Google Workspace Program Update & M365 Basic Auth Changes

DCSS Fall 2021 – Chris Shively

Google Workspace Program (GWP)

https://it.vt.edu/projects/GoogleWorkspace

- Today, all faculty, staff, students, alumni, and retirees have a hosted Google account with access to all Virginia Tech Google core services.

- Based on changes to the Google Workspace for Education Fundamentals (Google's no-cost tier of the education license model), the university's total pooled storage will change from unlimited to a new pooled storage limit.

- Currently, the university is operating at storage levels significantly higher than the expected no-cost storage limit and continues to grow.

- Virginia Tech must evaluate both how we are using Google services and Google's new licensing model to determine a plan to address the storage overages prior to Google's quota enforcement deadline, July 2022.

- Failure to develop and implement a plan prior to the deadline may result in service disruptions and a loss of data access.

GWP Program Team

- Scott Midkiff - Sponsor

- Greg Kroll – Program & Project Manager

- Marc DeBonis – Project Lead & Steering Committee Chair

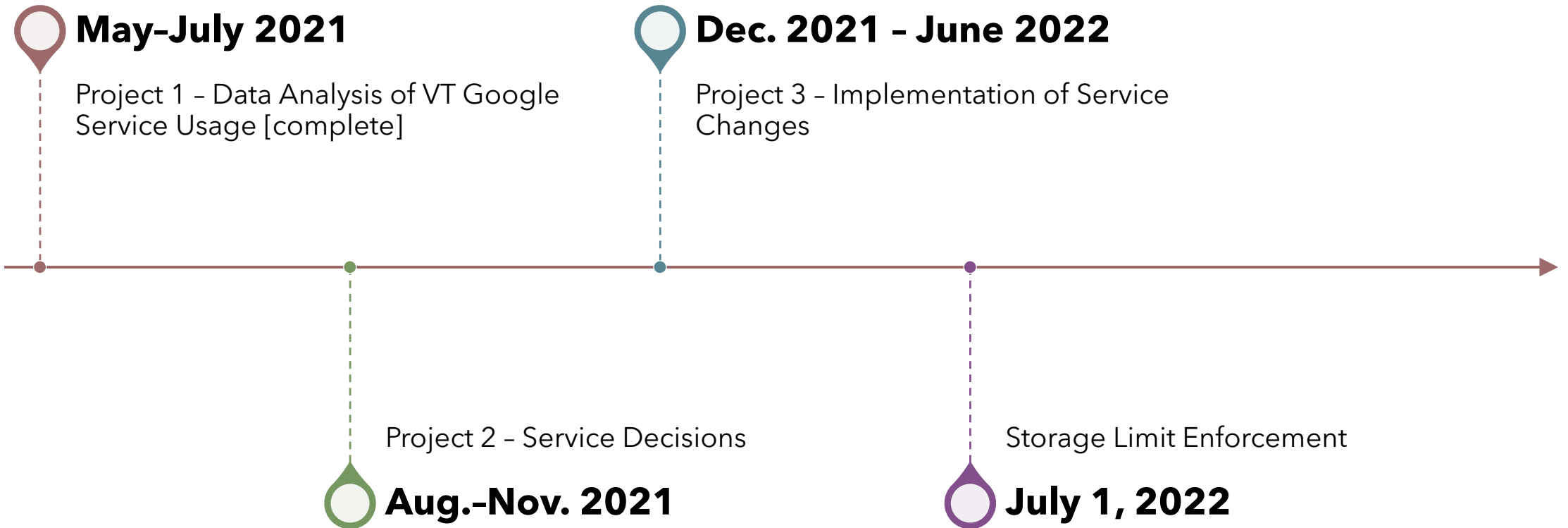- Chris Shively – Project Lead

- Paige Ghra – Communications Lead

GWP Steering Committee

- Ali Butt – Faculty / Computer Science
- Chris Shively – CCS
- Dale Pike – TLOS
- Greg Kroll – DoIT Planning
- Janice Austin – Graduate School
- Jerrad Miers – Advancement
- Marc DeBonis - CCS
- Maruf Hoque – Graduate Students
- Steve Yi – HR
- Scott Shetrone – CALS / Extension
- Shannon Philips – Library / ITC
- Truitt Elliott – Undergraduate Students
- Zeb Bowden – VTTI

GWP Timeline

May-July 2021

Project 1 – Data Analysis of VT Google Service Usage [complete]

Dec. 2021 – June 2022

Project 3 – Implementation of Service Changes

Project 2 – Service Decisions

Aug.-Nov. 2021

Storage Limit Enforcement

July 1, 2022

GWP Project 1 Outcomes

- As of July 2021, there were ~202,803 user accounts and 991 GAE accounts utilizing a total of ~5.2 Petabytes (PB) of file storage, including usage across the three major services: Gmail, Google Drive, and Google Photos.

- Deprovisioning of VT Google services lacks adequate workflows to remove users from the environment once their involvement with the university has ended. Specifically, the report shows that ~13% of the user accounts in the environment today lack any eligible affiliations required to maintain service.

GWP Project 1 Outcomes

- Employee and student accounts tend to be active within the last 1 to 6 months while alumni and retiree accounts show broad periods of inactivity. Specifically, 55% of alumni and 51% of retiree accounts have not logged in the last 12 months.

- Across some of the constituent groups, a significantly high amount of file storage is being used by a small portion of the accounts. Specifically,
  - 6.3% of employee accounts are using a total .8 PB of storage
  - 1.5% of student accounts are using a total of .7 PB of storage
  - 1.6% of alumni accounts are using a total of 2.1 PB of storage

GWP Project 1 Outcomes

- The VT Google Workspace tenant has 54,647 distinct Google Shared Drives representing ~.5 PB of total pooled storage usage.

- The complete report is available at the GWP website https://it.vt.edu/projects/GoogleWorkspace
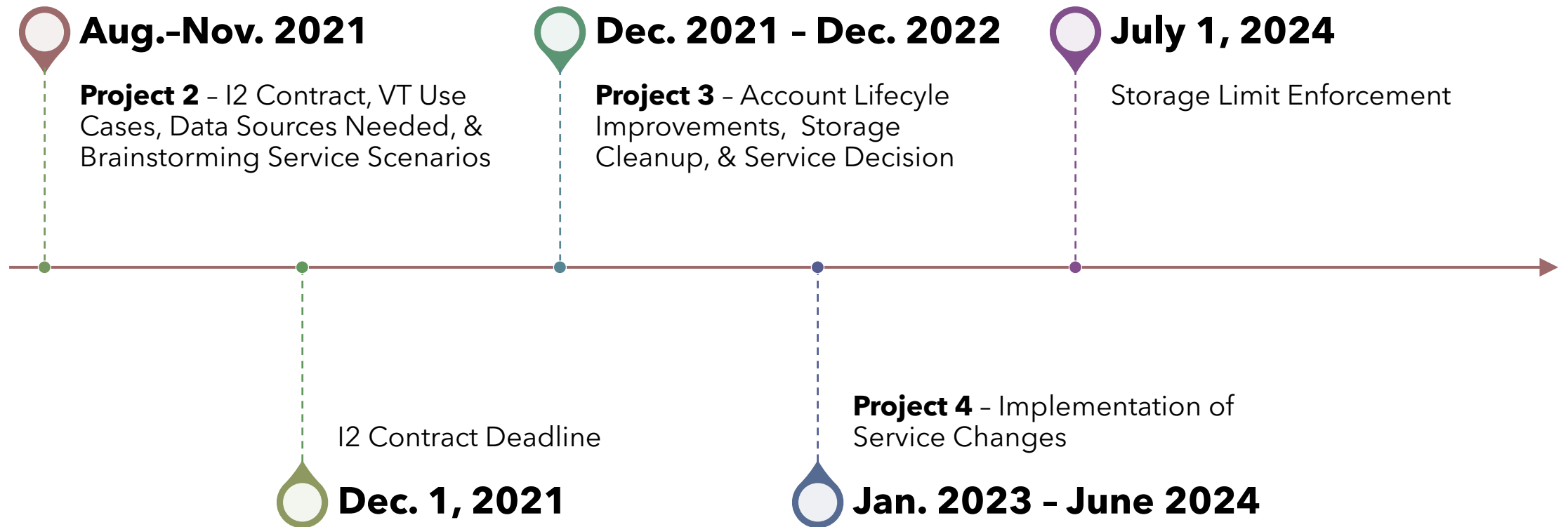
GWP Project 2 Working Group

- Lead: Chris Shively – CCS
- Members
  - Cameron Tatum – CCS
  - Chris Mullins – CCS
  - Greg Kroll – DoIT Planning
  - Janice Austin – Graduate School
  - Jerrad Miers - Advancement
  - Justin Hendrix – CCS
  - Lucas Sullivan - ITEE
  - Matt Hart – CCS
  - Michelle Ervine - ES
  - Paige Ghra – CCS
  - Rhonda Randel - IMCS
  - Steve Cox – CCS
  - Steve Yi – Human Resources

Project 2 Update: Internet2 Contract Decision

- The Program has decided to pursue the Internet2 (I2) Google contract offer (12/1/2021 deadline)

- 4-year contract at minimum student IPEDS (~36,383)

- Storage enforcement moves to July 2024 (2-year extension)

- Provides more time to plan and evaluate next steps

Revised Program Timeline with I2 Contract

Aug.-Nov. 2021

Project 2 – I2 Contract, VT Use Cases, Data Sources Needed, & Brainstorming Service Scenarios

Dec. 2021 – Dec. 2022

Project 3 – Account Lifecyle Improvements, Storage Cleanup, & Service Decision

July 1, 2024

Storage Limit Enforcement

I2 Contract Deadline

Dec. 1, 2021

Project 4 – Implementation of Service Changes

Jan. 2023 – June 2024

Revised Program Timeline Takeaways

- Dependent on the I2 contract 12/01 deadline

- Gives us more time to address storage limits and evaluate vendor service changes during the extension period

- Provides an opportunity to phase in storage limits with most active VT users maintaining current service levels through 2022

- Reminds us that unlimited "no cost" storage is still coming to an end and that we need to understand VT storage alternatives and clean up our data where possible

Project 2 Updates: Understanding VT Use Cases

- Google user survey
  - Open to students, employees, affiliates, and retirees
  - The Alumni Office is planning to conduct their own survey
  - The survey is open until 10/18

- Faculty use cases
  - We are collecting one-page profiles on specific use cases
  - If you have one, please send it to your GWP steering committee representative or someone on the Program Leadership

Project 2 Updates: Scenario Brainstorming

- Scenario 1: A path forward with Google Education Plus

- Factors
  - A single student license (~$4) provides 20 GB of storage
  - A faculty license is provided per every 4 student licenses purchased
  - Licenses can be purchased at ~$4 per 20 GB to add more storage
  - VT's monthly active users also provides pooled tenant storage at no additional cost. This gives roughly .5 PB of tenant storage.

Important: All costs are planning estimates and do not represent final license costs.

Project 2 Updates: Scenario Brainstorming

- Scenario 1: A path forward with Google Education Plus

- User Storage Cost Examples: 1 bonus license per 4 paid licenses

User Storage Quota	Annual Cost per User Account
20 GB	~$4
100 GB	~$16
500 GB	~$80
1 TB	~$160
5 TB	~$800

- Shared Drive storage follows the same pricing model

Important: All costs are planning estimates and do not represent final license costs.

Project 2 Updates: Scenario Brainstorming

- Scenario 2: Transition to Microsoft 365

- Factors
  - A3/A5 licensing model used today
  - Each user receives 5 TB OneDrive + 100 GB EO mailbox + 100 GB EO auto-expanding archive mailbox
  - Tenant storage is 28 PB based on our current licensing level
  - Alumni option for 50 GB EO mailboxes (no other M365 services)

Project 2 Updates: Scenario Brainstorming

| Feature	Google Workspace Education Plus	Microsoft 365 A3/A5
User Email	Gmail using the User File Storage quota	Exchange Online with 100GB + 100GB auto-expanding archives when needed
User Calendaring	Google Calendar	Exchange Online
User File Storage	20 GB Google Drive quota with option to purchase additional space	5 TB OneDrive
Collaborative File Storage	Google Shared Drive storage can be purchased	1 TB SharePoint Online or Microsoft Teams storage + storage can be increased at no additional charge
Base Tenant Pooled Storage	.51 PB fluctuates on active monthly users + additional storage can be purchased as needed	28 PB + additional storage can be purchased as needed
Productivity Apps	Google Docs, Sheets, and Slides	Microsoft Office Word, Excel, PowerPoint
Collaboration Apps	Google Chat, Groups, Hangouts, Jam Board, and Meet	Microsoft Teams, SharePoint Online, and Whiteboard
Data Collection / Reporting Apps	Google Forms and Sheets	Microsoft Excel, Forms, Lists, SharePoint Online, and PowerBI
Project Management / Task Apps	Google Keep and Tasks	Microsoft List, Planner, Project, SharePoint Online, and To Do
Process Automation Apps	Google Apps Script	Microsoft Power Apps and Power Automate
External (non-VT) File Sharing	Drive and File level supported	Drive, Folder, and File level supported
Compliance	FedRAMP Moderate, PII, FERPA, HIPAA/EPHI	FedRAMP Moderate, PII, FERPA, HIPAA/EPHI

How can departments help the GWP?

ASK YOUR USERS TO RESPOND TO OUR SURVEY BY MONDAY,10/18

SHARE YOUR SPECIFIC USE CASES WITH YOUR STEERING COMMITTEE REPRESENTATIVE

How can departments help the GWP?
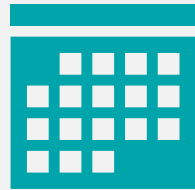
LET YOUR USERS KNOW ABOUT OUR REVISED TIMELINE AND THE STORAGE ENFORCEMENT EXTENSION

ASK YOUR USERS TO THINK ABOUT THEIR DATA AND WHAT THEY MAY BE ABLE TO CLEAN UP

How can departments help the GWP?

USE CCS'S NEW CAT TOOL TO EVALUATE YOUR DEPARTMENTAL STORAGE FOOTPRINT

ENCOURAGE YOUR USERS TO ATTEND VT TRAINING SESSIONS ON M365 APPS, SUCH AS ONEDRIVE, SHAREPOINT ONLINE, AND TEAMS, TO LEARN ABOUT ALTERNATIVE STORAGE AVAILABLE TO THEM
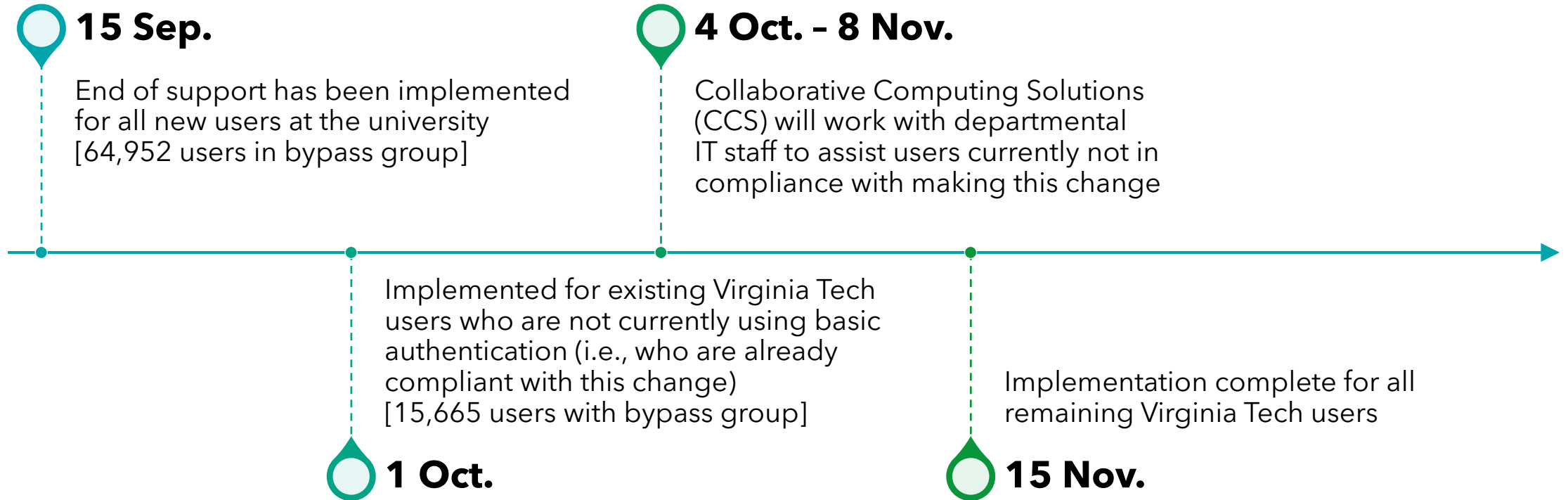
M365 Basic Auth Changes

M365 Basic Auth Changes

- To improve the security of Virginia Tech's Microsoft 365 (M365) services, the university will end support for "user basic" authentication on Nov. 15, 2021.

- Basic authentication allows users to access M365 services using legacy applications or clients without needing to provide a second factor.

- This change will be enforced at the authentication level when accessing Virginia Tech M365 apps, including Exchange Online, SharePoint Online, and Microsoft Teams.

- Once support has ended, all users will be required to use two-factor authentication to access M365 services at Virginia Tech.

M365 Basic Auth Changes - Timeline

15 Sep.

End of support has been implemented for all new users at the university [64,952 users in bypass group]

4 Oct. – 8 Nov.

Collaborative Computing Solutions (CCS) will work with departmental IT staff to assist users currently not in compliance with making this change

Implemented for existing Virginia Tech users who are not currently using basic authentication (i.e., who are already compliant with this change) [15,665 users with bypass group]

1 Oct.

Implementation complete for all remaining Virginia Tech users

15 Nov.

M365 Basic Auth Changes – Microsoft News

Starting November 1, 2021, and ending mid-May 2022, the following versions of installed Outlook will no longer be able to connect with Microsoft 365 services (including Office 365).

- Office 2013 15.0.4970.9999 and older
- Office 2016 16.0.4599.9999 and older
- Microsoft 365 Apps for enterprise (formerly Office 365 ProPlus) 1705 and older
- Microsoft 365 Apps for business (formerly Office 365 Business) 1705 and older

M365 Basic Auth Changes – Next Steps

SHARE THE NEWS WITH YOUR USERS CAMPUS NOTICE

USERS WITH CONNECTION ISSUES SHOULD REVIEW KB0012610 "PROBLEMS WITH AUTHENTICATING WITH VT EXCHANGE ONLINE"

WORK DIRECTLY WITH YOUR USERS IN THE BYPASS GROUP (REQUEST LIST ACCESS FROM CCS)

Questions