Microsoft Endpoint Manager

CLOUD MANAGEMENT WITH INTUNE

Topics

- What is Microsoft Endpoint Manager?
- What is Intune (and the other features around it)?
- Things you should think about.
- How is Bellarmine using Endpoint Manager?
- 🤞Demos🤞

Who am I?

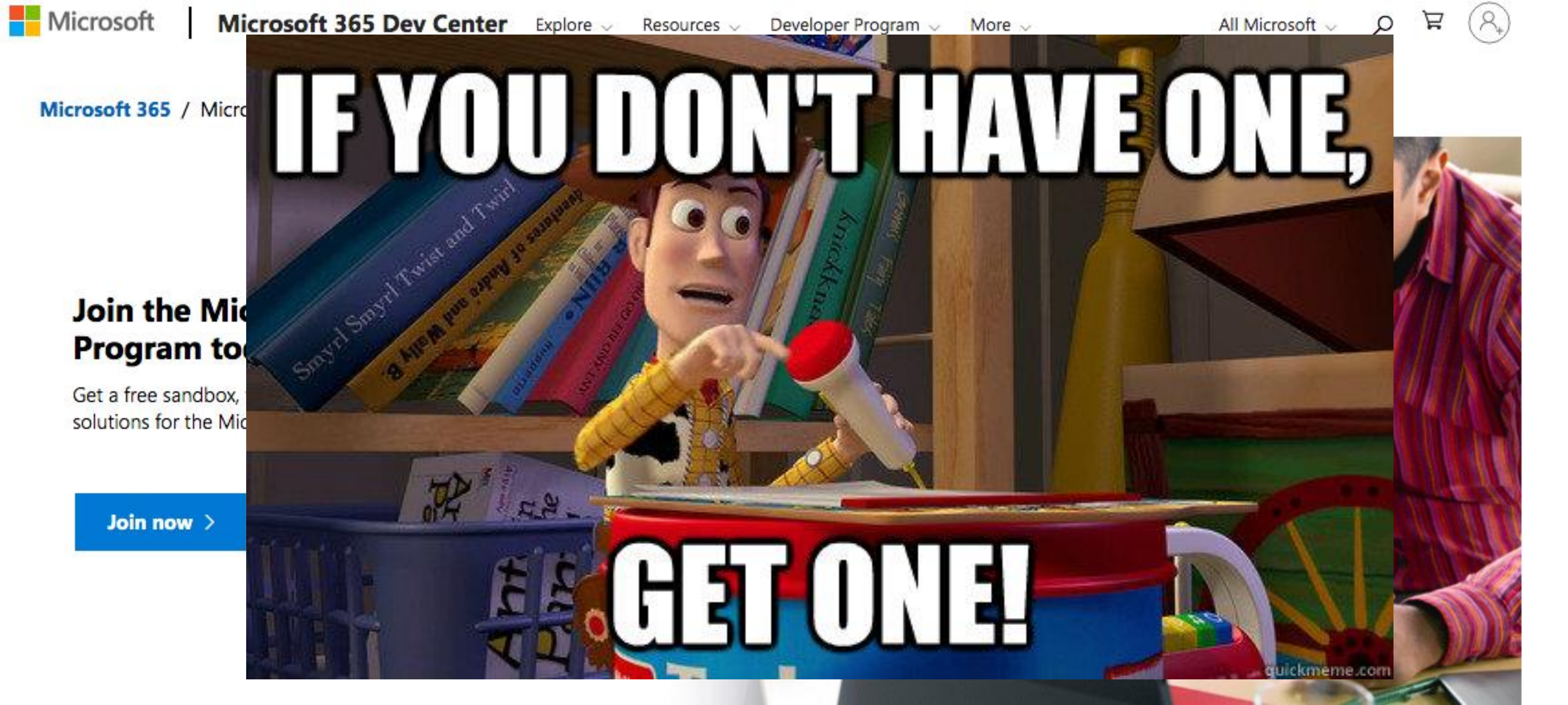
- Tony Morrow
  - @a_gizm0
  - https://lookanotherblog.com
- Principal Solutions Architect @ Bellarmine University
- 12 years working at Bellarmine (10 in the Infrastructure Team)
- Focus
  - Networking
  - Wireless
  - Servers/Virtualization
  - Systems integration
  - AD & AAD management
  - Microsoft Endpoint (Intune & System Center)
  - VoIP

Disclaimer 😏

- I am not a Microsoft MVP or Partner
- All technologies showcased are using free, trial, or paid licenses
- All the opinions here are my own
- Nobody is paying me for this presentation
- Nobody has reviewed or approved this presentation before hand

(Tangent) Get a Development Environment

- https://developer.microsoft.com/en-us/microsoft-365/dev-program



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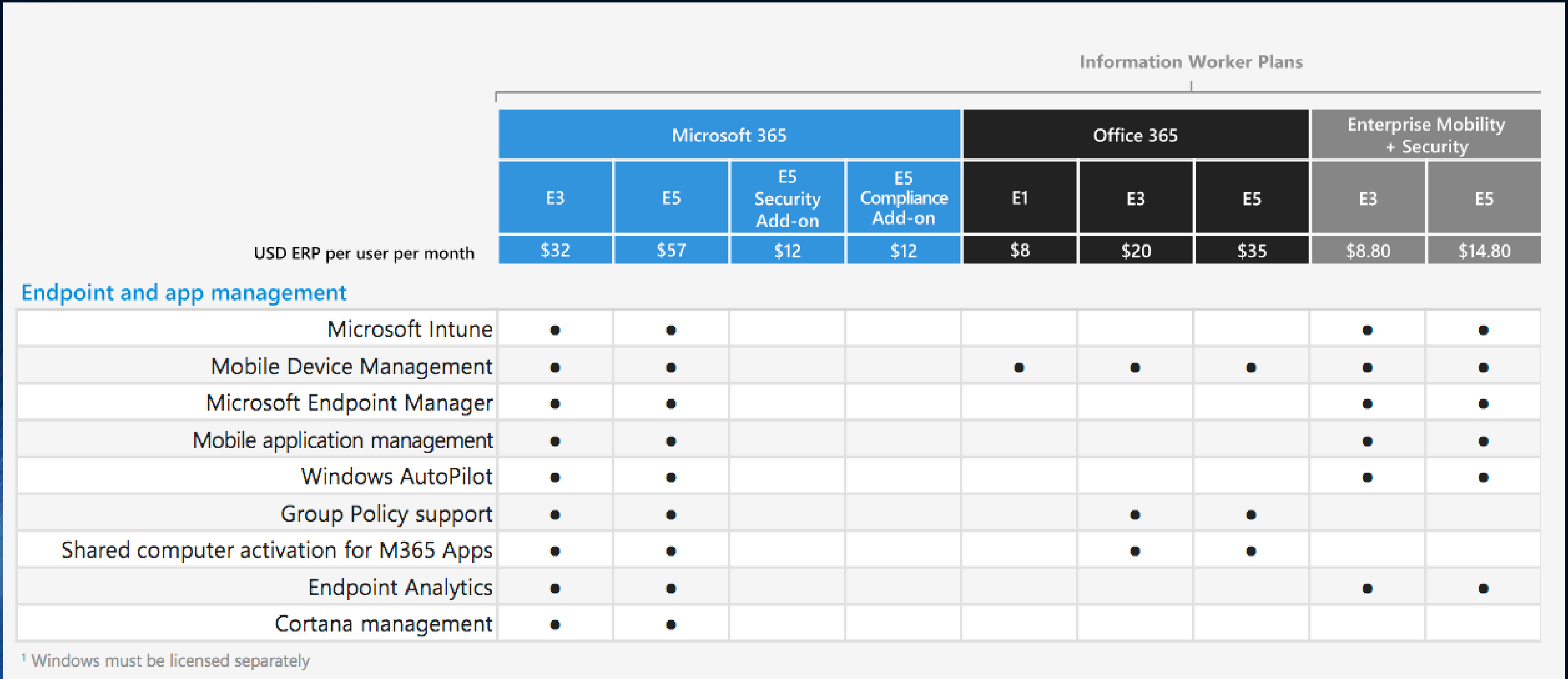
solutions for the Mi

Microsoft Endpoint Manager

- Microsoft's device management platform
  - Mobile/Desktop/Virtual device management
  - Desktop analytics
  - Device auto configuration
- Includes
  - AzureAD
  - Configuration Manager
  - Intune
  - Autopilot/Autoenrollment

https://docs.microsoft.com/en-us/mem/endpoint-manager-overview

Microsoft Endpoint Manager Licensing



	Information Worker Plans								
	Microsoft 365				Office 365			Enterprise Mobility + Security	
	E3	E5	E5 Security Add-on	E5 Compliance Add-on	E1	E3	E5	E3	E5
USD ERP per user per month	$32	$57	$12	$12	$8	$20	$35	$8.80	$14.80
Endpoint and app management									
Microsoft Intune	●	●						●	●
Mobile Device Management	●	●			●	●	●	●	●
Microsoft Endpoint Manager	●	●						●	●
Mobile application management	●	●						●	●
Windows AutoPilot	●	●						●	●
Group Policy support	●	●				●	●		
Shared computer activation for M365 Apps	●	●				●	●		
Endpoint Analytics	●	●						●	●
Cortana management	●	●							

[1] Windows must be licensed separately

https://go.microsoft.com/fwlink/?linkid=2139145

Configuration Manager

- Microsoft's On-prem desktop management platform
  - Started as Systems Management Server in 1994
- Configuration compliance
- App deployment
- OS imaging
- Windows Updates

- Wait… wrong presentation

Intune (Cloud MDM Buffet)

- Microsoft's cloud-based device and application management platform
- Supports Windows, MacOS, iOS, iPadOS, Android devices
- Push software to devices
- Define settings pushed to devices
- Compliance Policies to enable verify security settings
  - Some settings will remediate. Others require configuration profiles
- Manage Updates (Windows & iOS/iPadOS)
- Execute scripts

Intune Application Deployment

- Supports Windows MSI/MSIX & EXE installers or Store apps
  - EXE feels like Configuration Manager application script deployment types
  - Store Apps require getting the URL and logo from browser
- MacOS requires manual package building
- Easy support for iOS/iPadOS
  - App store search built into Endpoint Manager
- Android deployment the same as Windows Store apps

Configuration Profiles

- AKA
  - Intune's equivalent for GPOs
  - Intune's equivalent to WICD ppkg files
  - Intune's equivalent to Apple mobileconfig files
- Apply application and devices settings on a per user or per machine basis

https://docs.microsoft.com/en-us/mem/intune/configuration/

Configuration Profiles (iOS/MacOS)

- Can use the templates provided
  - Certificates
  - VPN
  - WiFi
  - Device Restrictions
- OR import your own mobileconfig files
  - ProfileCreator: https://github.com/ProfileCreator/ProfileCreator
    - Awesome open-source application for creating custom configs

Configuration Profile (Windows)

- Many prebuilt templates
  - Device restrictions
  - Edition upgrade
  - Kiosk Mode
  - Certificates
  - WiFi
- Settings Catalog (Preview): **All Windows 10 Administrative Templates!!!**
- Custom profiles
  - (If you can figure out the OMA-URI)

Autopilot

- A solution for automatic enrollment into MDM
- Easily configure the Out-of-Box-Experience
- Control device ownership throughout its lifecycle

- Manufacturer support varies
- Existing devices can be enrolled if desired

https://docs.microsoft.com/en-us/mem/autopilot/

MacOS & iOS Autoenrollment

- Look at Apple Business Manager
  - Devices purchased by the organization can be automatically enrolled into an MDM solution
  - https://www.apple.com/business/it/
  - https://www.apple.com/education/k12/it/ (Apple School Manager)

MacOS Management *(Well, Bless Your Heart)*

- Intune could be a great replacement for Apple Profile Manager
- The challenges:
  - App deployment requires applications and installers to be signed + notarized + OSCP stapled.
    - Mac Admins Talk: The Loyal Order of Notaries – Cannonball (tombridge.com)
    - Notarization Follow-Up and Video – Cannonball (tombridge.com)
    - Notarization and macOS, what it does, why you need it – Tom Bridge - YouTube
  - Configuration profiles can disappear without warning.
  - OR profiles are not removed when desired.
  - No cloud authentication mechanism offered (JAMF Connect is an alternative).

Things you should think about

- Organization
  - Directory structures are not a concept in AzureAD or MEM.
    - A very hard computer science problem? j/k
  - How are you going to group devices and users for Intune assignments?
  - How are you going to name the dozens-hundreds of configuration profiles and applications you are deploying across four different operating systems?
- What devices will you manage?
  - AD joined computer?
  - AAD joined computers?
  - Company mobile devices?
  - Employee personal computers and mobile devices?

Topics Not Covered

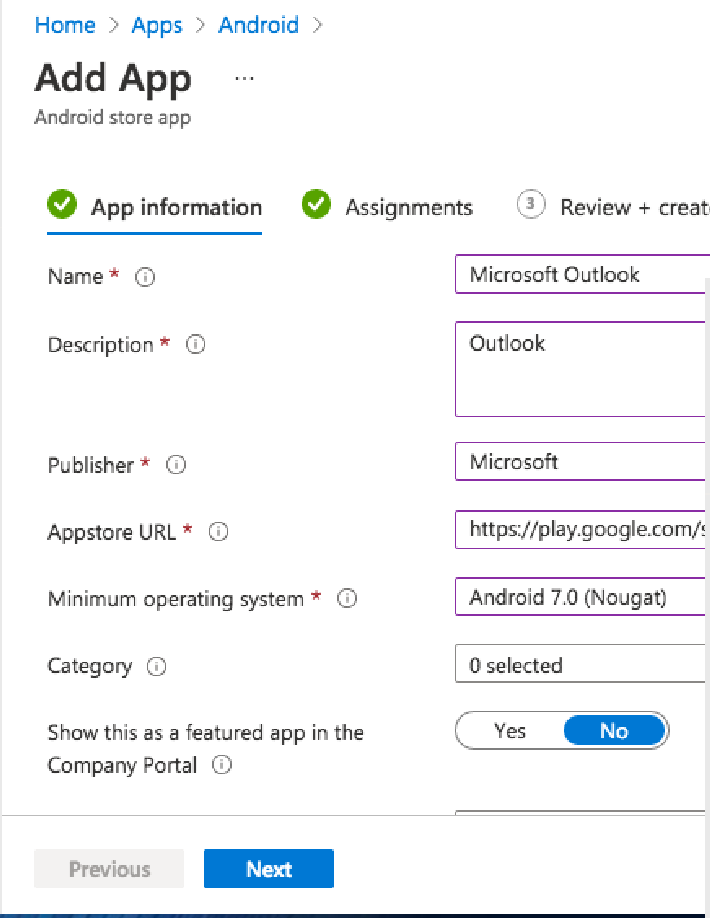
- Device Protection: https://docs.microsoft.com/en-us/mem/intune/protect/device-protect
  - Compliance policies: https://docs.microsoft.com/en-us/mem/intune/protect/device-compliance-get-started
  - Conditional Access: https://docs.microsoft.com/en-us/mem/intune/protect/conditional-access
  - App protection policies: https://docs.microsoft.com/en-us/mem/intune/apps/app-configuration-policies-overview
    - Control what data can be shared between apps
    - Require additional security to access apps
  - Defender/Endpoint protection: https://docs.microsoft.com/en-us/mem/intune/protect/advanced-threat-protection

Topics Not Covered

- RBAC for Intune Management: https://docs.microsoft.com/en-us/mem/intune/fundamentals/role-based-access-control
- Windows update management: https://docs.microsoft.com/en-us/mem/intune/protect/windows-update-for-business-configure
- PowerShell and Graph API tools for managing Intune: https://github.com/Microsoft/Intune-PowerShell-SDK/ & https://docs.microsoft.com/en-us/mem/intune/developer/intune-graph-apis

DEMO!!!

Intune Apps



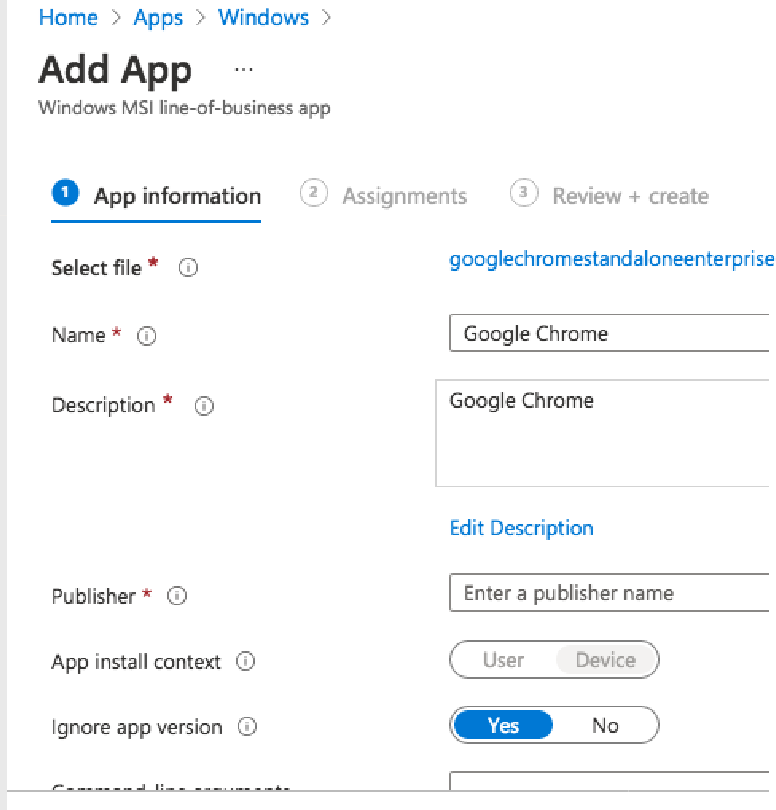
Home > Apps > Android >

Add App ···

Android store app

✓ App information ✓ Assignments ③ Review + create

Name * ⓘ	Microsoft Outlook
Description * ⓘ	Outlook
Publisher * ⓘ	Microsoft
Appstore URL * ⓘ	https://play.google.com/s
Minimum operating system * ⓘ	Android 7.0 (Nougat)
Category ⓘ	0 selected
Show this as a featured app in the Company Portal ⓘ	Yes [✓ No]



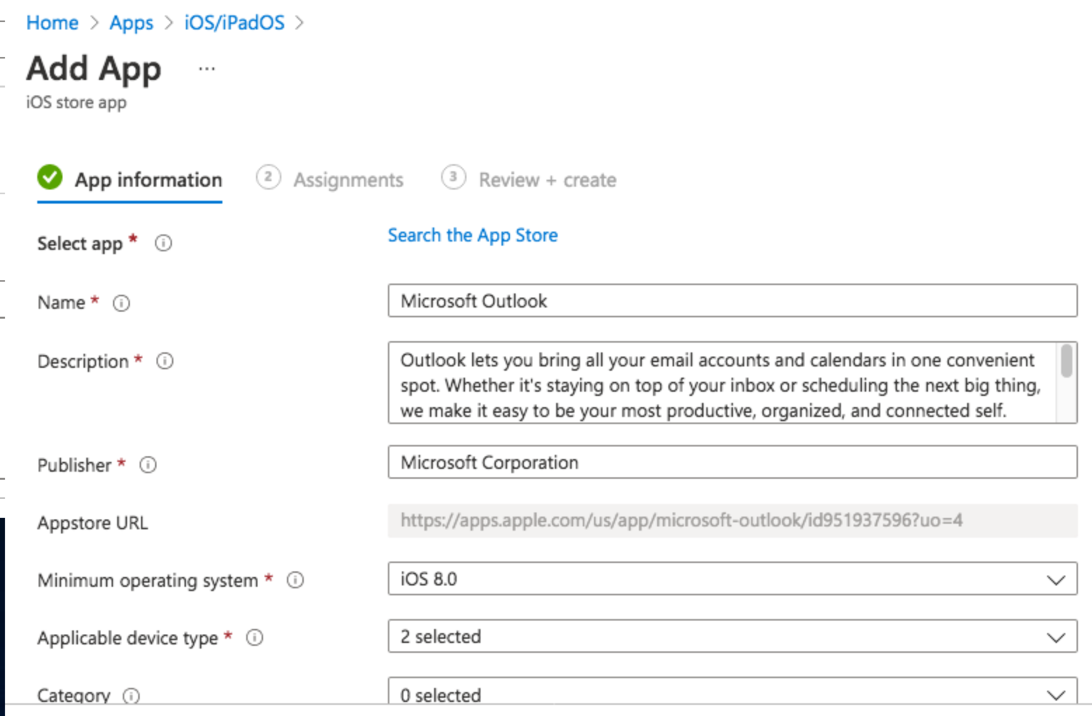
Home > Apps > Windows >

Add App ···

Windows MSI line-of-business app

① App information ② Assignments ③ Review + create

Select file * ⓘ	googlechromestandaloneenterprise64.msi
Name * ⓘ	Google Chrome
Description * ⓘ	Google Chrome
	Edit Description
Publisher * ⓘ	Enter a publisher name
App install context ⓘ	User Device
Ignore app version ⓘ	[✓ Yes] No



Home > Apps > iOS/iPadOS >

Add App ···

iOS store app

✓ App information ② Assignments ③ Review + create

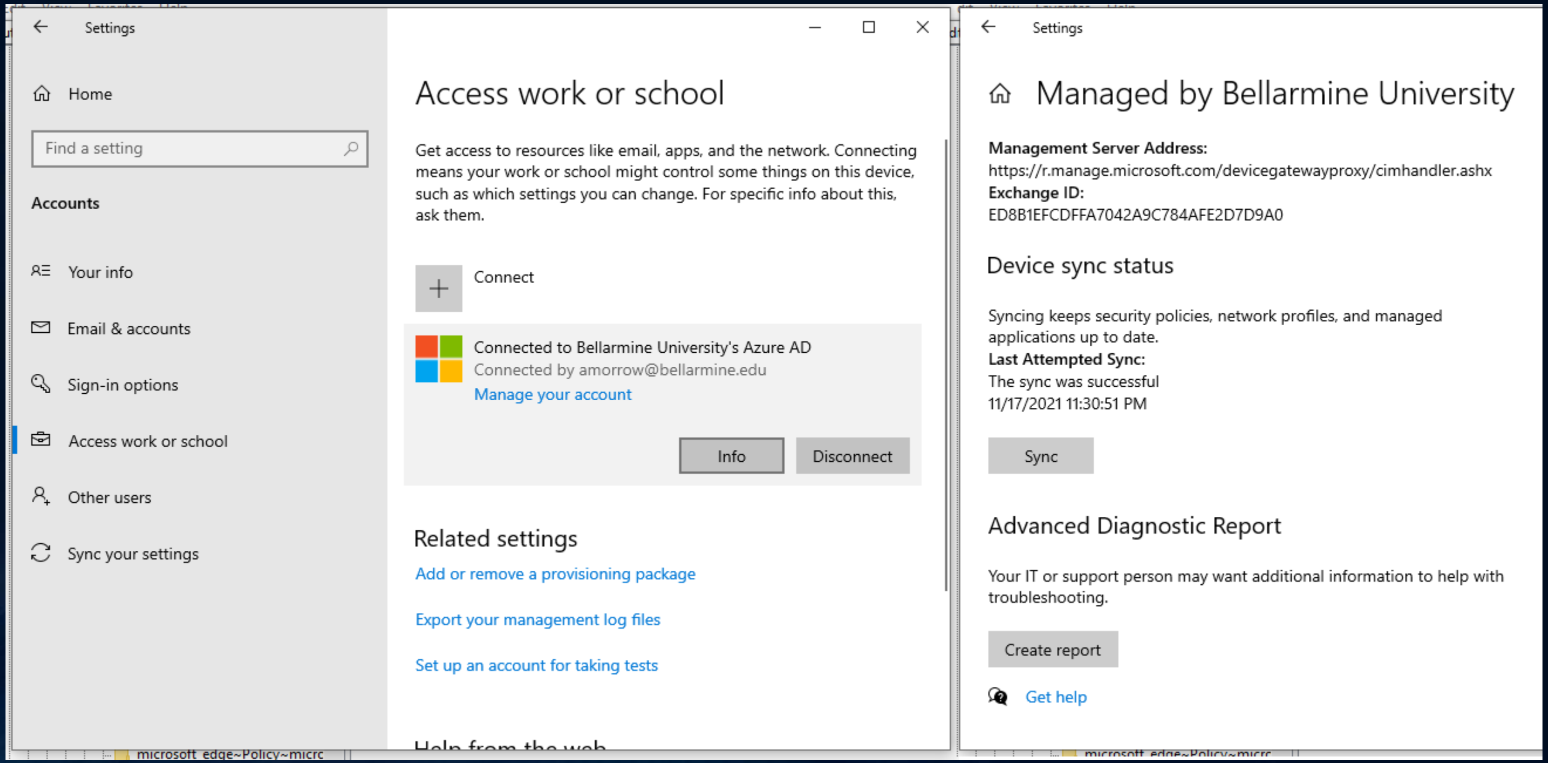
Select app * ⓘ	Search the App Store
Name * ⓘ	Microsoft Outlook
Description * ⓘ	Outlook lets you bring all your email accounts and calendars in one convenient spot. Whether it's staying on top of your inbox or scheduling the next big thing, we make it easy to be your most productive, organized, and connected self.
Publisher * ⓘ	Microsoft Corporation
Appstore URL	https://apps.apple.com/us/app/microsoft-outlook/id951937596?uo=4
Minimum operating system * ⓘ	iOS 8.0
Applicable device type * ⓘ	2 selected
Category ⓘ	0 selected

Custom ADMX Based Profiles

- https://docs.microsoft.com/en-us/windows/client-management/mdm/understanding-admx-backed-policies
- Chrome basic example: https://support.google.com/chrome/a/answer/9102677?hl=en#zippy=%2Cstep-ingest-the-chrome-admx-file-into-intune

Troubleshooting

- Settings > Accounts > Access work or school > Info > Advanced Diagnostic Report > Create report



Access work or school

Get access to resources like email, apps, and the network. Connecting means your work or school might control some things on this device, such as which settings you can change. For specific info about this, ask them.

Connected to Bellarmine University's Azure AD
Connected by amorrow@bellarmine.edu

Related settings

Add or remove a provisioning package
Export your management log files
Set up an account for taking tests
Help from the web
Settings

Managed by Bellarmine University

Management Server Address:
https://r.manage.microsoft.com/devicegatewayproxy/cimhandler.ashx
Exchange ID:
ED8B1EFCDFFA7042A9C784AFE2D7D9A0

Device sync status

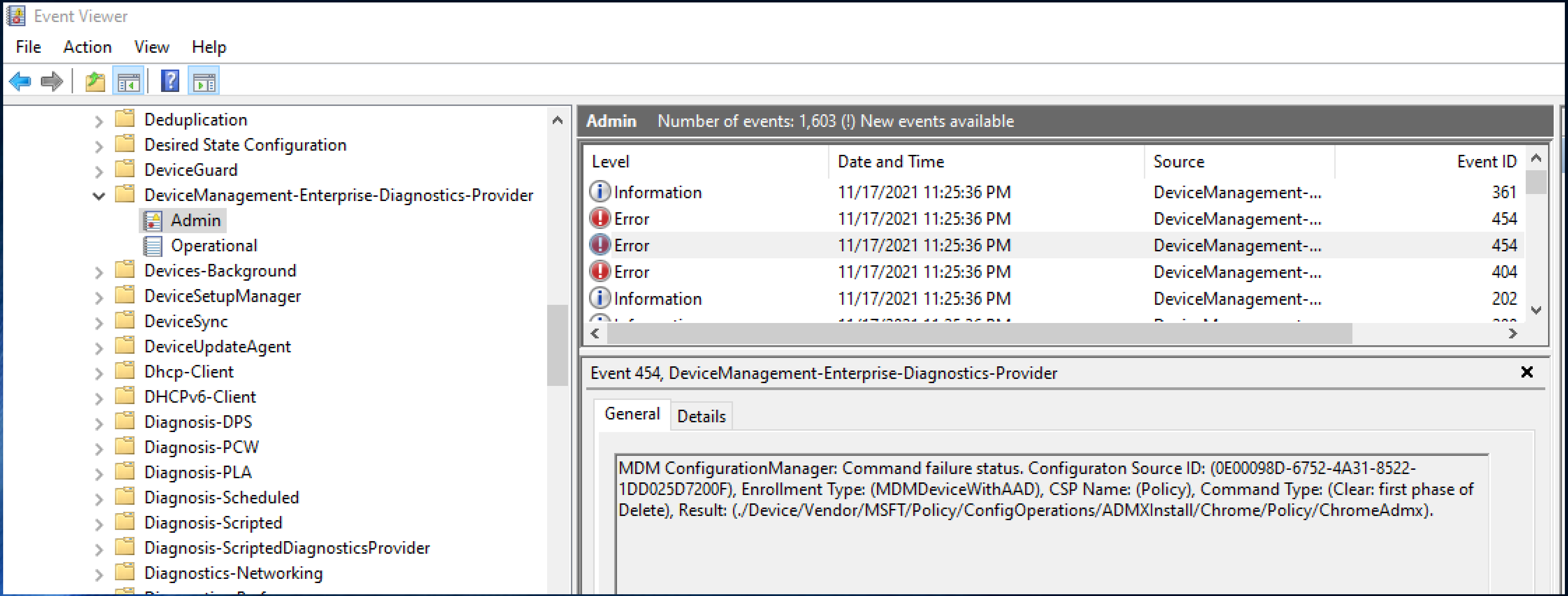
Syncing keeps security policies, network profiles, and managed applications up to date.
Last Attempted Sync:
The sync was successful
11/17/2021 11:30:51 PM

Advanced Diagnostic Report

Your IT or support person may want additional information to help with troubleshooting.

Troubleshooting

- Event Viewer > Applications and Services Logs> Microsoft > Windows > DeviceManagement-Enterprise-Diagnostics-Provider > Admin



Admin Number of events: 1,603 (!) New events available

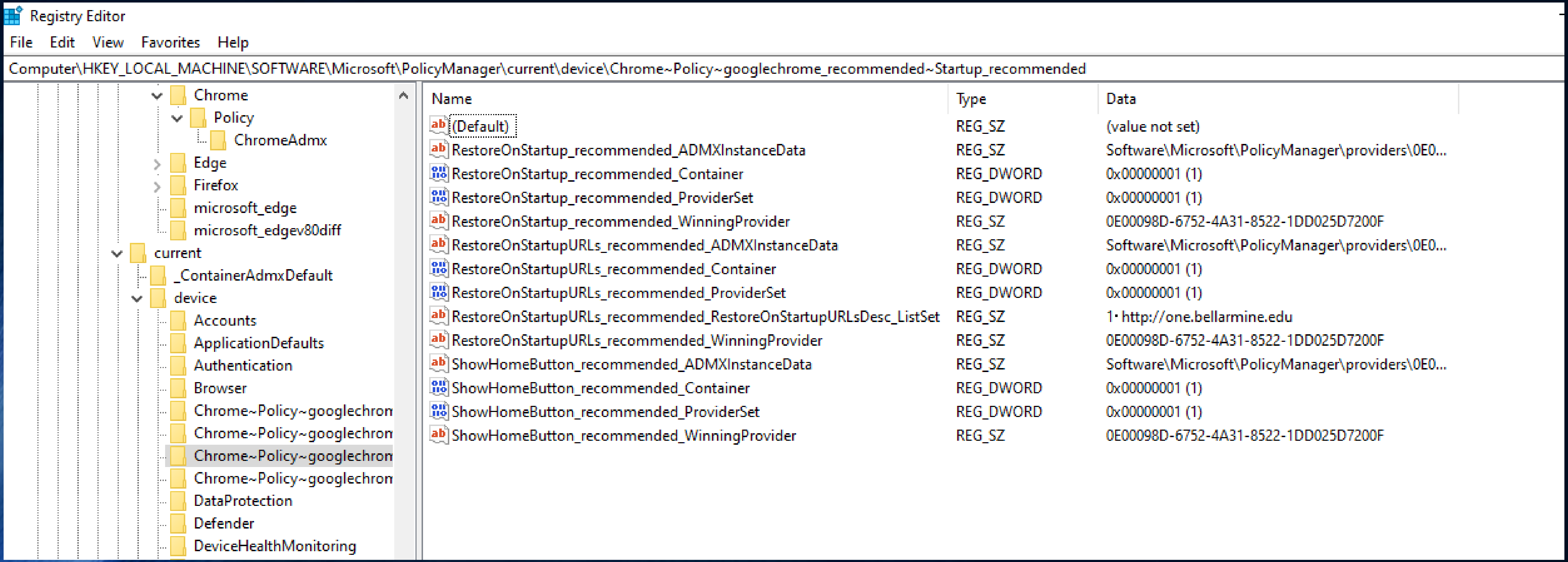
Level	Date and Time	Source	Event ID
Information	11/17/2021 11:25:36 PM	DeviceManagement-...	361
Error	11/17/2021 11:25:36 PM	DeviceManagement-...	454
Error	11/17/2021 11:25:36 PM	DeviceManagement-...	454
Error	11/17/2021 11:25:36 PM	DeviceManagement-...	404
Information	11/17/2021 11:25:36 PM	DeviceManagement-...	202

Event 454, DeviceManagement-Enterprise-Diagnostics-Provider

MDM ConfigurationManager: Command failure status. Configuraton Source ID: (0E00098D-6752-4A31-8522-1DD025D7200F), Enrollment Type: (MDMDeviceWithAAD), CSP Name: (Policy), Command Type: (Clear: first phase of Delete), Result: (./Device/Vendor/MSFT/Policy/ConfigOperations/ADMXInstall/Chrome/Policy/ChromeAdmx).

Troubleshooting

- Registry\Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\PolicyManager\current\device



Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\PolicyManager\current\device\Chrome~Policy~googlechrome_recommended~Startup_recommended

Name	Type	Data
(Default)	REG_SZ	(value not set)
RestoreOnStartup_recommended_ADMXInstanceData	REG_SZ	Software\Microsoft\PolicyManager\providers\0E0...
RestoreOnStartup_recommended_Container	REG_DWORD	0x00000001 (1)
RestoreOnStartup_recommended_ProviderSet	REG_DWORD	0x00000001 (1)
RestoreOnStartup_recommended_WinningProvider	REG_SZ	0E00098D-6752-4A31-8522-1DD025D7200F
RestoreOnStartupURLs_recommended_ADMXInstanceData	REG_SZ	Software\Microsoft\PolicyManager\providers\0E0...
RestoreOnStartupURLs_recommended_Container	REG_DWORD	0x00000001 (1)
RestoreOnStartupURLs_recommended_ProviderSet	REG_DWORD	0x00000001 (1)
RestoreOnStartupURLs_recommended_RestoreOnStartupURLsDesc_ListSet	REG_SZ	1· http://one.bellarmine.edu
RestoreOnStartupURLs_recommended_WinningProvider	REG_SZ	0E00098D-6752-4A31-8522-1DD025D7200F
ShowHomeButton_recommended_ADMXInstanceData	REG_SZ	Software\Microsoft\PolicyManager\providers\0E0...
ShowHomeButton_recommended_Container	REG_DWORD	0x00000001 (1)
ShowHomeButton_recommended_ProviderSet	REG_DWORD	0x00000001 (1)
ShowHomeButton_recommended_WinningProvider	REG_SZ	0E00098D-6752-4A31-8522-1DD025D7200F