CASAHL Case Study: SharePoint Assessment

Introduction: Enterprise Concerns and Assessment Goals

Successful migrations start with migration plans, and effective migration plans start with assessment. CASAHL is often approached by companies that need someone to help them make sense of their expansive legacy deployments before they can plan for and carry out a migration. The enterprise that provided the data for this case study had the same problem: they wanted to modernize their deployment to a scalable system capable of handling a high volume of users, and wanted the strategic advantages of migrating to a hybrid Office 365 and SharePoint deployment, but worried that their three-terabyte, 27,000-site SharePoint deployment would be too expensive and complicated to migrate.

CASAHL's assessment gave the enterprise full visibility into their existing SharePoint deployment, and gave them the insights needed to build a migration plan by providing them with data-driven reports and recommendations. By using the results of the assessment to inform their decision-making process, the enterprise was able to quickly understand its content and sites, and plan cost-effective system optimizations that would keep their content organized and accessible to a user base of over 120,000.

The Problems: Understanding Content, Reducing Migration Scope, and Planning a Migration

The enterprise wanted to migrate to a hybrid combination of Office 365 (cloud) and SharePoint 2016 (on-premises), but needed to better understand their existing SharePoint content in order to construct and carry out a comprehensive migration plan. Part of their apprehension stemmed from the complexity of their source system – all SharePoint enterprise deployments contain lists, sites, document libraries, Web applications, InfoPath forms, third-party solutions, and custom applications, among other components, so the enterprise's concerns about scalability and migration scope were well-placed. While SharePoint is a powerful and versatile system, its many different types of content and customizable parts often make longstanding deployments difficult to assess and migrate.

The SharePoint deployment this enterprise was using had been in place for years, and had recently shown a sharp increase in user activity. The enterprise's management was concerned that years of diminishing activity followed by a sharp increase in activity would lead to a spike in content volume while exacerbating the problem of content clutter and redundancy. Simply copying all the existing content to a new SharePoint deployment would have been inefficient and expensive, but the enterprise wasn't sure that moving all of it to the cloud was the best course of action either. They had to assess their content, decide what should be migrated, build a fact-based migration plan optimized for high-volume use, and set realistic criteria for a successful migration before carrying one out.

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The Solution: Assessment and Informed Decision-Making

CASAHL did an assessment to determine how much content the enterprise had across their legacy SharePoint sites, then provided them with detailed reports and recommendations to help them set criteria for a successful migration.

The first step in addressing the enterprise's migration challenge was to provide full visibility into the resources stored in the enterprise's SharePoint deployment. CASAHL's assessment tools were used to inventory the content in their SharePoint deployment and identify the resources that were still active and valuable. The initial assessment results found nearly 6 million files across more than 27,000 SharePoint sites. It also turned up several obstacles to migration that the enterprise hadn't known they needed to address, including large amounts of third-party solutions, structural problems that needed to be resolved before migration, and suboptimal implementations ripe for reorganizing. Once each of these issues had been identified, CASAHL included data highlighting the problems in the assessment report to help the enterprise focus on these potential trouble spots and start considering fact-based solutions. Some of the issues identified by our assessment report, including some SharePoint-specific problems, are outlined in the following sections.

Active Site Identification: Focusing on Vital Content

A key part of any assessment is discovering which legacy content is still active or has become inactive. In the case of this enterprise, reviewing an inventory of deployed sites along with usage activity patterns over time showed that a significant number of sites had become inactive in the last few years, even as user activity climbed:
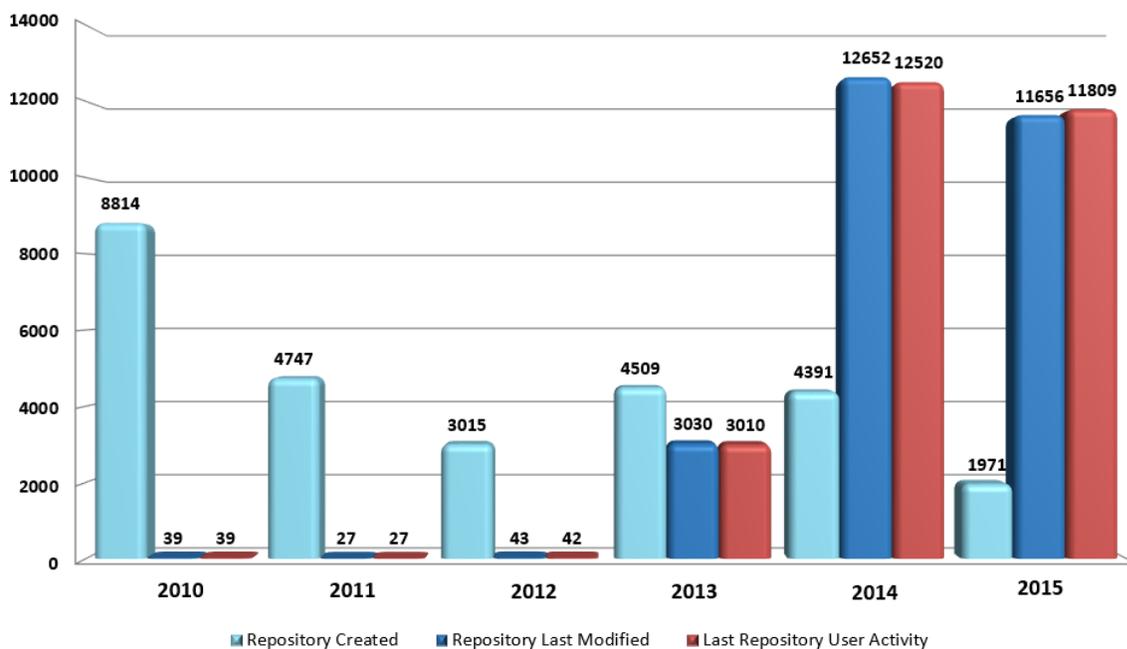

The usage data above shows that the number of new sites created had dropped sharply over the past five years while the number of sites used for the last time in a given year increased. Sites that were

abandoned between 2011 and 2015 added up to mean that a significant portion of total sites were going unused. Identifying active sites, or sites that had been modified within specific timeframes, gave the enterprise insight into content that should be considered for migration. Conversely, identifying unused sites allowed the enterprise to greatly reduce the scope and cost of the migration by excluding those sites from the migration.

Complexity and Simple Sites: Migrate More Efficiently

The active sites that were deemed valuable were run through a complexity analysis with the rest of the content and migration candidates. CASAHL assesses over 70 different weighted attributes to assign sites a complexity rating from 1 (the simplest) to 5 (the most complex):
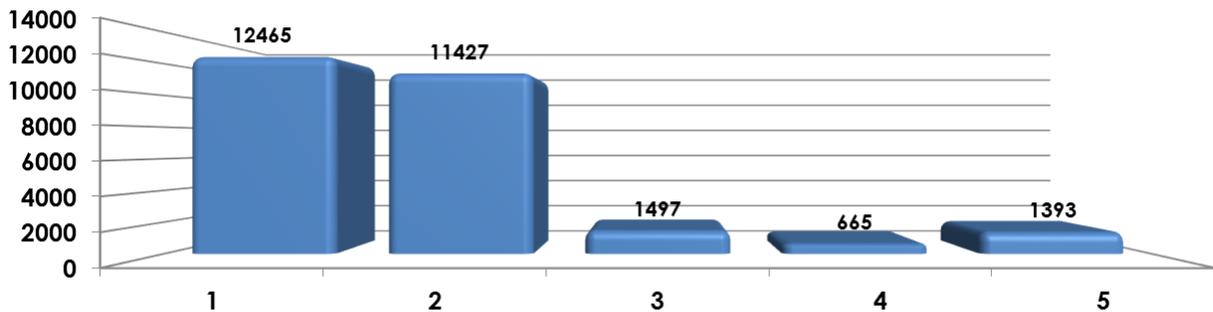

As shown above, this enterprise, like many enterprises, had a majority of sites that received either a 1 or 2 complexity score. Sites with complexity 1 or 2 is often very simple, often template-based, and generally eligible for automated migration. By attaching complexity ratings to assessed sites, the report suggested a first stop on the enterprise's migration road map: migrate the simple but highly-used sites (and any associated content) first. Complexity 1 and 2 sites can often be migrated rapidly using CASAHL's fixed-cost migration service, especially if the sites in question are template-based. As such, users are eased into the new deployment, with all their simple sites and content available right away and already in place. By giving users their simple sites with no delays and no hassle, enterprises speed adoption and encourage the use of the new deployment while keeping the overall user experience positive.

Since the enterprise had many simple sites, a few slightly more detailed ones, and a small but important number of complex ones, most of their sites could be migrated cost-effectively and quickly. The vast majority of complexity 1 and 2 sites that the company planned to migrate were template-based; the majority of content and apps ranked 4 or 5 on the complexity scale were customized solutions, apps, or workflows. CASAHL's standard recommendation is to tackle the simplest sites and content first and leave the complexity 4 and 5 apps until last; by migrating highly-used simple content first, it becomes possible to avoid ongoing disruptions and make sure necessary content is available for users in a timely fashion. By migrating simple sites first for a fixed and predictable cost, enterprises clear the path for complexity 4 and 5 applications to receive the focused attention and resources they require in successful migrations.

Customizability and Solutions: Dealing with Highly Customized Sites and Apps

Customized solutions in SharePoint often fall into several distinct categories, and the same was true in this enterprise's case as pictured below:
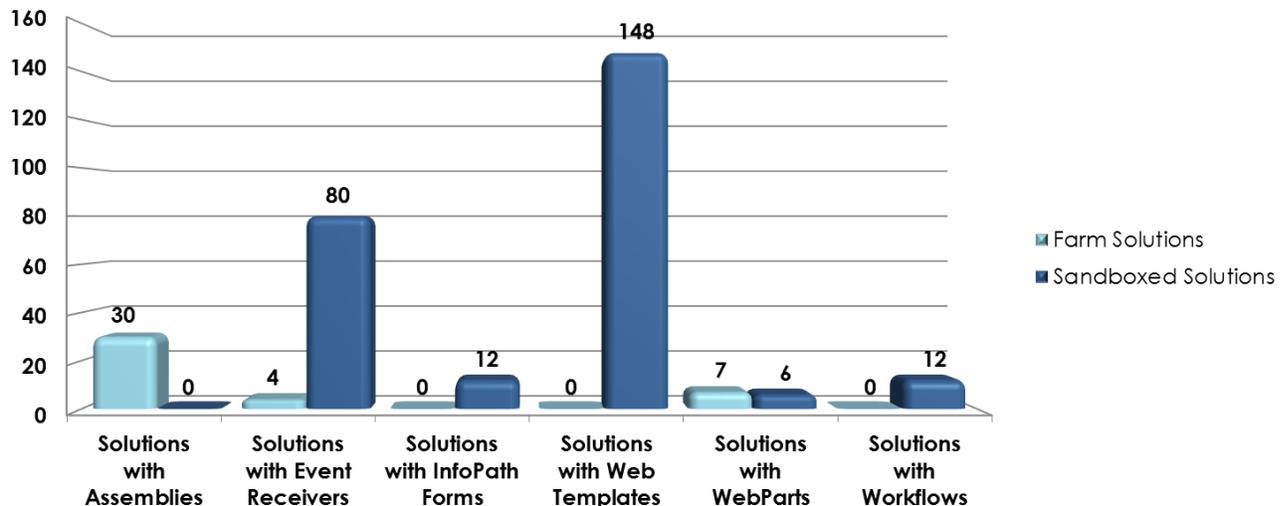
Solutions and custom apps are more difficult to migrate, in large part because they draw on highly customizable content, like the Web template solutions this enterprise had to deal with. These apps are always complex; customized sandbox solutions, workflows, InfoPath forms, and in-house custom SharePoint Solutions are particularly difficult to migrate for this reason.

Migrating solutions with web templates is one of the more straightforward types of migration; web templates and web parts are fairly consistent among systems (even if their appearances aren't), so they are generally viable candidates for automated migration. Other complex applications are not so simple to transplant into new deployments, like the 603 third-party solutions installed in this enterprise's deployment; because solutions like these are unstandardized, rarely template-based, rarely optimized for Office 365, and can be cut off from vendor support without warning, they present a serious challenge to migration. Third-party solutions are often so highly customized that they cannot be reused in new deployments or migrated with automated migration techniques. Each third-party application deemed important enough to migrate has to be analyzed, optimized for SharePoint 2016, and then reconstructed for use in Office 365 or SharePoint 2016 before it could be migrated; CASAHL offers an Application Recomposition service for that purpose.

Many custom solutions in older SharePoint systems like this enterprise's previous deployment are similarly not cloud-friendly and can only be run on-premises until the blocking issues are resolved. This presents a problem when migrating to a cloud-based platform like Office 365; assessment is a critical step towards identifying the custom solutions that require remediation before migrating to the cloud, and can even pinpoint the exact locations in which remediation needs to take place. Showing both enterprises and site owners the blocking issues for a specific custom solution allows remediation efforts to be assigned directly to the owner of the site in question, streamlining the migration process through community interaction. Assigning the users most familiar with a specific app or custom solution to work

on remediation also eases the transition for those users by giving them a chance to ensure that their content is eligible for migration before the actual migration is carried out.

Active User Identification: Maximize Migration Effectiveness

A separate section of the assessment reports CASAHL provided identified the top users creating and modifying content in the enterprise's deployment. This case study has already covered the way user access trends enabled the enterprise to identify and archive sites that were going unused; applying the same type of analysis to user data also often helps enterprises remediate complex migration problems or identify areas for improvement.
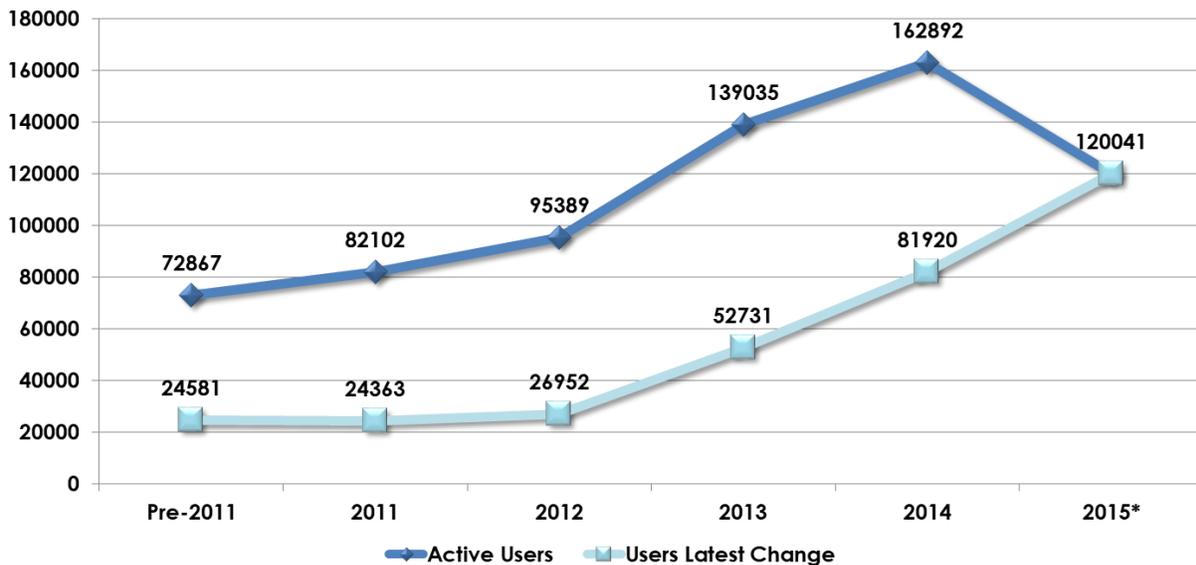
In this enterprise's case, analyzing users helped provide a more accurate sense of the licenses required in their target deployment. The enterprise was especially concerned with making their new deployment useful for and usable by all users, since increasingly large numbers of users had used SharePoint for the last time from 2012 through 2014. By identifying active users and looking into trends that caused users to stop using SharePoint, the enterprise was able to plan a set number of licenses for both Office 365 and SharePoint 2016 into their migration and, in doing so, made more accurate cost and effort estimates. Identifying and accounting for active users also enables companies to smooth the transition for users by ensuring that sufficient IT resources are available to provide guidance on the scale required.

By identifying the most prolific of those users (a report on the ten most active users is also included with assessment results) and inviting them to sit in on the migration discussion, this enterprise ensured that no important content was overlooked. By moving these same users to the new deployment first with the simple-but-highly-used content described earlier, the enterprise laid the groundwork for the most active users to adapt to the system and become comfortable with it.

Key users whose concerns are addressed during migration planning often become champions of the new system among their peers, helping to ease the transition for other users and increase adoption rates once the migration is carried out. This was especially important in this enterprise's case, since they

wanted to ensure that their new deployment would be adopted by users without suffering the same content clutter as the old. CASAHL's experience shows that enterprises willing to collect active user input during planning *and* migrate those users' simple, highly-used content first find those users among the first active users in the new platform. These users quickly become productive in their new home and bring their colleagues into the new deployment more quickly because of their central role in the enterprise, dramatically increasing adoption rates for new platforms. Thus, identifying key users helps companies ensure that new deployments are successfully populated and adopted by their users.

File Types: Understanding Content to Resolve Migration Blockers

The successful transition of any and all relevant data, sites, apps, and other content was a key concern for the enterprise, so when the assessment revealed that a fifth of their content was in an unknown file type (below), or unspecified scripts or data, they were very concerned.

| Family Type	Files
Adobe	574,039
Archives	29,975
Audio and Video files	21,946
Blocked	13
Data	494,251
Image files	784,199
Office documents	2,041,303
Other documents	153,557
Scripts	13,838
Source Code	522
System	255
Unknown	1,122,409
Web Documents	619,931
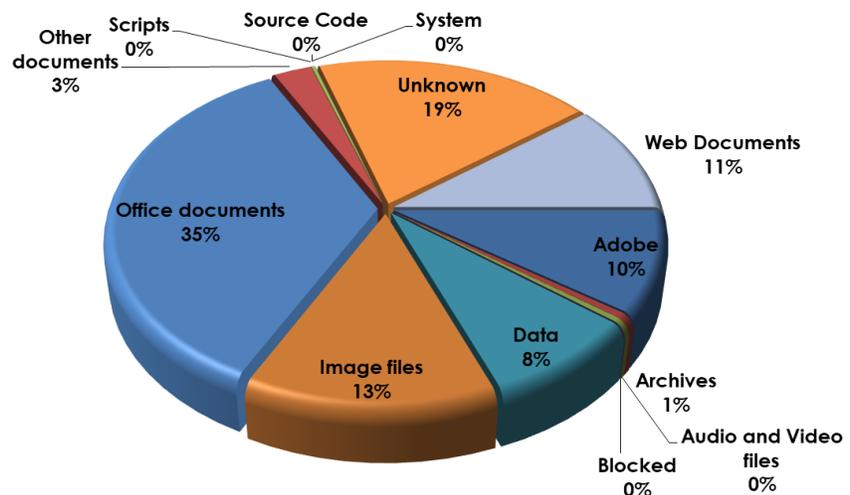
CASAHL was able to alleviate that concern by breaking down the results of the file family type assessment. File types flagged as "unknown" are simply file types that aren't categorized in the Assessment tool's pre-set/default file families. These file types are usually attached to custom extensions or lesser-known applications; since the only file types CASAHL can't migrate to Office 365 are the file types SharePoint designates as Blocked, these unknown files did not pose a problem after all.

Once the enterprise was aware of the file types and their connection to other areas of content, they were able to identify and resovle any possible obstacles these files posed before they became a problem. It also laid the groundwork for several other optimizations and proactive resolutions, described in the next section.

Structural Issues and Permissions Inheritance: Fixing Problems Before They Repeat

Once readily-excluded content was identified and high-value simple content had been flagged for immediate migration, the next step was to point out and address structural issues identified by CASAHL's Pre-Migration Assessment. 382 lists exceeded SharePoint's List View Threshold (LVT) by having more than 5,000 items; lists that exceed this limit often drag down SharePoint performance, so these lists were flagged as candidates for restructuring to ensure that the new deployment would meet and

maintain high standards of performance. Over 2 million files were also flagged as potential duplicates and likely candidates for deletion or archival, which went a long way towards reducing the scope of the pending migration – the duplicate files alone provided the opportunity to cut over 500 gigabytes from the migration plan.
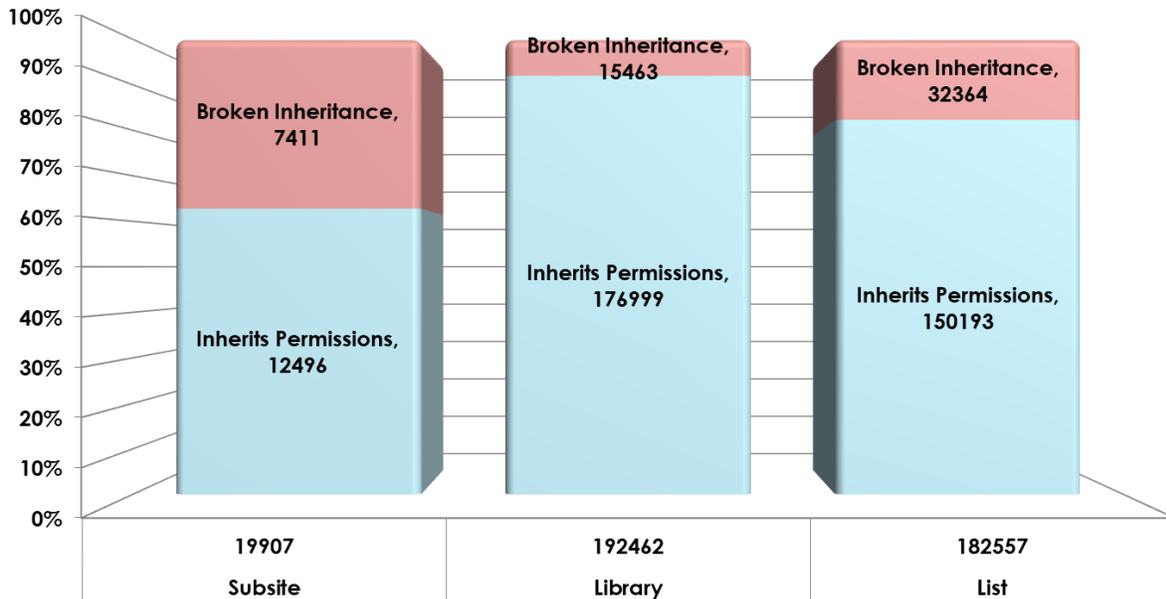
The enterprise also had strong indications that they should restructure their system before migrating: as shown above, 7,411 of their 19,907 subsites had "broken" inheritance, meaning they granted permissions to a different number of users than their parent folder or site. Broken inheritance is often a sign that sites need to be restructured, so the fact that over a third of the enterprise's subsites displayed broken inheritance was a very strong indicator that the subsites needed to be restructured before they were migrated. In combination with the removal of redundant content and remediation of structural issues, this gave the enterprise the chance to make their migration more efficient, and better optimize use of the new deployment once the migration was complete.

Results and Next Steps

The enterprise used the results of the assessment to identify content worth migrating, identify opportunities to optimize content during migration, and build a plan for an effective, minimally-disruptive migration.

In the end, the enterprise finalized their migration plan and brought it to a preferred partner, with whom they have since started their migration. The detailed reports provided by CASAHL helped the enterprise's migration team decide which content needed to be migrated, what could be archived or deleted, and what should be optimized for Office 365 and SharePoint 2016 respectively. Because the enterprise assessed their content before migrating, they were able to profile their environment, use that profile to identify and remove migration blockers, and generate estimates of the effort and time investment the migration required. These details and the data included in the reports offered ways for

the enterprise to formulate a migration plan while immediately reducing the scope, and therefore time and expense, of their eventual migration.

Overall, this enterprise engaged CASAHL to assess roughly 3.5 TB of data spanning over 27,000 SharePoint sites. The results of CASAHL's assessment allowed the enterprise to begin planning a more effective and efficient migration that addressed concerns about ongoing usability. The next steps for the enterprise were to consult their most active users to ensure that user input was taken into account, and then to build a migration plan based on the data provided by the assessment. CASAHL's ability to address the wide range of content types included in legacy SharePoint deployments with a single highly automated solution provided the enterprise with a cost-effective, quick, and comprehensive look into its current content deployment, allowing the enterprise to plan a more successful hybrid deployment to Office 365 and SharePoint 2016.

If you are interested in learning more about this enterprise's migration experience, including the management of SharePoint-unfriendly file types or remediation efforts involved, please contact us for more information. If you are interested in learning more about the next stage of the DART migration process, please ask your CASAHL representative for other case studies. If your enterprise is interested in learning more about CASAHL's automated migration techniques or the handling of complex apps discovered during assessment, read more about our Application Recomposition service by visiting our site. If you have questions about CASAHL's assessment service and would like to learn more about engaging CASAHL to do the same for your enterprise, please contact us at info@casahl.com.