Email Improvement Taskforce

White Paper

May 1, 2020

Background

- Current iteration of the District-wide email system is unsustainable.
  - Hosted on-site on District-owned hardware.
  - Frequent, complex outages relying on consulting services when issues need to be escalated.
  - Loss of functionality for some users – MS Outlook unable to connect.
  - Approximately 80% of the only District System Administrator's (classified staff) time is spend on MS Exchange issues.
- "Email Systems" are more "Eco-systems" that include email, calendaring, contacts, productivity software and file storage.
- There is an increasing need for collaboration tools beyond email, calendaring and a productivity suite, particularly for file storage with ownership and governance by the Colleges and District.
- The absence of district-wide collaboration tools has allowed for a number of ad-hoc solutions to be used. These solutions are seldom vetted for security or accessibility and essentially "leak" data when the creator separates from the District.
- Changes in Microsoft's Higher Education licensing and product offering will impact the financial portion of the decision. Changes will be made to cost and how users are counted toward the license.
- Microsoft licensing is a requirement to operate the education environment. Changing the email system will <u>not</u> eliminate licensing costs. However, we should see a small reduction in hardware costs for backup appliances and storage.
- Estimate that we can generate approximately 40% system administrator salary savings by replacing/fixing the current system.
- The persistent outages negatively affect faculty, staff and <u>students</u> by delaying communications on a variety of topics and, in some cases, freezing business processes.

Options -

- Microsoft 365 Package – The is the new offering from Microsoft for higher education. It is licensed per user on a 3 year contract, with the system-wide renewal coming in the fall for 2020. Given our need to teach MS Office tools and run windows servers, this is a fixed cost regardless of our email/productivity solution.

- Google G-Suite for Higher Education – This is similar, but not the same as personal gmail accounts due to the need to integrate with the College and District Active Directory servers (user and resource management, authentication and access.) G-Suite comes in free version as well as an Enterprise Suite. Enterprise offers more management features as well as control over hosting locations rather than leaving it to Google's discretion as in the free version. *Please note: Google's definition of Higher Education does not include domains other than .edu's. This is a potential show-stopper for the District accounts as all three organizations could not live in the same system.*

- Fix or replace the current on-premises solution – ITS is working with long-time consultants who are very familiar with the system architecture to determine a plan to fix the current system. It should be noted, however, that if this were an "easy fix" it would have been done over the last 6 months. It is a distinct possibility that even with a repair plan, currently unknown issues will arise and again cause downtime.

- Migrating students from G-Suite Basic to MS 365 is currently beyond the scope of this project.

Microsoft 365 Package

The following is a list of the products and features included in the Microsoft 365 Package A3 version that appears to be the best fit based on conversations with the District's Microsoft Reseller.

As previously stated, the District *must* license Microsoft 365 in order to use MS products for instruction as well as to access the many MS servers currently in production. The District has been standardized on MS Office for productivity and has used Outlook as its mail client since 2015. The service includes the Classroom Experience for MS Teams tool as well.

It is important to differentiate between Office 365 (the productivity suite) and Microsoft 365, the higher education offering which includes the former. Included with Microsoft 365 is OneDrive which provides file [storage](#) similar to GoogleDrive and DropBox, allowing users to save files to the cloud. Currently, OneDrive provides 1TB of storage per user.

MS 365 Features

Services	Microsoft 365 Education A3
Office 365 platform	Yes
Office for the web	Yes
Microsoft 365 Apps for enterprise	Yes
Exchange Online	Yes2
SharePoint Online	Yes4
OneDrive for Business	Yes
Microsoft Teams	Yes
Skype for Business Online	Yes
Project	No5
Yammer Academic	Yes
Classroom tools	**Microsoft 365 Education A3**
Classroom experiences in Microsoft Teams	Yes
OneNote Class Notebook	Yes
Microsoft Sway	Yes
Microsoft Forms	Yes
Learning tools	Yes
Accessibility Checker	Yes
Office Lens	Yes
Minecraft Education Edition with Code Builder	Yes
Take a Test app	Yes
Set up School PCs app	Yes
Voice, video, and meetings	**Microsoft 365 Education A3**
Skype Meeting Broadcast	Yes
Microsoft Bookings	Yes
Office 365 Audio Conferencing	No
Office 365 Phone System	No
Analytics	**Microsoft 365 Education A3**
Delve	Yes
Power BI Pro	No
My Analytics	No

Azure Active Directory11	Microsoft 365 Education A3
Azure Active Directory Basic	Yes
Azure Active Directory Plan 1	Yes
Azure Active Directory Plan 2	No
Compliance	**Microsoft 365 Education A3**
Office 365 Rights Management	Yes
Azure Information Protection Plan 17	Yes
Azure Information Protection Plan 27	No
Litigation Hold	Yes
eDiscovery search	Yes
eDiscovery export	Yes
Advanced eDiscovery	No
Data loss prevention	Yes
Office 365 Message Encryption	Yes
Customer Lockbox	No
Advanced Data Governance	No
Management and security	**Microsoft 365 Education A3**
School Data Sync	Yes
Advanced Security Management	Yes
Intune for Education8	Yes
Advanced Threat Analytics	Yes
Windows Defender Antivirus	Yes
Device Guard	Yes
Advanced security	**Microsoft 365 Education A3**
Advanced Threat Protection	No
Threat Intelligence	No
Cloud App Security	No
Microsoft Defender Advanced Threat Protection	No
Server and CAL benefits	**Microsoft 365 Education A3**
Exchange9	Yes10
SharePoint9	Yes10
Skype for Business9	Yes10
Windows Server CAL	Yes
Microsoft Endpoint Configuration Manager	Yes
System Center Endpoint Protection	Yes

MS 365 Features Notes

[1] Includes Exchange Online Plan 1 plus supplemental features.
[2] Includes Exchange Online Plan 2.
[3] Includes SharePoint Online Plan 1 plus supplemental features.
[4] Includes SharePoint Online Plan 2.
[5] Microsoft Project is not included in Office 365 but can be acquired separately. Project Online Essentials is free. If you are a student or an educational institution, you may be eligible to purchase Project Plan 3 and Plan 5 at educational prices.
[6] Microsoft 365 Education A5 contains Phone System, Audio Conferencing, and Calling Plan capabilities. To implement Calling Plan requires an additional plan purchase (either Domestic Calling Plan or International Calling Plan).
[7] To learn more about which Azure Information Protection features are included with Microsoft plans, see **Azure Information Protection**.
[8] Includes Intune.
[9] Servers and CALs are included for Exchange, SharePoint, and Skype for Business.
[10] ECAL or Core CAL, depending on the version of A3 that is purchased—with A5, the ECAL rights are included.
[11] For more information about Azure Active Directory, see **What is Active Directory?**.
[12] Office Pro Plus is required in order to apply protections and send protected emails from the Outlook Desktop.
[13] Microsoft 365 Education A5 Student Use Benefit does not include Microsoft Defender Advanced Threat Protection

Google G-Suite for Higher Education

Google G-Suite for Higher Education consists of two product offerings: a "free version" and an Enterprise version. The Enterprise version costs $2/user/mo. for faculty and staff (<u>including adjuncts</u>), and provides 10 times the fac/staff count for free to *current* students. Storage for Google Drive, Gmail etc is unlimited ([FAQ](#)). According to our account representative, students would receive the free version when they leave current status. It is important to note that while our students are already on the free version, the District would need the account/mailbox management features found the Enterprise. The service includes the Classroom Collaboration tool.

Required Enterprise features include, but are not limited to: enhanced email security; data regions allowing us to choose the country storing our data; advanced mobile device management; and data loss prevention. The District will also need deploy an integration tool to keep the MS Active Directory database in synch with G-Suite.

Discussions with our Account Representative have also revealed a potential showstopper in that there is ***currently no support for .org addresses which impacts DO users @clpccd.org accounts.*** Per Google, all Higher Education accounts must use a .edu domain, be non-profit and be accredited. While the colleges are accredited, technically, the District Office is not.

G-Suite Enterprise Products and Features

Connect
  Institution-wide email through Gmail
  Shared calendars

  Classroom collaboration with Google Classroom

  Video and voice conferencing

    Dial-in access to meetings (US and international)

    Larger meetings (up to 250 participants)*
    Live streaming (up to 100k viewers)*
    Record meetings*

Create

  Documents, spreadsheets, presentations, and forms

  Easy to create sites

Access
  Unlimited cloud storage

  Smart search across G Suite with Cloud Search

Control
  24/7 support by phone, email, and online
    Enhanced support
  eDiscovery for emails, chats, and files
    Retention and archiving for Gmail and Meet
    Audit reports to track user activity
  Security and administration controls
    Device management (Android, iOS)
    Advanced mobile device management
    Data loss prevention for Gmail and Drive
    Data regions
    Hosted S/MIME for Gmail

    Enterprise-grade access control with security key enforcement

    Gmail logs and admin reports in BigQuery

    Integrate Gmail with compliant third-party archiving tools

    Security center
    Security investigation tool
    Anomaly detection (beta)
    Advanced Protection Program (beta)
    Security Sandbox

Replace the Current Solution

The District-wide Email System is comprised of 5 MS Exchange Servers and a load balancer that keeps any on server from being overburdened. The servers are in a virtual environment that facilitates administration and reduces the reliance on hardware that can fail. The District also uses a product called DataCove to archive all messages on a separate hardware appliance. SPAM filtering is provided via Barracuda in the cloud.

In a new, on premises environment users would still need to migrate to the Office 365 products included in the Microsoft 365 package. Again, the District would still need to license MS 365 to teach and use MS Office products and access MS servers.

The District can expect to see ongoing costs with this option in the form of system administrator time above that required for a cloud system, ongoing consulting and hardware maintenance and support contracts.

Estimated Costs*

	MS 365 (Cloud)	G-Suite	On Premises
MS 365** Licensing Annual	$43,120	$43,120	$43,120
G-Suite Licensing Annual	-	$43,200	-
One Time Project Consulting	$17,000	TBD	$17,000
1ˢᵗ Year Project Total	**$60,120**	**$86,320 (min)**	**$60,120**
Ongoing Consulting Savings	$10,000	$10,000	-
Labor Savings	$40,000	$40,000	$20,000
Hardware & Maintenance Savings (est.)	$10,000	$10,000	-
Ongoing Savings Total	**$60,000 Savings**	**$60,000 Savings**	**$20,000 Savings**

Pricing is based on counts of:
476 Staff
208 Fulltime Faculty
<u>1016 Active Adjunct Faculty</u>
Total - 1800

* The Board of Trustees has approved the use of bond funds for cloud-based projects and initiatives.

** MS 365 is essentially a fixed cost as the District must purchase the license to teach and use the MS Office Suite and access MS servers.

CCC System Use

(12.5% response rate)

- Santa Barbara City College – G-Suite

- Ohlone College – MS 365

- San Mateo Community College District – MS 365

- Foothill DeAnza – MS 365

- Butte College – MS365

- CCC Tech Center – G-Suite

- San Diego Community College District – Hybrid MS Cloud and on Premises

- Sierra College – MS 365

- College of the Canyons – MS 365