissions, DNS servers, virus scanning, etc. These features enable content distribution and file sharing to benefit from full IT governance and management.

Figure 2. HDS HCP Anywhere



User Access

Users can access the application and data using web browsers, Windows and Macintosh laptops/desktops, and Apple iPhones or iPads. Hitachi Data Ingestor is also supported. Each pod supports up to 5,000 file sync/share users, and Pods can be added to scale out.

HCP Anywhere Pod

The HCP Anywhere pod includes dual active-active, clustered servers for both load balancing and automatic failover. Each server is configured with an Intel Xeon E5 processor, six 300GB, 10,000 RPM SAS drives, internal RAID, 8GB of memory, and 1GbE connectivity. Dual Dell PowerConnect 2824 switches are also included. The HCP Anywhere application installed on each server includes sync, notification, and web server components as well as the REST API and a Postgres SQL database.

Hitachi Content Platform

The HCP back-end provides object storage with compression and single instancing for capacity efficiency. Designed for cloud deployments, it enables organizations to store and protect unstructured content such as documents, files, images,

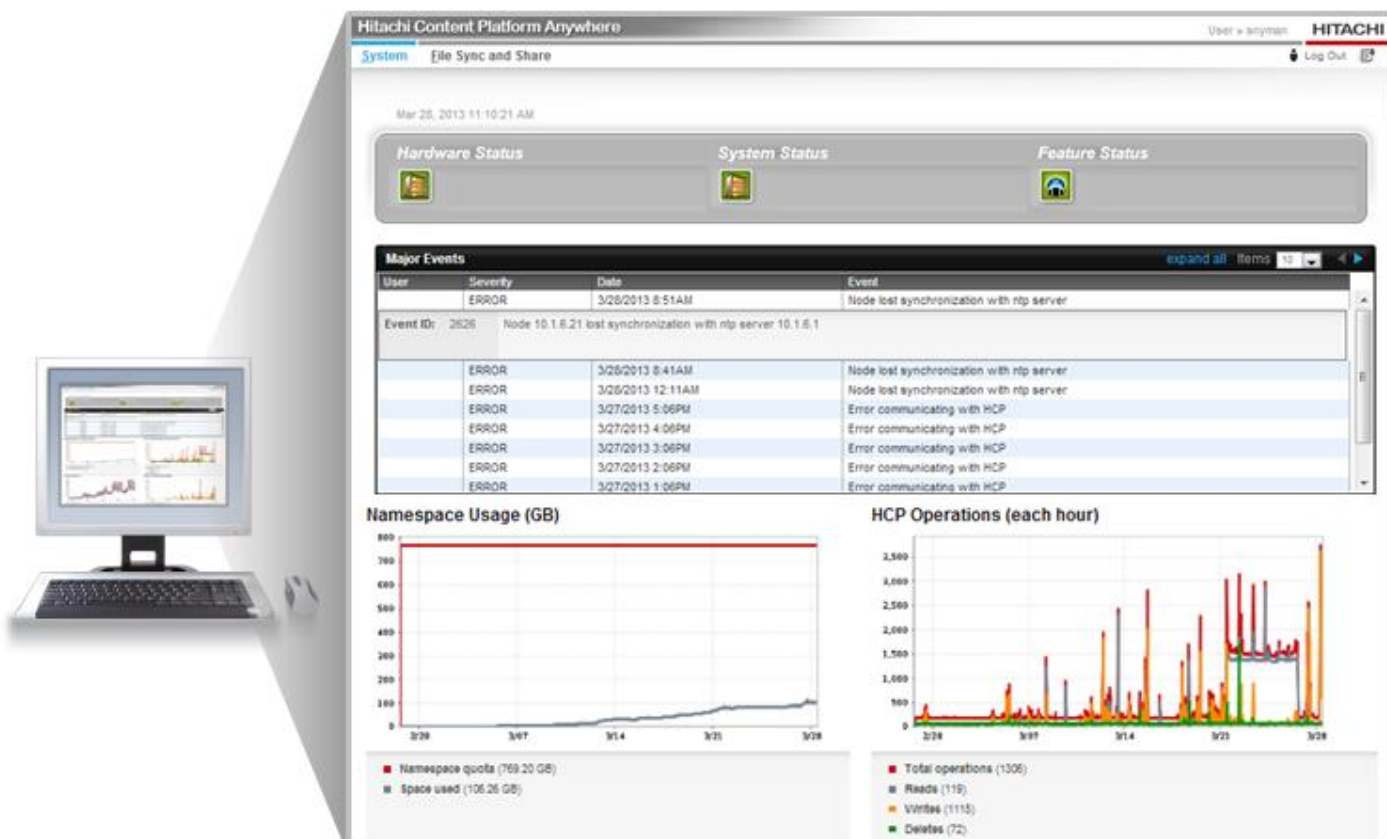
and video with massive scalability (supporting more than 400 million objects per node) and can retain content for any period of time. A single device can store data from different tools such as file servers, e-mail, and Microsoft SharePoint, and both storage tiering and configurable multi-tenancy are supported. Each piece of content is stored as an object, which is basically a container that includes the data and metadata used to define the structure and administration of that data. This provides IT with a deep understanding of the nature of the content and enables IT to assign policies and automate storage tiering with greater intelligence. HCP can automatically apply data retention and disposition, deleting expired content and reclaiming storage. Content is accessed through HTTP/REST APIs, NFS, CIFS, SMTP, and more. Monitoring, reporting, and audit capabilities are built in and enable chargeback.

The HCP back-end can also eliminate the need for endpoint backups, and a combination of built-in reliability factors can eliminate the need for backup of HCP itself. RAID-6 erasure coding, dynamic data protection levels, data integrity checking, retention of multiple versions of content, extensive metadata, and self-service recovery keep content protected and preserved without tape backups (although they are supported). Data can also be replicated from HCP for disaster recovery.

Usability

The usability section of this review is an exploration of the ease of use and ease of management of the HDS HCP Anywhere solution from both the end-user and system-administrator perspectives. ESG Lab began exploring usability by launching the Hitachi Content Platform Anywhere management interface. As shown in Figure 3, the System tab is selected as indicated by the blue highlight in the upper left corner of the figure. This selection allows detailed system events to be displayed and monitored in the Major Events window displayed in the middle of the figure. Also available for display if selected is detailed information of the File Sync and Share components of the solution. Also from this page, just above the Major Events view, more filtered information can be selected for different solutions components by selecting one of the three buttons: Hardware Status, System Status, or Feature Status.

Figure 3. Hitachi Content Platform Anywhere Management Interface



As shown in the middle of Figure 3, a system error was detected during our validation. The error was encountered due to the temporary loss of connection with the network time protocol (ntp) server. The bottom of the figure shows two of the many graphs available to easily monitor solution status. Here we see a storage utilization graph on the left and an HCP operations-per-hour graph on the right.

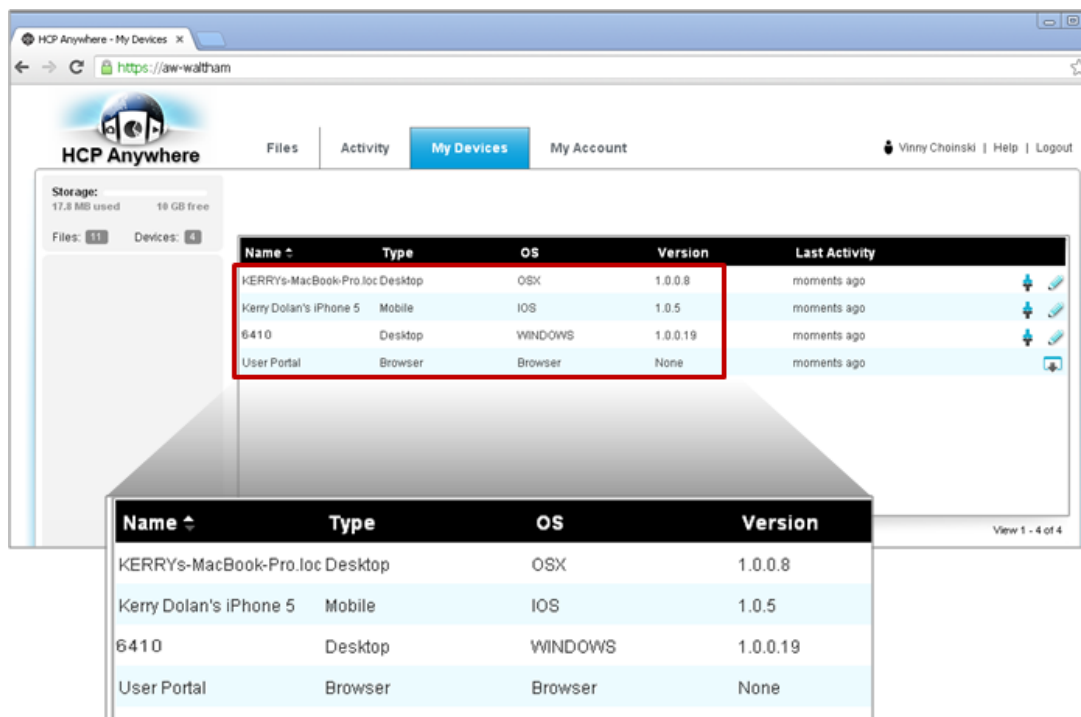
Next, from the system page, the Lab selected a more detailed view of some of the components that compose the HCP Anywhere architecture. Figure 4 displays information about the nodes or servers on which the HCP Anywhere application runs. The Figure 4 view displays IP address, status, alerts, and volume usage for both nodes. This view shows that both nodes are available, healthy (no alerts), and ready to start storing file data. Also easily available from this screen is the ability to shut down or restart nodes.

Figure 4. HCP Anywhere Node View



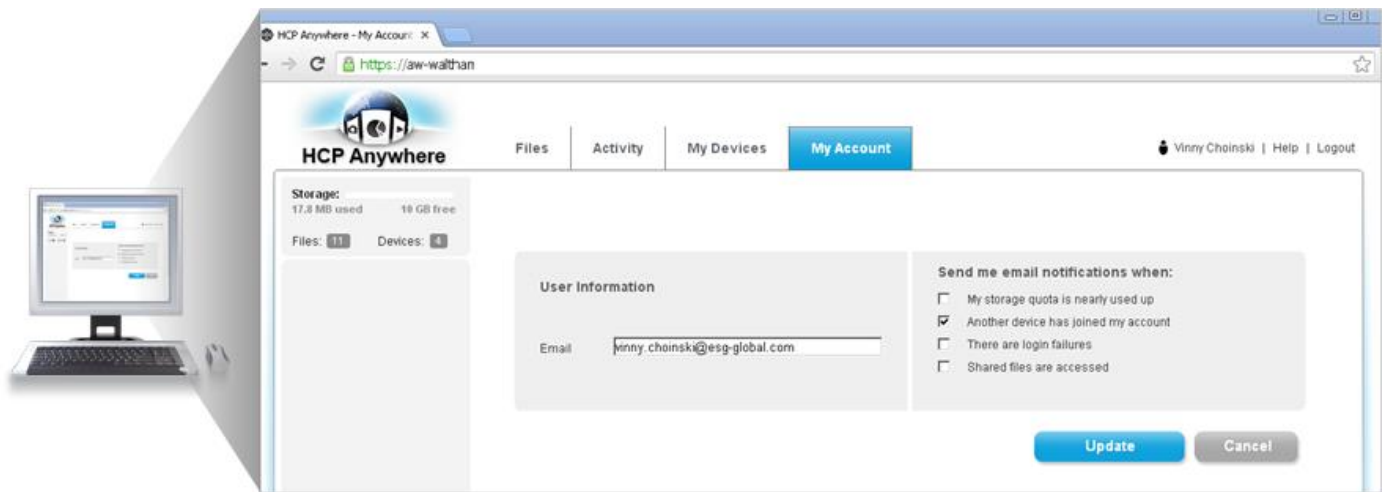
The Lab next explored the browser-based user interface. As shown in Figure 5, multiple devices were configured and assigned to the same user account that was set up for validation testing. Figure 5 shows that a Windows desktop, Mac desktop, and iPhone as well as the user portal were added to the account. All these devices can be used for accessing and sharing HCP Anywhere data.

Figure 5. Device View from User Interface



Finally, ESG Lab reviewed the e-mail notification options available in the user web interface. As shown in Figure 6, the Lab selected the option to send e-mail notifications to the user's e-mail account when a new device is added. The account can also be configured to send notifications when the storage quota is nearly used up, there is a login failure, or shared files are accessed. The interface provides a quick summary of storage usage, number of files stored, and number of devices registered as shown in the upper left corner of Figure 6. A more detailed list of synchronized data can be viewed by selecting the Files tab.

Figure 6. User Interface Features



Why This Matters

Ease of use is important for any technology solution because simple management and usage streamline tasks and improve productivity for both IT and end-users. However, ease of use is especially important for a corporate on-premises file sharing solution intended to replace the free OFS solutions that employees use without IT's knowledge. If the secure corporate solution is complex and difficult, employees may continue using public OFS applications unless strictly prohibited. It will be difficult to shift end-user behavior toward a solution that is approved by IT and maintains corporate policy and data security unless that solution is easy to use and provides the features that users require.

ESG Lab validated that the HCP Anywhere solution was easy to use and deploy with a clean, uncluttered GUI. For administrators, setting up user accounts was simple and fast. System monitoring and management is enhanced with the dashboard view, and IT policies can be implemented by group with easy drill-down to individual users or devices if needed. The redundant nodes in the Anywhere pod and robust HCP back-end ensure a rock-solid foundation for file sharing.

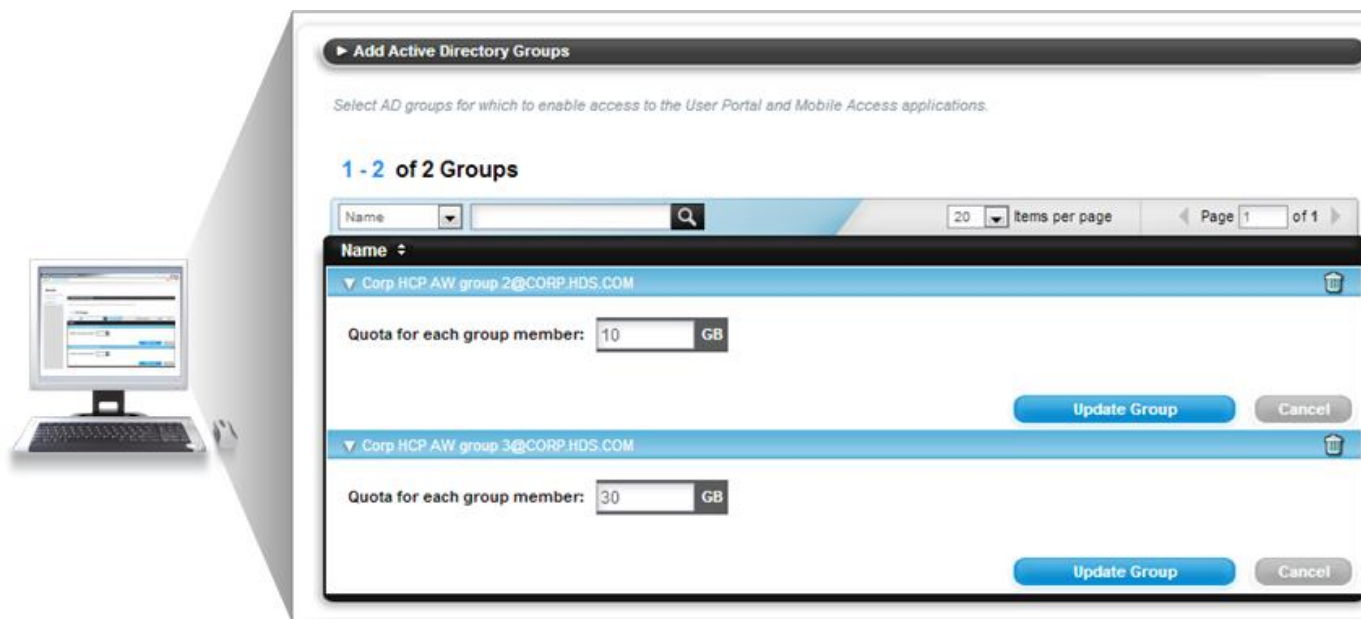
From the user perspective, the similar look and feel among all platforms (computer/mobile device/web) make it easy to access and share files regardless of location, without using portable drives or filling up mailbox quotas with attachments. The HCP Anywhere personal folder is quickly accessible on all devices, which simplifies and speeds file sharing. While the desktop application works well, additional features such as alert and device management and activity viewing are available through the self-service web portal.

Secure Access

In this section of the review, ESG Lab validates the features that enable HCP Anywhere users to securely access and share data from any location. Here, the Lab explores HCP Anywhere Integration into the corporate network environment as well as the process for sharing data.

As shown in Figure 7, ESG Lab used the HCP Anywhere management interface to add two new user groups to the HCP Anywhere validation test environment. Because HCP Anywhere integrates directly with Microsoft active directory (AD), the Lab was able to simply select a preexisting AD group from the corporate environment. Each group created in HCP Anywhere inherits the security attributes configured for its users in AD.

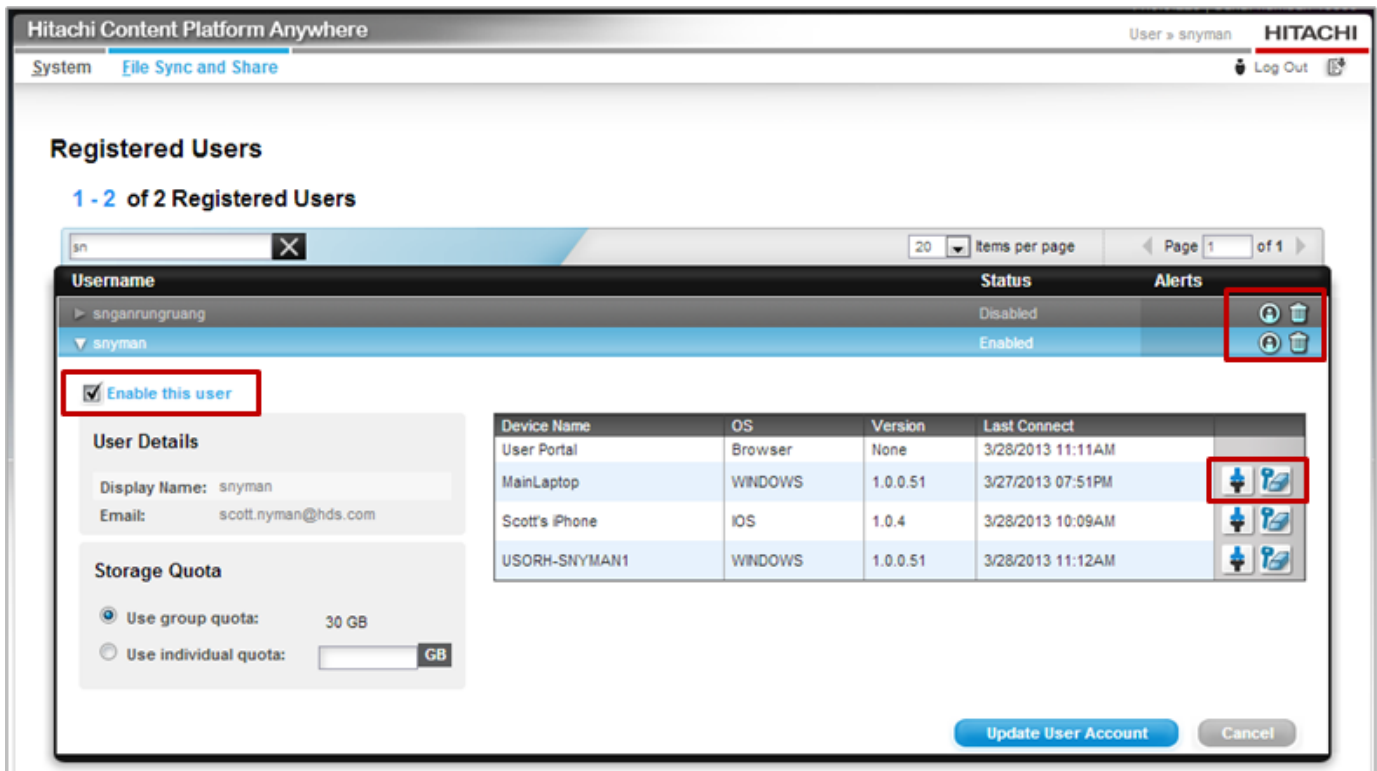
Figure 7. Active Directory Integration



As shown in Figure 7, the first of the two groups added to HCP Anywhere was configured with a 10GB storage quota. The second group was configured with a 30GB quota. This **Add Active Directory Groups** window from the management interface enables administrators to easily create groups or update existing group attributes. For larger environments, the administrator can search for a specific group by name and update or delete it. ESG Lab used this feature to update the storage quota for members of the second group from an initial setting of 10GB per user to 30GB per user.

Next, the Lab validated the ability HCP Anywhere provides to the administrator to securely manage data access options for an individual user. The Lab used the registered users view in the management interface to review available account management options. As shown in Figure 8, the Lab selected an individual user from the registered users list to view detailed account information. This window of the management interface enables very granular management of each user. As shown in the upper right side of the screen, a red box highlights two management icons. The circle icon, when clicked, allows client activity to be audited, and the trashcan icon enables the administrator to deactivate or activate an account. The red box on the left side of the figure indicates that the highlighted user account is enabled.

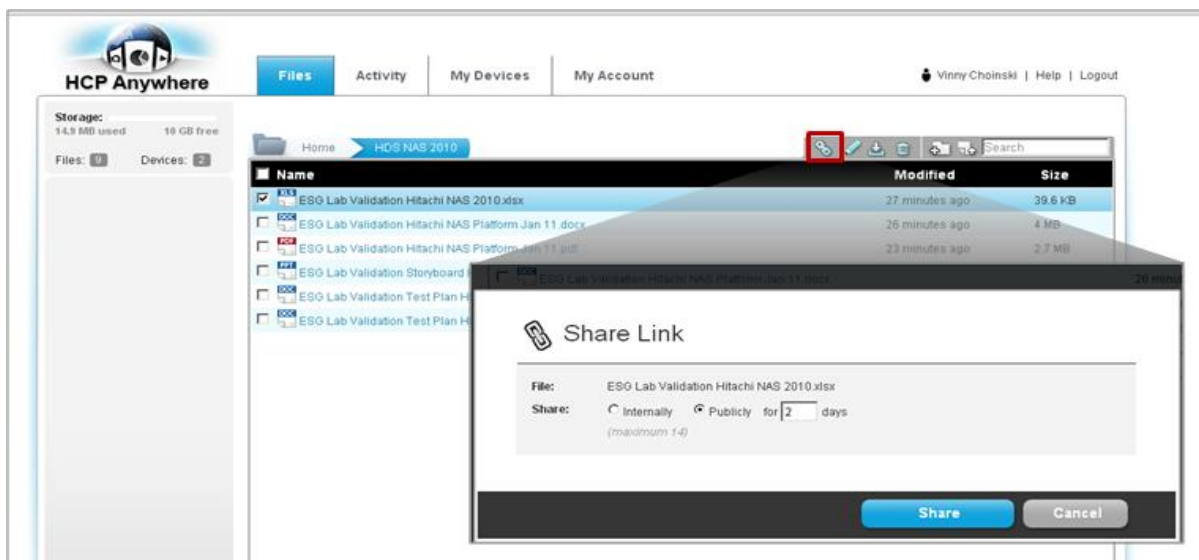
Figure 8. Admin GUI Access Control



The red box in the middle right side of Figure 8 highlights another pair of management icons. The connector style icon on the left allows the administrator to deregister a device and provides the option to remotely wipe HCP Anywhere data from the device. The eraser icon allows credentials to be cleared, forcing the user to login. Both of these features are critical for the secure management of corporate data. The erase feature comes in handy if a device is lost or stolen. The credential reset is important when account login information is compromised.

Finally, ESG Lab explored the process and options for sharing an individual file. As shown in Figure 9, HCP Anywhere allows files to be shared via an https link that can be e-mailed to those with whom you wish to share a file. The link will always point to the latest version of a file, ensuring that users consistently have the latest content and removing the need to repeatedly send new attachments. The user simply checks the file to share and then selects the link icon, as highlighted by the red box shown in Figure 9.

Figure 9. Data Sharing Features



The file can be shared securely with other AD users by selecting the “share internally” option, or it can be shared publicly with users outside the corporate network. For added security, the link can be set to expire after a specified number of days.

Why This Matters

“Rogue” OFS accounts—public cloud file sharing accounts that employees open and use for corporate files without IT’s knowledge or permission—present a significant data security risk. ESG research with IT organizations shows that of 499 respondents to a recent survey, 36% are aware of users with rogue OFS accounts, and another 34% suspect them. The proliferation of mobile devices is often a driving factor. In response, some organizations implement policies against these accounts, and some have resorted to actually blocking corporate network access to popular OFS sites.² These accounts can leave IT unable to manage and protect corporate intellectual property, unaware when data is vulnerable, and often unknowingly in violation of compliance regulations for confidentiality, accessibility, and retention.

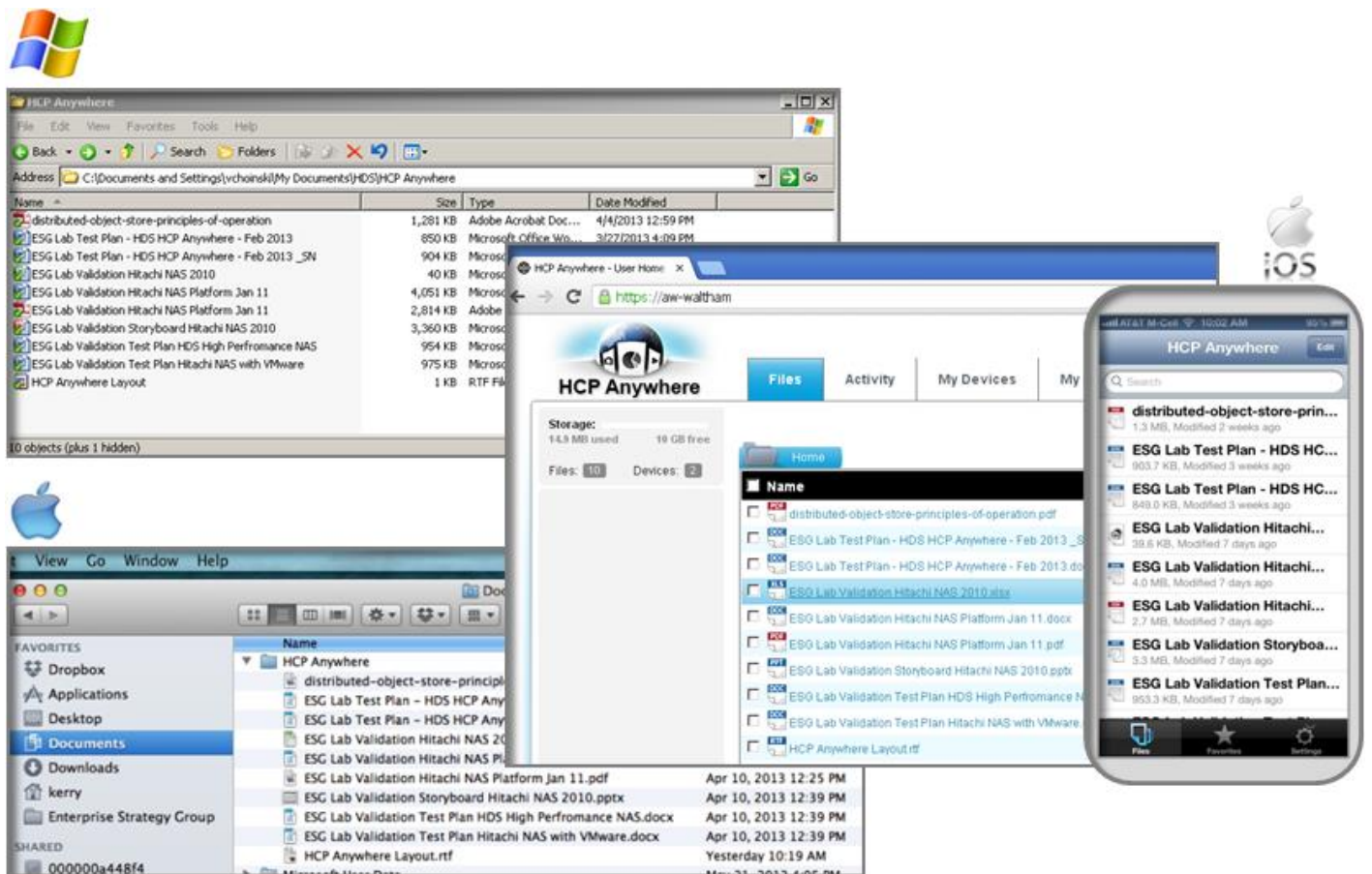
ESG Lab validated that HCP Anywhere keeps data secure and access restricted according to IT policies. Integration with Active Directory ensures corporate user authentication, and integration with virus scanning and other corporate security initiatives are supported. Data is shared only by using intelligent links that expire. From the administration GUI, IT can easily perform tasks such as enabling and disabling accounts, editing user credentials, and remotely wiping Anywhere-specific data from devices in case of loss or theft. Mobile devices are secured with a user profile and require an extended lock code.

² Source: ESG Research Brief, [Spotting and Stopping “Rogue” Online File Sharing](#), December 2012.

Efficiency

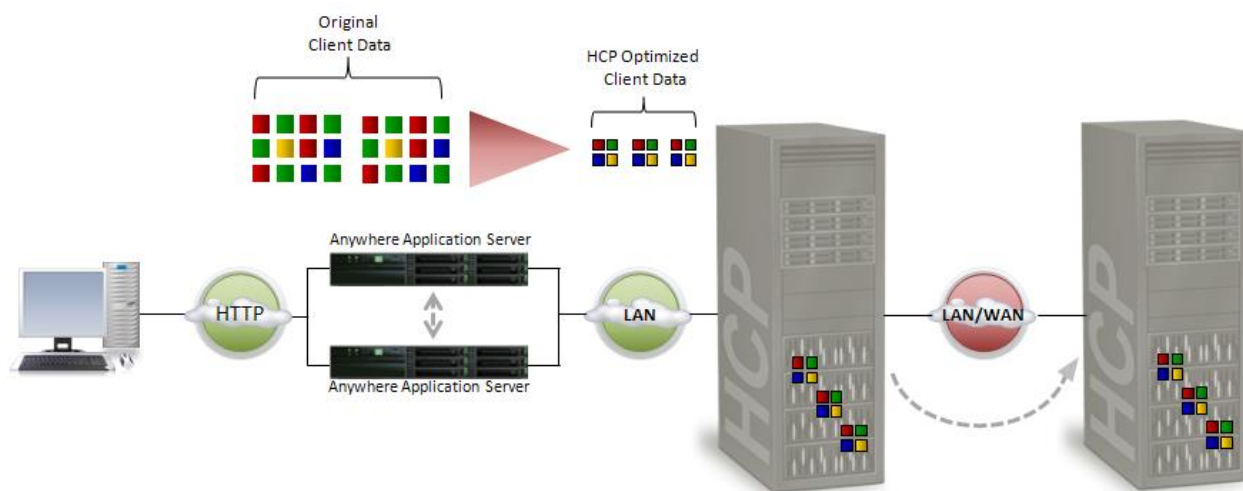
The efficiency section of this review is a validation of the ability of HCP Anywhere to provide file access and sharing capabilities with the ease of use commonly found in many of the consumer-level OFS solutions, while providing advanced corporate IT management features. As shown in Figure 10, ESG Lab configured a test account in the validation environment. The Lab then added a Windows laptop to the account and synchronized a directory of files from the local laptop to the HCP Anywhere infrastructure. Next, a Mac laptop and iPhone were added to the account. Figure 10 shows the ability of the solution to provide the user access to the synchronized HCP Anywhere files from all of the devices configured on the account.

Figure 10. Multi Device File Access



Lastly, ESG Lab reviewed how the HCP Anywhere application combined with the Hitachi Content Platform back-end infrastructure not only creates a solid solution for secure file sharing, but also provides its users the ability to leverage advanced unstructured data management concepts. As shown in Figure 11, the HCP Anywhere solution uses an HTTPS connection to the client to synchronize specified local data in a deduplicated and compressed format on the HCP back-end storage. The duplicated and compressed data is then distributed across HCP nodes for redundancy. The data can then be optionally replicated to a second HCP solution. The highly available design of the HCP back-end components combine with the data distribution algorithm and synchronization process of local data helps to reduce or eliminate the need to do traditional tape-based backups. The deduplication and compression features help manage the growth of unstructured data.

Figure 11. Protection and Capacity Efficiency



Why This Matters

E-mail may be an easy way to share files, but it leads to masses of duplicate content being stored (for example, a presentation that a corporate VP sends to all employees) and clogs networks, impacting productivity at all levels of the organization. Data efficiency can reduce costs of both storage and bandwidth. In addition, organizations continually strive for efficiency in management. With more data, tasks such as backup, virus scanning, and compliance take additional effort and time, impacting productivity and keeping IT administrators from attending to higher level tasks.

ESG Lab validated that the on-premises HCP Anywhere solution uses compression and single-instance storage to minimize storage and bandwidth needs. Users access the same data copy from any device, eliminating the time and effort of copying files to portable devices or using e-mail, and keeping mailboxes' storage needs to a minimum. With content stored on the HCP platform, organizations can reduce and even eliminate the need for backing up user desktops as well as the Anywhere servers, freeing up IT for other tasks as well as reducing licensing headaches.

The Bigger Truth

Public OFS solutions are extremely popular, and for good reasons: They are inexpensive, simple to use, and provide a valuable service. However, they can also significantly increase risks to corporate data. ESG research indicates that OFS can expose organizations to security risks such as data leakage, web-based threats, and application-layer vulnerabilities, as well as ongoing questions about data ownership and regulatory compliance.³

This places IT in a difficult position. Senior management requires IT to do everything possible to improve employee productivity, and OFS can make a big difference. However, IT is also charged with maintaining data control, providing security, and ensuring compliance—these efforts are often at cross-purposes with sharing files online.

With HCP Anywhere, HDS takes advantage of its own proven, rock-solid object storage platform to provide an on-premises file sharing solution that makes users more productive without jeopardizing data. This initial solution is secure, efficient, and easy for IT and users to operate; it delivers on all critical components. Going forward, several features will round out the solution into the enterprise-class product expected of HDS: support for folder sharing, file versioning, and web-portal drag-and-drop, which are all on the near-term roadmap, will go a long way toward providing the true collaboration features users need.

By providing employees with an easy and effective method of sharing files that also maintains corporate IT control and security, organizations give themselves the greatest opportunity to limit data vulnerability and compliance risk. Once that method becomes part of the corporate culture, employees will be less likely to look for other, less secure solutions. The key is to have a robust, enterprise-class platform that delivers the features that both constituencies (users and IT) are looking for. Hitachi Data Systems' HCP Anywhere fits the bill on all counts.

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³ Source: ESG Research Brief, [Online File Sharing and Collaboration: Security Challenges and Requirements](#), August 2012.