Overview

The California Department of Technology (CDT) has successfully migrated email services from California's CA.Mail to Microsoft's Office 365. CDT also deployed several other Microsoft Cloud products at the time of the email migration to improve collaboration and mobile security. Migrating email from a multi-organization service, like CA.Mail, to Office 365 is a unique scenario that presented many complexities and had no pre-existing migration template to follow. **Variances in migration strategy and hurdles are to be expected. CDT’s commitment to being the first to migrate and endure lessons learned will aid in ensuring a more seamless and user-friendly process for subsequent departments to follow.**

CDT successfully migrated approximately 1,400 mailboxes in one night adhering to an extremely condensed timeframe from planning to execution. In addition to the migration of mailboxes to Exchange Online, CDT also successfully deployed Skype for Business Online, OneDrive for Business, and Intune, which is Microsoft’s cloud-based mobile device management solution available within the Enterprise Mobility Suite. Lastly, CDT was the first to integrate the new, automated, State-Wide Global Address List (GAL) solution.

What Went Well

**Well-Executed Communication Plan**

- CDT used multiple media types to thoroughly and regularly communicate pertinent dates, details, and expectations to all staff. Examples include: “iCentral” (CDT’s Intranet),
- "How-to" documents,
- YouTube style videos
- Weekly flyers
- Six End User Forums
  - ( recorded and made available on "iCentral" )
- The Q&A portion of the user forums were transcribed and added to the Frequently Asked Questions (FAQ) document. All Staff Bulletin directed users to the “iCentral” documents and videos as well as restated where the Triage Teams (discussed later) would be located for immediate assistance at each site.
Skype for Business Online Cutover

CDT opted to transition from Microsoft Office Communications Server (OCS) to Skype for Business Online for instant messaging and presence at the time of the email migration. This transition encompassed desktop deployment, network, and DNS planning to execute smoothly. Skype for Business was the most seamless aspect of the move to O365. CDT users deemed the cutover from OCS to Skype for Business a “win” for the project team.

“Day-of “Support

CDT employed several proactive measures to assist users, define roles and responsibilities, and simplify the avenues in which users can request support. Examples include:

- On-site Triage Teams were located at all sites for in-person drop-in visits, which drastically reduced the number of calls to the Service Desk and resulted in faster issue resolution
- Defined roles and responsibilities early on within the migration team, which spanned across many units (e.g. Desktop, Server, Network, and Email)
- Created an “Office 365” category within the incident management system
- Created a support team Distribution List to keep active issues on the forefront
- Active bridge line for the day after migration for immediate communication among the migration triage teams

Lessons Learned

The lessons learned comprising the guidance below was gathered through the migration experiences of CDT and other departments who have contributed feedback.

Pilot Group Size

CDT conducted pilot migrations using a restricted number of technical staff. The smaller pilot group limited the amount of mobile devices and various OS versions that CDT could verify prior to migration. The reason for the limited number of pilot users was to reduce the impact on end users in both environments, persistent popup messages pertaining to shared calendars and mailboxes. Pilot users and users on the source email system were not able to view each other’s calendars or shared mailboxes after the pilot users migrated to O365.

Mobile Device Management (MDM)

To enhance security on mobile devices, CDT deployed Intune MDM to all users. Nested compliance rules that are assigned to the pilot group only apply to the pilot group until they are explicitly applied to all users. If a department deploys InTune, confirm that all nested MDM compliance rules are applied correctly to allow users’ phones to complete the compliance checks and open the Outlook Mobile application on their mobile device.
State of Directory Synchronization (Azure Active Directory Connect)

Prior to starting email migrations, it is strongly advised that departments have a healthy and consistent directory synchronization implemented and running. This includes the full synchronization of the State-Wide GAL, which can take hours to complete. The success of an email migration relies on a healthy and well-vetted directory sync. Examples include:

- Ensure that all objects needing to be synchronized are being synchronized
- Synchronize the State-Wide GAL early to eliminate issues post migration
- Ensure regular syncs are occurring as expected (every 30 minutes)
- Use of a "static" GAL, as opposed to the CDT-provided State-Wide GAL solution, will introduce risk and complexity. Use of a "static" GAL is not recommended

Mailbox Cleanup to Reduce License Count

Mailbox cleanup is recommended prior to migration in order to ensure adequate licenses are available for migration completion. Shared and resource mailboxes in Office 365 do not require a license; however, if those mailboxes are configured behind the scenes as "user mailboxes" (even if being used in a shared manner), these resources will need to be tracked and eventually converted (post-migration) to shared or resource mailboxes. Additionally, remember to remove licenses assigned to unused test mailboxes and test users.

Public Folder Cleanup

All public folders need to be identified. Once they have been identified, it needs to be determined if they can be archived or eliminated. Planning for the preservation of data and workflows dependent on public folders should be given the same priority as mailbox migrations themselves. It is imperative that you work with your migration vendor to develop and prioritize a public folder migration plan.

Group Policies

If Group Policies (GPOs) are being applied within the organization that enforces Outlook settings, ensure these are reviewed, modified, and tested before migration. Otherwise, the GPOs may impede Outlook usage post-migration.

Distribution Lists Created in ECAT (CA.Mail only)

Distribution Lists (DLs) created directly through ECAT need to be migrated from CA.Mail (Resource Forest) to the department's own Active Directory (AD) forest or in Office 365 directly. This process is complex, involves scripting, and will need to be timed correctly with directory synchronization tasks. Permissions for these DLs may need to be reapplied either before or after migrations. Some permissions did not migrate due to the DL migration process resetting the group’s unique ID. DLs that were created through ECAT need to be migrated directly to the department’s Office 365.
Migration Window

When planning the migration strategy, it is recommended to start “cutovers” early (e.g. 5:30 p.m. as opposed to 12:00 a.m.) to give the migration team time to address unexpected errors. The additional time allows flexibility to resolve issues before users are expected in the office the next morning.

Active Directory Federation Services (ADFS) Access Rule

Departments are expected to adhere to a State-Wide security policy to prevent users from opening the Microsoft Outlook desktop application from outside the department or state network (e.g. from home). This is accomplished through an access rule (Claims Rule) put in place on the department’s ADFS servers that are being used to federate identities with Office 365. CDT will provide an example of the rule used to achieve this level of protection; however, departments will need to create a department-specific version of this Claims Rule and must confirm this rule does block Outlook from outside the network.

O365 Lessons Learned from other departments (early adopters)

Distribution Lists Created in the CES Admin Tool

DLs created directly through the CES Admin Tool need to be migrated from CES (Resource Forest) to the department’s own AD forest or in Office 365 directly. This process is complex, involves scripting, and will need to be timed correctly with directory synchronization tasks. Permissions for these DLs may need to be reapplied either before or after migrations, some permissions did not migrate due to the DL migration process resetting the group’s unique ID. DLs that were created through the CES Admin Tool need to be migrated directly to the department’s Office 365.

Applications Pointing Directly to CES Environment

Create a list of all applications that relay email directly through CES. There were a number of applications, (Helpdesk, etc...), that required configuration changes the night of the migration to point from CES to O365.

Communicate End User Expectations

“We worked very hard to ensure that our end users were well aware of the status of the migration and what to expect. We created a SharePoint site with updated information as well as regular emails in the weeks previous to the migration. On the evening of the migration, we placed a printout of the expectations on each user’s desktop. This may not be feasible with larger agencies, but it certainly helped alleviate confusion among our end users.” – CES Department

AutoComplete NDR

“We had a couple of users that received errors when they sent emails to contacts listed in their Outlook AutoComplete list after the migration. The solution was to remove those failed contacts from the end user’s AutoComplete and have the user resend the emails.” – CES Department

Free/Busy

“Note that Free/Busy sharing is not only disrupted between pilot users and on-premises users within your own department, but also between you and other CA.Mail and CES departments. Once all our users were migrated to Office 365, free/busy was restored amongst our own department’s users. We’ve been informed that once other departments migrate into Office 365, free/busy sharing can be restored using federation between tenants.” – CES Department

Litigation Hold Mailboxes – Do Not Delete AD Objects

“We had a number of mailboxes on Litigation Hold. The issue we ran into is that we had deleted the AD objects that mapped to those mailboxes, so we were not able to migrate those mailboxes with no AD Objects. We were able to have CES export those mailboxes to PST files.” – CES Department

Ongoing New Mailbox Creation Process Changes

“The process for creating Office 365 mailboxes with AD accounts will change. With CES, much of the process was automated by using Extended Attributes, but this is no longer the case with Office 365. We worked with Microsoft Consulting Services (MCS) to create a script to provision the mailboxes after the AD account is created and synced to Office 365. It would be beneficial to test and develop the provisioning process prior to the full migration.” – CES Department

Outlook doesn’t use “true” Single Sign-On (SSO)

Unlike Office 365 web access (e.g. Outlook Web Access, SharePoint Online), Microsoft Outlook requires users to enter credentials upon the first login after migration. Users will be required to select “Remember my credentials”. “True” SSO for Microsoft Outlook isn’t yet supported in the State.

Clutter

“Inform your users that the Clutter folder activates after two weeks unless it’s turned off via policy.” – CES Department

Outlook Web Access

“Outlook Web Access (OWA) is more full-featured and has a different look. The default view for the Inbox is “Conversations.” – CES Department

We will continue to share information and provide updates via the O365 Mail Forum and our FAQ pages. For more information please see CDT’s O365 FAQ page

https://access.ca.gov/FAQ_O365/O365_Customer_FAQ.htm