Understanding and Leveraging Microsoft's Enterprise Mobility Suite (EMS)

Ospmcdonough
on Twitter (for
heckling purposes)



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National Office 365 Solution Manager
Cardinal Solutions Group





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More Fun Stuff

- ➤ Raffle: Please join us in the Atrium at 5:15 PM for the raffle. We are raffling some exciting prizes including a Wacom tablet, a BB-8 droid, and who knows, maybe a Xbox One S (need to be present to win)!!!
- ➤ SharePint will be held at Mad Mex (370 Atwood St, Pittsburgh, PA 15213). While it starts at 5:45 PM, there's no end time!!!! ☺☺☺



- ➤ Pittsburgh Area SharePoint User Group
 - Meets at the Microsoft office on the North Shore
 - ➤ More Info: https://www.linkedin.com/groups/Pittsburgh-Area-SharePoint-User-Group-3769745/about



We do Request that...

- ➤ You fill out the Session Evals. These will also be your Raffle tickets. Print your name clearly if you intend to participate in the Raffle and drop the forms at the registration desk after the last session.
- ➤ You visit the sponsors. The event is possible due to their generous support and we request that you visit them and inquire about their products & services.
- ➤ Cell phones be kept on silent as a courtesy to other attendees and speakers

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350+ FTEs \$50M+ Revenue



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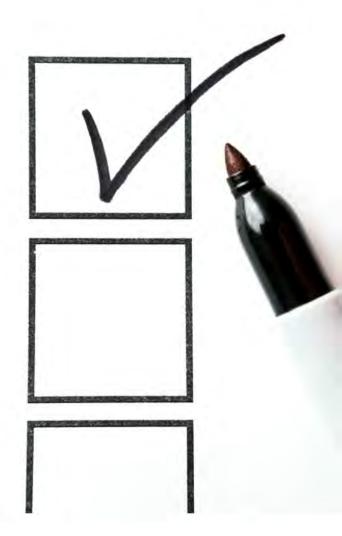


Agile Coaching Business Analysis Project Management



Our Agenda

- Why I'm Doing This
- An Overview of EMS
- Individual EMS Workloads
- Putting Together Solutions
- Questions & Answers
- References



Let's start with a simple question:

How many of you had heard of EMS prior to this session?

Okay, now how many of you really know what EMS is?

la antique de la colonia de





In my experience, plenty of people have heard of EMS.



Microsoft has been talking about it A LOT

Very few people know exactly what it is or does, though.

what it is or does, though

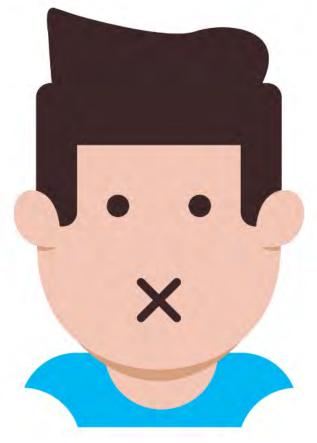


A couple of things complicate the discussion, as well

- There is significant overlap between how EMS is positioned next to Office 365
- The EMS feature set is a fast moving target; it's capabilities keep changing

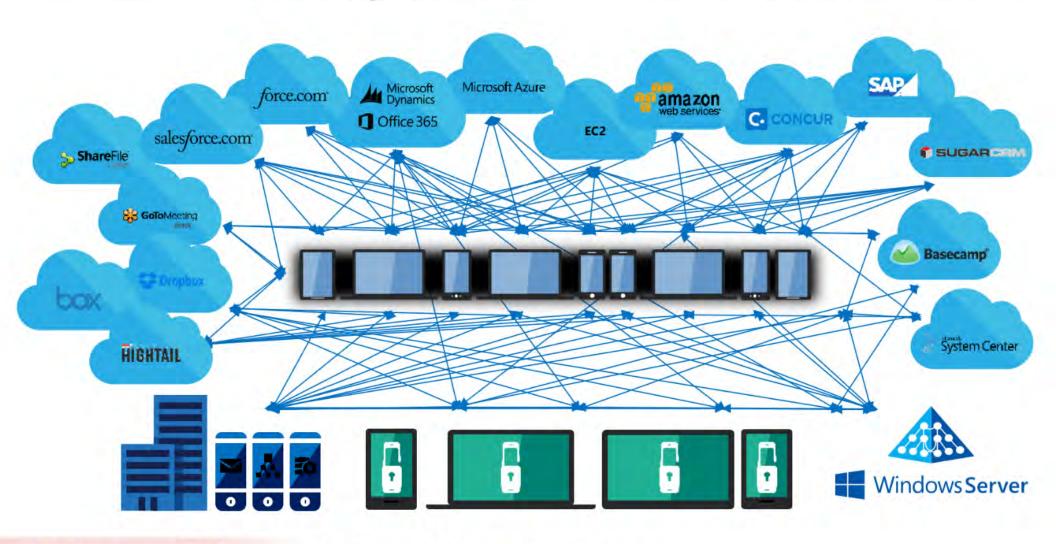


My Goal



To give you real, usable information on how to better leverage Office 365 (which you probably already have) and understand when and where you would need to step-up to EMS

Our modern reality with devices, data, and services

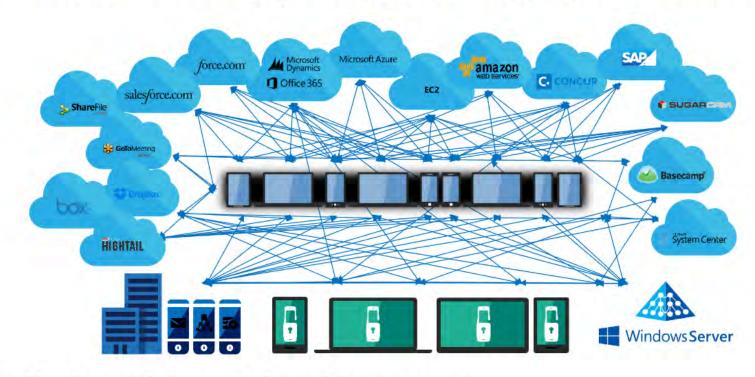


lighted by this diagram

Employees in Large En



Our modern reality with devices, data, and services

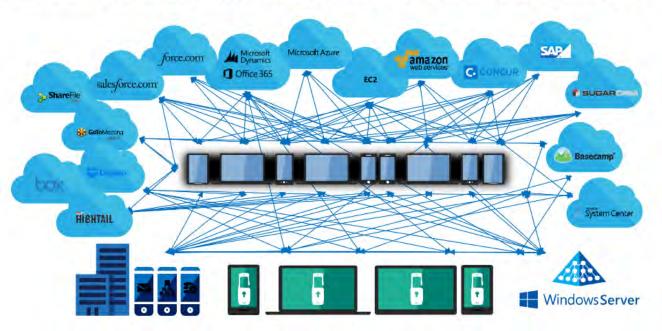


Two truths highlighted by this diagram

- These days, we are hyperconnected across a variety of devices and services
- If you're in IT, security in this type of environment can be an extreme challenge

According to a Gartner study of U.S. Employees in Large Enterprises

Our modern reality with devices, data, and services



- 40% use their personal devices for work purposes
- households average two or more devices
- online banking and purchasing are in the top three activities done on desktop or laptop

lighted by this diagram

perconnected across a variety of devices and services

Combined with o

terprises

- 40% use their personal devices for work purposes
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- online banking and purchasing are in the top three activities done on desktop or laptop



- 80% use non-approved SaaS applications in their jobs
- Nearly 35% of all SaaS applications used in enterprises are nonapproved
- On average, 15 percent of users have had security, access, or liability events while using SaaS apps

Combined with data from McAfee, the security and related implications are alarming.



Your employees are impacted

liability events while using SaaS apps

Combined with data from McAfee, the security and related implications are alarming.

Your employees are impacted

... but by extension, you are also impacted by

Your business partners

Your customers





At it's core, EMS is about security

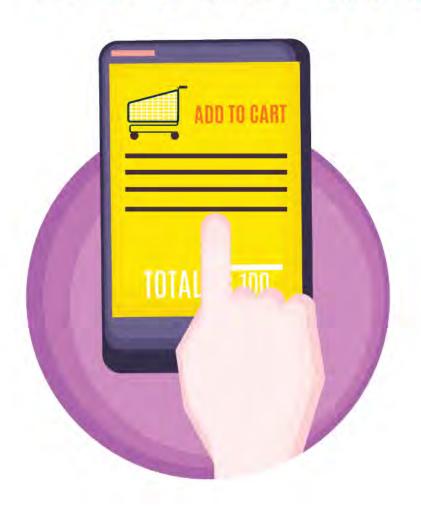
- Enhancing existing identity security
- Strengthening device security
- Protecting data, not just systems
- Extending security to on-premises systems



It's also about convenience

on-premises systems

It's also about convenience



- Can be used to simplify SSO to cloud-based and on-premises systems
- Maximum capability with minimum config
- Natural complement to Office 365



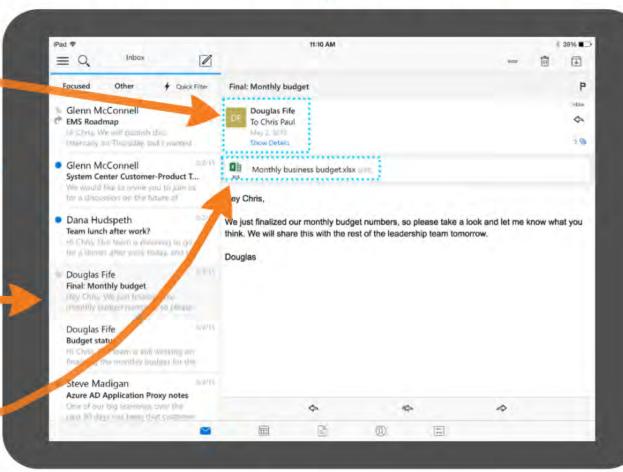
EMS and multi-axis protection

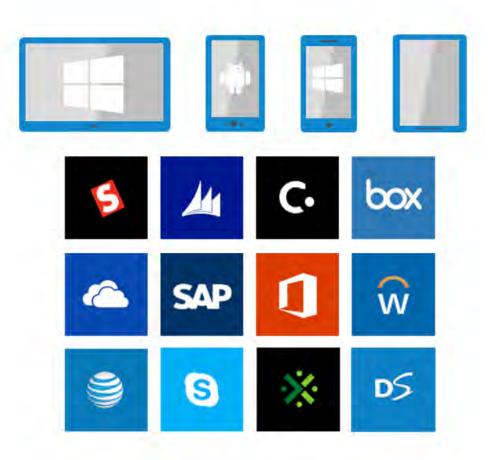
Identity

Device

Application

Data





- iOS, Android, and Windows devices
- thousands of Software as a Service (Saas) apps
- Line-of-business (LOB) apps,
 RemoteApp

protection that goes cross-platform



At the end of the day, though the best part of EMS is this:



It simply works and complements Office 365 nicely



SO ... what's in EMS?

Let's start by acknowledging that this is something of a trick question.



So ...
what's in
EMS?

Azure Active Directory Premium

Intune

Azure Rights Management Premium Advanced Threat Analytics









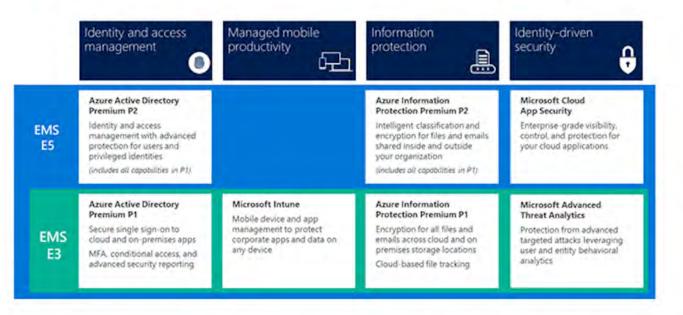
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Of course, too many of us were starting to understand the offering, so, Microsoft is pulling a change-up



EMS will become "Enterprise Mobili

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Cliff Notes for the changes that are here and/or coming

EMS will become "Enterprise Mobility + Security" rather than "Enterprise Mobility Suite"

existing EMS capabilities will become EMS E3

An EMS E5 will come in Q4 2016

E5 will include Cloud App Security, AAD identity protections, and more

Azure Active Directory Premium

Intune

Azure Rights Management Premium Advanced Threat Analytics







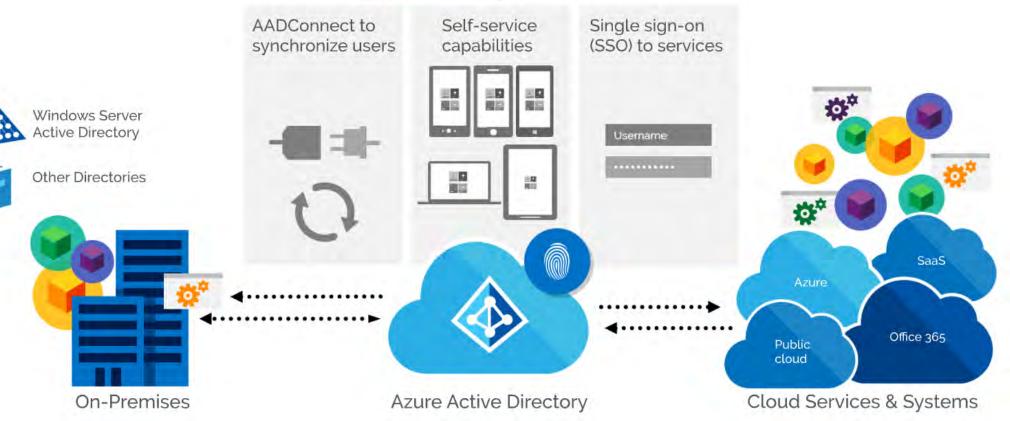


Right now, EMS (the Enterprise Mobility Suite) consists of these four workloads

Azure Active Directory: identity controls everything



- Password management
- Password reset
- Group
 Management



y Connector

 All requests originate internally - no "drill in" from the outside Application Proxy

 Microsoft takes care of keeping external entry points up-todate with security

- Currently there is a gallery of over 2600 SaaS applications preconfigured for your use.
- Many common applications

AADConnect to synchronize users



Windows Server Active Directory



Other Directories







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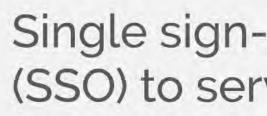
Single sign-on (SSO) to services Username SaaS Azure Office 365

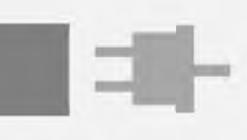
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Connect to ronize users











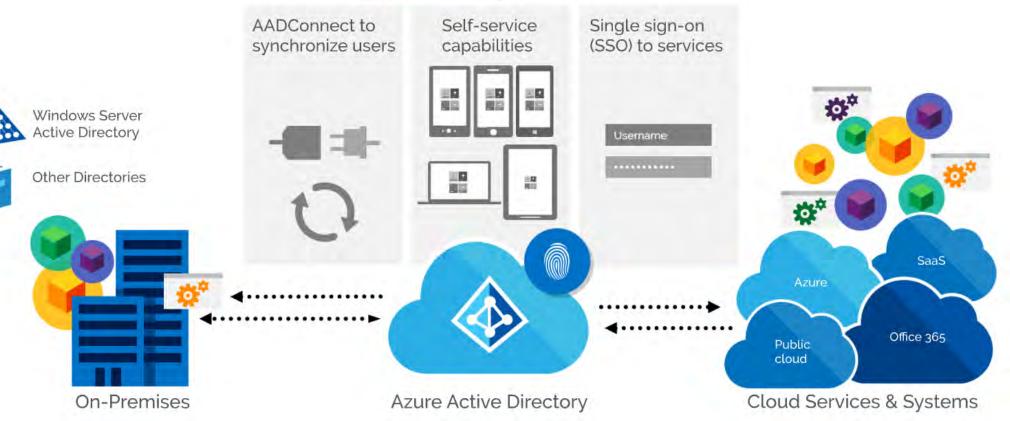
Username



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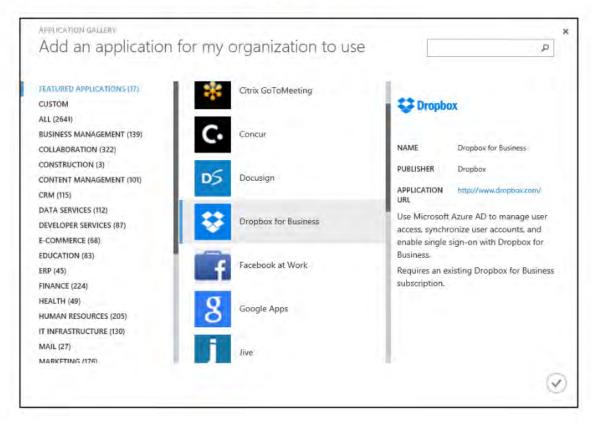


Cloud Services & Systems

- Currently there is a gallery of over 2600 SaaS applications preconfigured for your use.
- Many common applications
 - Salesforce
 - Salesiorce
 - WorkDay
 - GoToMeeting
 - · Dropbox

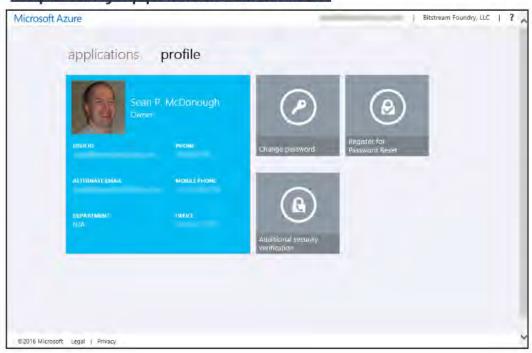
- Box
- AvePoint Online
- Concur
- Google Apps

SSO Application Support



wig include

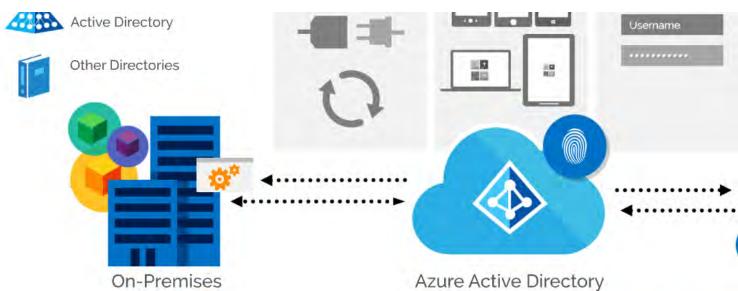
https://myapps.microsoft.com



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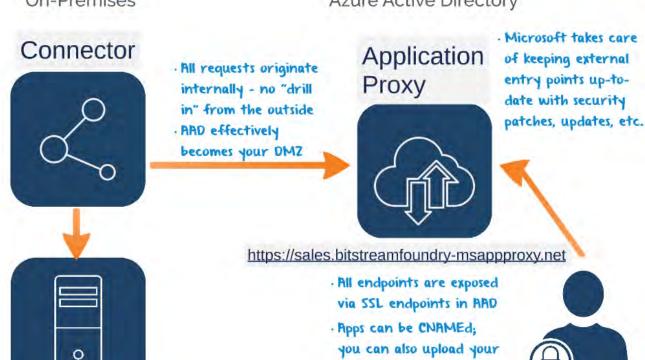
t to users Self-service capabilities

Singl (SSO)



Exposing on-premises applications (like SharePoint)

- Deploy Azure App Proxy Connector to an onpremises server or servers
- Connector initiates connection to AAD
- Applications are configured in AAD
- Users connect through AAD to get to internal web endpoints



http://sales

own SSL certificates

User





Azure Active Directory

Connector



All requests originate internally - no "drill in" from the outside
 AAD effectively becomes your DMZ

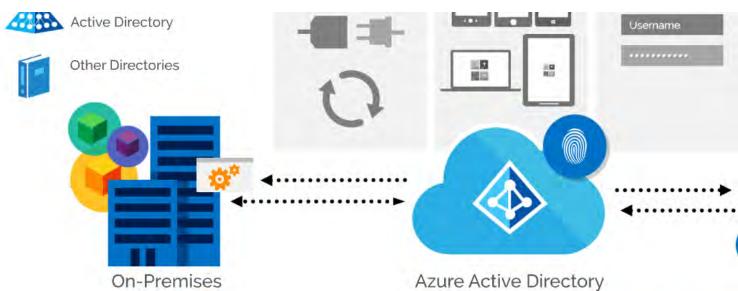
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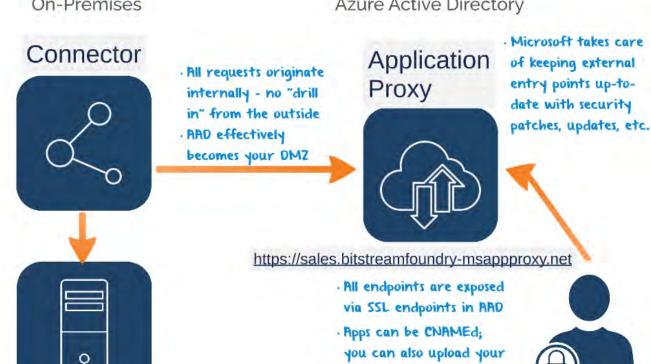
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- · All endpoints are exposed via SSL endpoints in AAD
- · Apps can be CNAMEd;



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Azure Active Directory

Clou

· Microsoft takes care of keeping external entry points up-to-date with security

patches, updates, etc.

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Application Proxy

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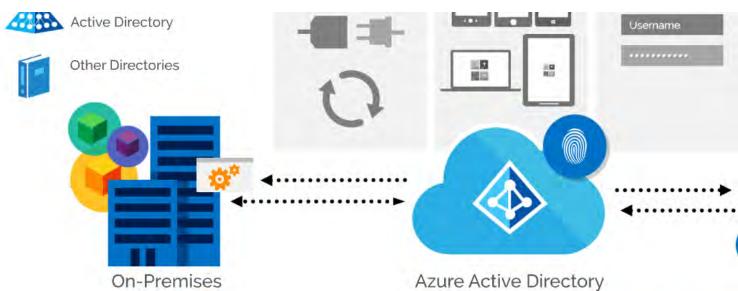
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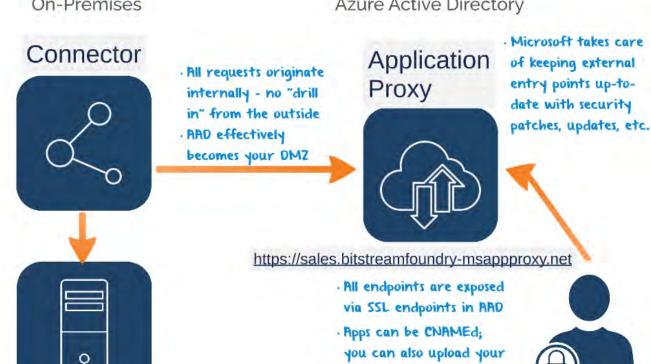
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. All endonints are exposed



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own SSL certificates

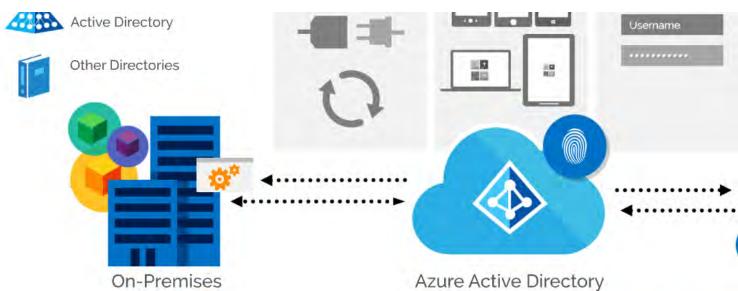
User



https://sales.bitstreamfoundry-msappproxy.net

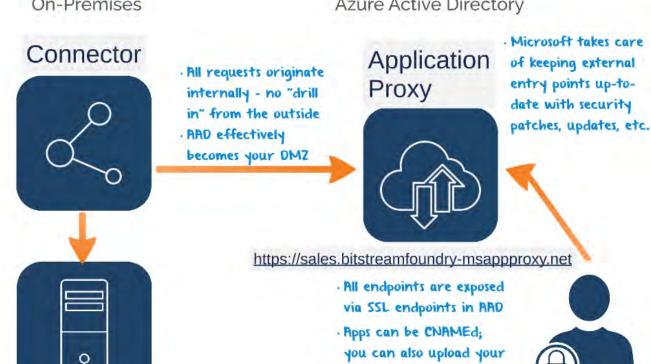
- · All endpoints are exposed via SSL endpoints in AAD
- · Apps can be CNAMEd;
 you can also upload your
 own SSL certificates





Exposing on-premises applications (like SharePoint)

- Deploy Azure App Proxy Connector to an onpremises server or servers
- Connector initiates connection to AAD
- Applications are configured in AAD
- Users connect through AAD to get to internal web endpoints

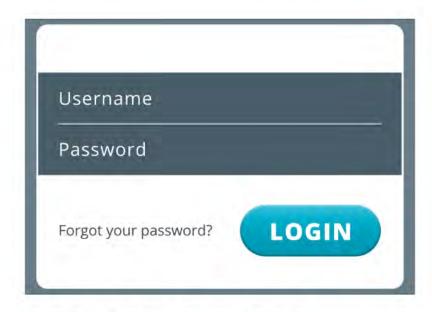


http://sales

own SSL certificates

User

Multi-Factor Authentication (MFA)

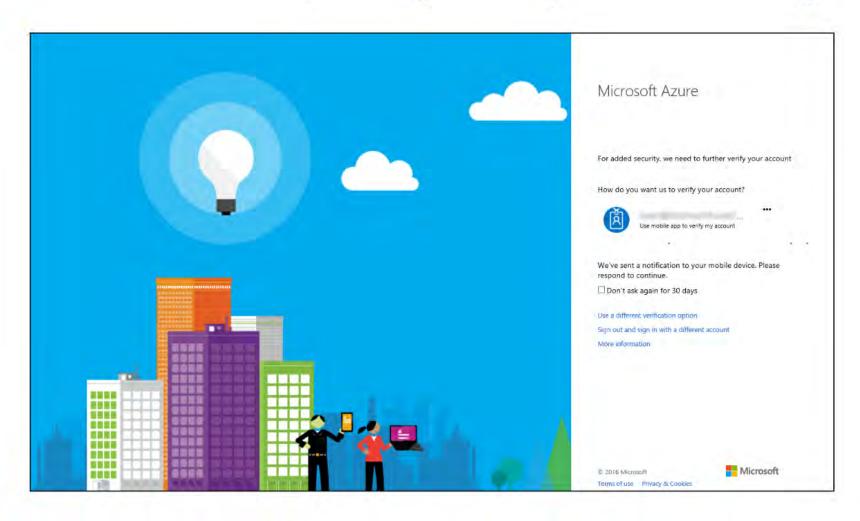


MFA is this ...



... plus something like a fingerprint, SMS message, etc.

When MFA is enabled, the sign-in experience changes a bit



Microsoft Azure

For added security, we need to further verify your account

...

How do you want us to verify your account?



Use mobile app to verify my account

We've sent a notification to your mobile device. Please respond to continue.

☐ Don't ask again for 30 days

Use a different verification option

Sign out and sign in with a different account

More information

I've signed in with my username and password, and now I'm being prompted for verification

premises environments)	⊗
Service-level agreement (SLA)	∅
Forefront Identity Manager CAL + Forefront Identity Manager Server	∅



Why should I care about MFA?

· bottom line: if your username and password ever become compromised, your account will (probably) still be safe!

Azure Active Directory Version Comparison

	Azure AD (O365)	Azure AD Premium	
Directory as a service		✓ No limit	
User and group management	0	0	
Single sign-on for pre-integrated SaaS and custom applications		No limit	
Microsoft Directory Synchronization Tool (Windows Server Active Directory extension)	0	0	
User-based access management and provisioning	0	Ø	
Group-based access management and provisioning		0	
Self-service group management for cloud users		⊘	
Self-service password change for cloud users	∅	⊘	
Self-service password reset for cloud users		0	
Security reports	0	⊗	
Advanced security reporting (based on machine learning)		0	
Usage reporting		0	
Company branding (logon pages and Access Panel customization)		0	
Multi-factor authentication (all available features on Windows Azure and on- premises environments)		Ø	
Service-level agreement (SLA)		0	
Forefront Identity Manager CAL + Forefront Identity Manager Server		0	



Why should I care about MFA?

MFA: Office 365 versus EMS

	MFA for O365/Azure Administrators	Windows Azure Multi-Facto Authentication / EMS	
Administrators can Enable/Enforce MFA to end-users	⊘	∅	
Use Mobile app (online and OTP) as second authentication factor	⊘	∅	
Use Phone call as second authentication factor	⊘	⊘	
Use SMS as second authentication factor		0	
Application passwords for non-browser clients (e.g. Outlook, Lync)	⊘	∅	
Default Microsoft greetings during authentication phone calls	⊘		
Custom greetings during authentication phone calls		⊗	
Fraud alert		©	
MFA SDK		0	
Security Reports		0	
MFA for on-premises applications/ MFA Server.		⊗	
One-Time Bypass		Ø	
Block/Unblock Users			
Customizable caller ID for authentication phone calls		⊘	
Event Confirmation		Ø	

Azure Active Directory Premium

Intune

Azure Rights Management Premium Advanced Threat Analytics









Right now, EMS (the Enterprise Mobility Suite) consists of these four workloads

Intune: Mobile Device Management (MDM)







FREQUENTLY ASKED QUESTION

What is mobile device management?



applying policies to require PINs, lock

What is mobile device management?



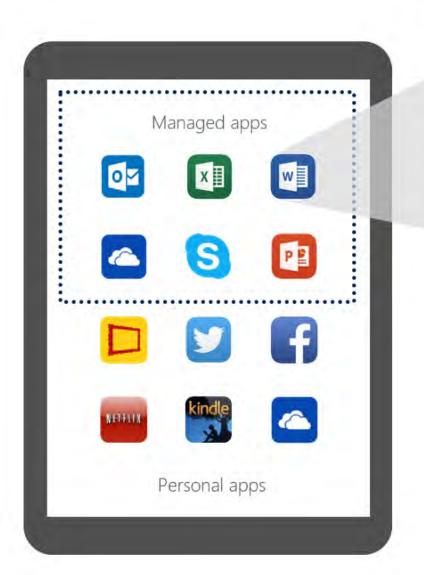
- applying policies to require PINs, lock devices after a period of time, etc.
- deploying and controlling corporate applications for business use
- having the ability to completely or selectively wipe lost or stolen devices
- configuring specific settings for VPN, wi-fi, email, certificates, and more

So, how does Intune "control" my device and protect corporate data?

- You begin by installing the Intune Company Portal from Google Play or the iTunes store.
- You sign into your cloud tenant from the Company Portal to link your device to your Intune configuration.
- Intune pulls down compliance policies, configuration polices, and other policy items.
- During this enrollment process, applications may also be installed. Apps can be installed later, as well. These are "managed apps."



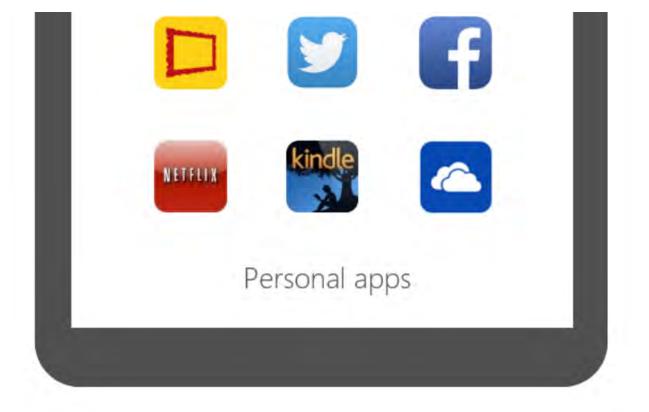
integration can safely span the personand managed data boundary





- managed apps are special because they (and their data) live in a sandbox
- the sandbox is like a logical container for control of data flow and policy management

ne enrollment will not "mess

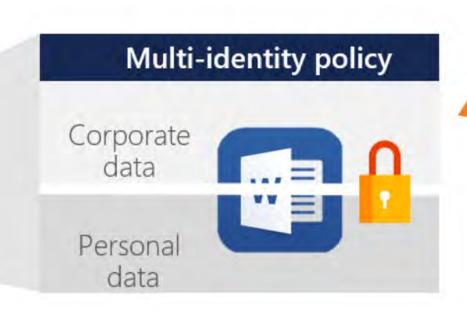


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Intune enrollment will not "mess with" personal apps and data

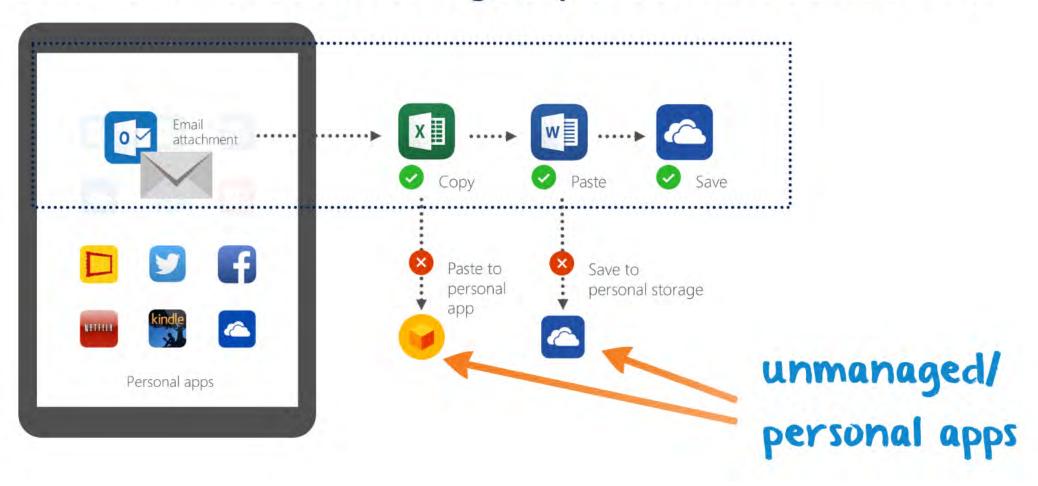
Apps that were written with Intune SDK integration can safely span the personal and managed data boundary



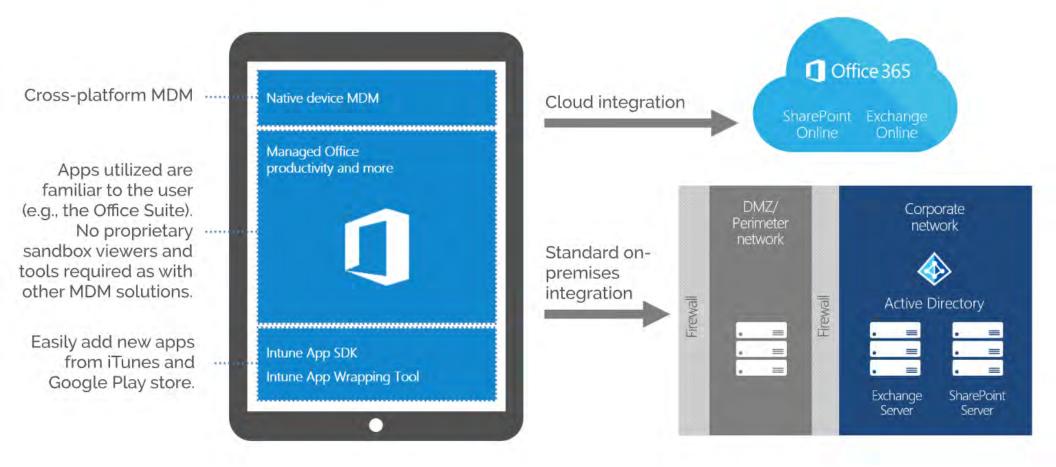


managed apps are special

Intune administrators control whether or not data can flow across managed/personal boundaries



Intune: Under the Hood



Intune versus other MDM solutions

- I believe in honest assessments
- Intune is not the market leader;
 Airwatch is the king
- "Organizations that should consider Intune are those that want to extend the Office 365 services to mobile devices and ConfigMgr customers that value client management and EMM integration over best-of-breed EMM functionality."

Figure 1. Magic Quadrant for Enterprise Mobility Management Suites



Source: Gartner (June 2015)

MDM Comparison between Office 365 and EMS

Category	Feature	Exchange ActiveSync	MDM for Office 365	Microsoft Intune (cloud only)	Intune + ConfigMgr (hybrid)
Device configuration	Inventory mobile devices that access corporate applications		•		•
	Remote factory reset (full device wipe)	•	•	•	•
	Mobile device configuration settings (PIN length, PIN required, lock time, etc.)	•	•		•
	Self-service password reset (Office 365 cloud only users)	•	•	•	•
Office 365	Provides reporting on devices that do not meet IT policy				•
	Group-based policies and reporting (ability to use groups for targeted device configuration)		•	•	•
	Root and jailbreak detection		•		•
	Remove Office 365 app data from mobile devices while leaving personal data and apps intact (selective wipe)				
	Prevent access to corporate email and documents based upon device enrollment and compliance policies		•		
Premium mobile device & app management	Self-service Company Portal for users to enroll their own devices and install corporate apps				•
	App deployment (Windows Phone, iOS, Android)				
	Deploy certificates, VPN profiles (including app-specific profiles), email profiles, and Wi-Fi profiles				
	Prevent cut/copy/paste/save as of data from corporate apps to personal apps (mobile application management)				
	Secure content viewing via Managed Browser, PDF Viewer, Image Viewer, and AV Player apps for Intune				
	Remote device lock via self-service Company Portal and via admin console				
PC management	Client PC management (e.g. Windows 8.1, inventory, antimalware, patch, policies, etc.)				•
	PC software management				
	Comprehensive PC management (e.g. Group Policy, login scripts, BitLocker management, virtual desktop and power management, custom reporting, etc.)				•
	Windows Server/Linux/UNIX/Mac OS X support				•
	DS deployment and imaging				

Azure Active Directory Premium

Intune

Azure Rights Management Premium Advanced Threat Analytics









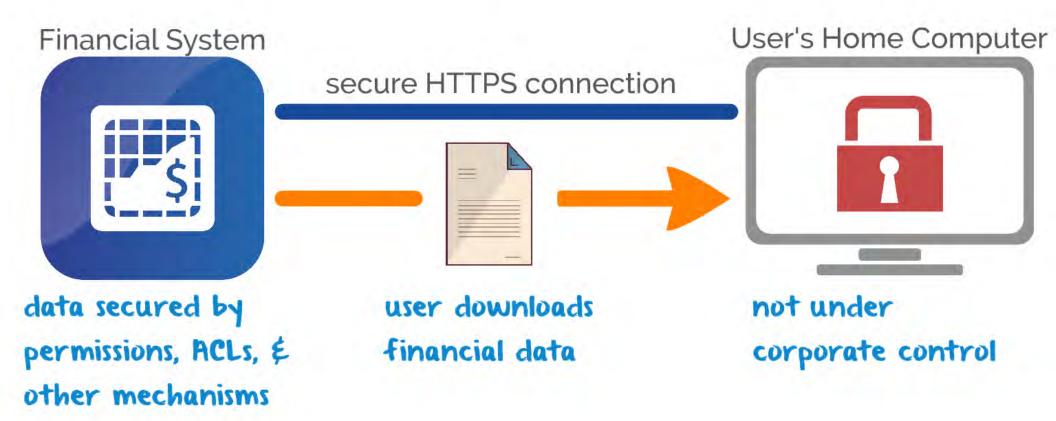
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Let's start
with a simple
question

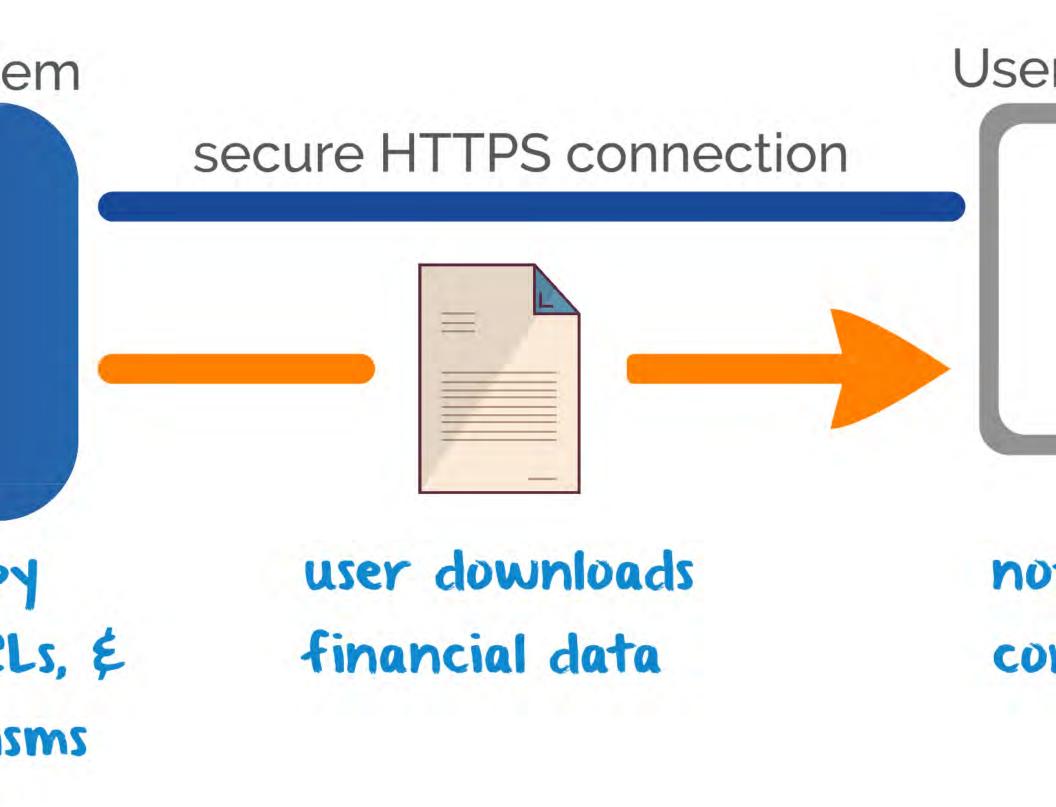


What problem does RMS (Rights Management Service) solve?

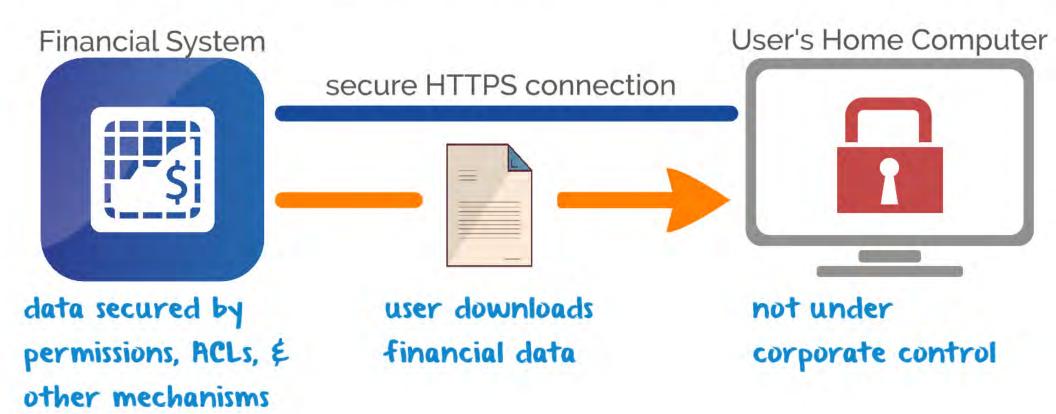
Consider the following example where a user is accessing a corporate financial application



Once the data is on the user's



is accessing a corporate financial application



Once the data is on the user's system, what is securing that data?

king with Azure





If you answered "the user's adherence to corporate policies regarding data usage and system security," then you're trying to apply a protection strategy I call ...

If you answered "the user's adherence to corporate policies regarding data usage and system security," then you're trying to apply a protection strategy I call ...



c ic whore DMC comes in



This usually doesn't cut it in the real world

Users will not protect data the way that they should (or that you want them to)

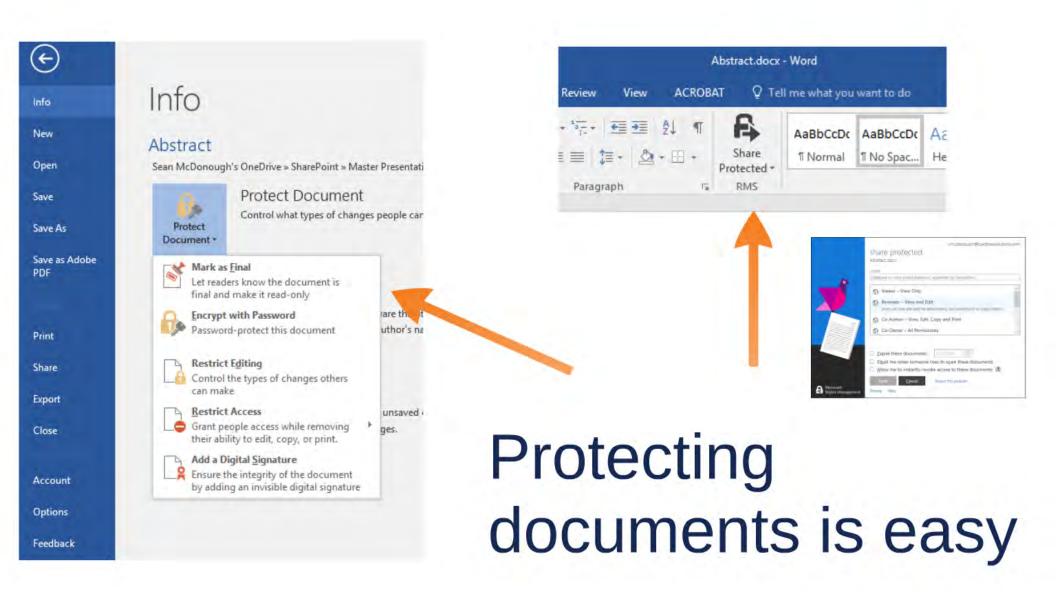
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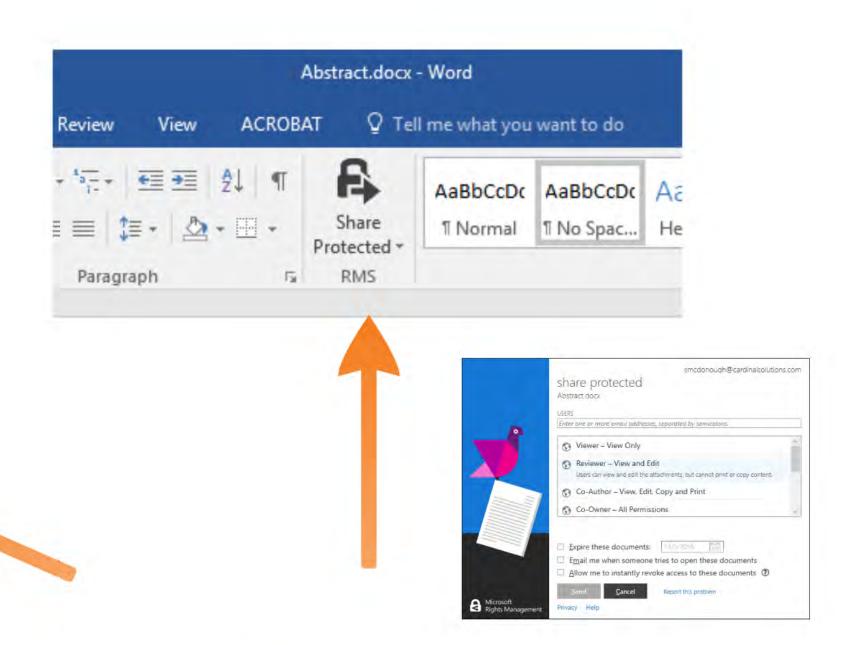
This is where RMS comes in

- With RMS, documents are protected through encryption
- Regardless of where a document resides, it is safe
- Authors determine "who" can do "what" with a document



securing that data?





Drotacting

share protected

Abstract.docx

USERS

Enter one or more email addresses, separated by semicolons.

Viewer – View Only
 Reviewer – View and Edit
 Users can view and edit the attachments, but cannot print or copy content.

 Co-Author – View, Edit, Copy and Print
 Co-Owner – All Permissions

Expire these documents:

11/3/2016

15

- Email me when someone tries to open these documents
- ☐ Allow me to instantly revoke access to these documents ②

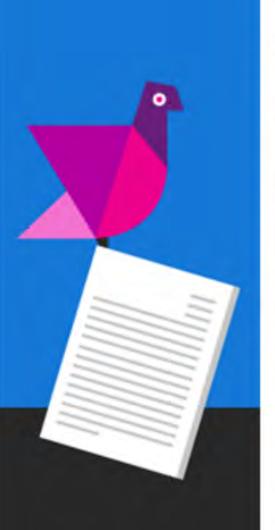
Send

Cancel

Report this problem

Microsoft
Rights Management

Privacy Help



system, what

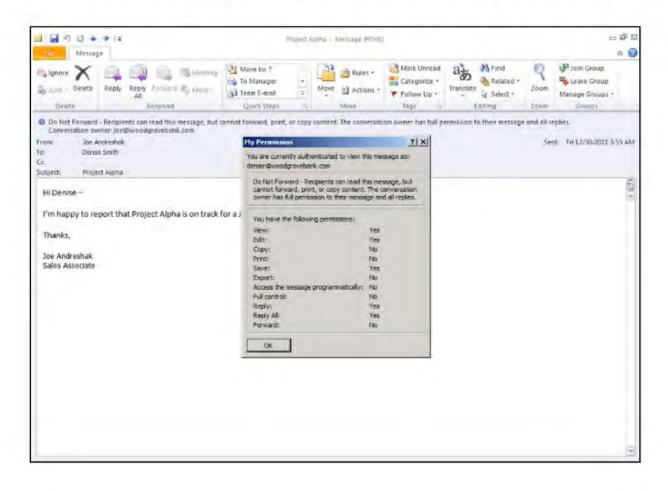
Behind the scenes, Office is working with Azure RMS (in the cloud) to manage certificates and keys



Have any of you ever worked with PGP?

Managing public and private keys for asymmetric encryption is heavy lifting. Azure RMS does this for you. You simply create and apply policies for document usage

Policies can also be auto-applied



- for example, automatically encrypt any email and/or attachments containing SSNs
- RMS is a natural complement to digital loss prevention (DLP) policies

The only big RMS "add" with EMS

An on-premises connector that can be used to apply RMS to non-Office files (via Windows Server 2012 R2 File Classification Infrastructure)

		Azure RMS (EMS)
	RMS for O365	
Consume & Create RMS content with company ID	∅	⊘
Protection for content stored in O365	②	0
Protection for content stored in on prem Office (Exchange, Sharepoint via RMS Connector)	⊘	⊘
Bring your own Key (Hybrid protection)	0	0
RMS protection for non office files	⊗	0
RMS SDK	⊘	0
RMS On Prem Connector for on-premises Windows Server file shares (via RMS FCI Connector)		Ø

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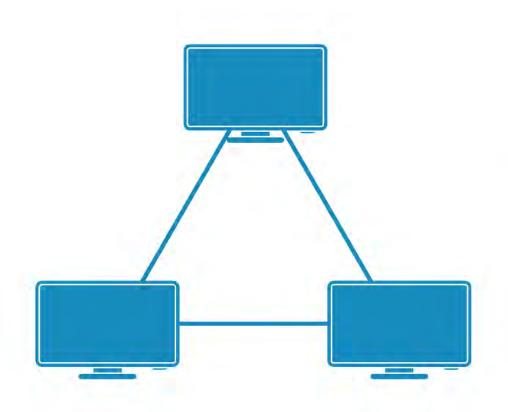






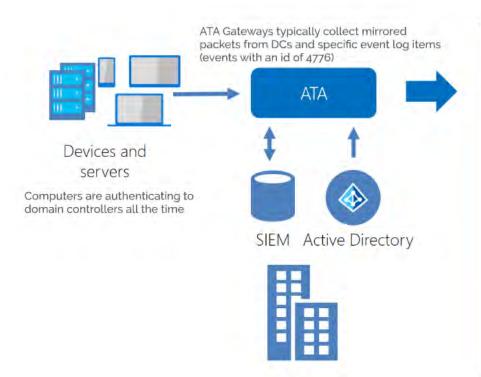
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What is Advanced Threat Analytics?

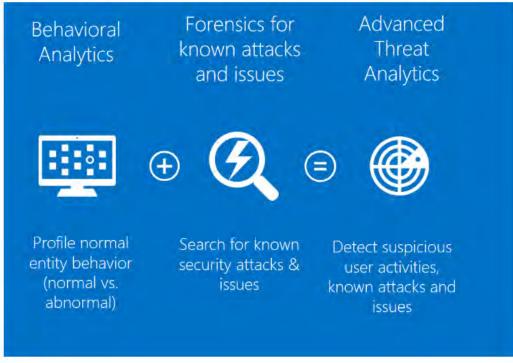


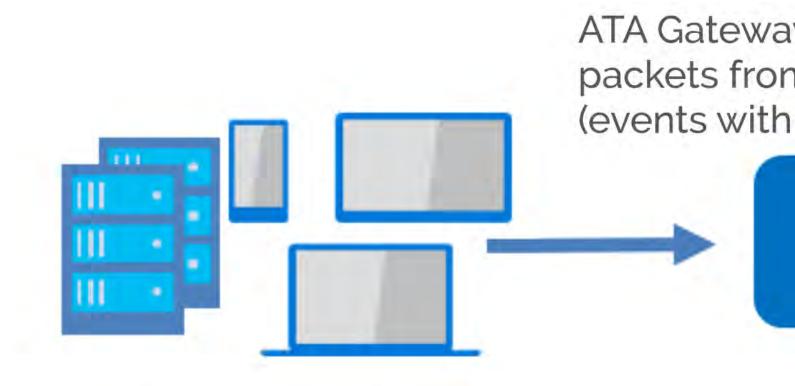
- ATA does analysis of your on-premises authentication traffic
- It looks for anomalies and "weird behavior" using machine learning
- When attacks or compromises are found, you are alerted by ATA

The ATA "Big Picture"



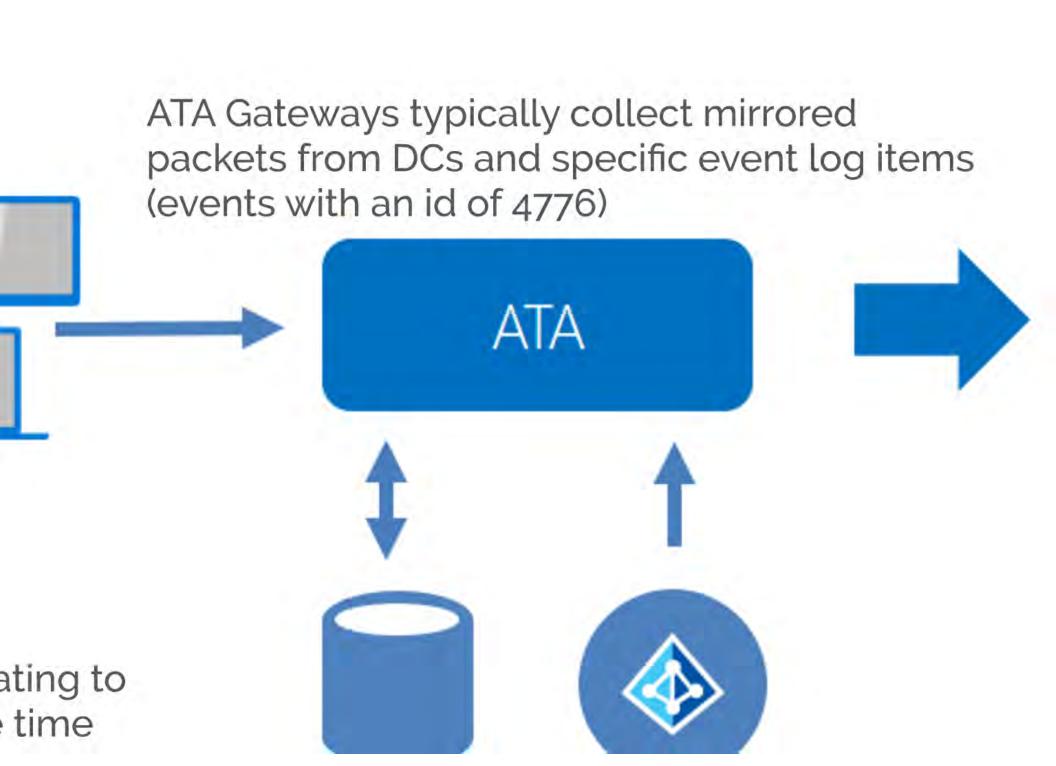
Packets and log information are sent to ATA Centers for analysis. Machine learning does the heavy lifting to find "needles in the haystack" that indicate potential security issues





Devices and servers

Computers are authenticating to domain controllers all the time



Packets and log information are sent to ATA Centers for analysis. Machine learning does the heavy lifting to find "needles in the haystack" that indicate potential security issues

Behavioral Analytics Forensics for known attacks and issues

Advanced Threat Analytics











Profile normal entity behavior

Search for known

Detect suspicious

What can ATA detect?

As it turns out, ATA can detect quite a bit

Note: behavioral analytics are available once 30 days' of data is acquired



Malicious attacks

ATA detects known malicious attacks almost as instantly as they occur.

- Pass-the-Ticket (PtT)
- · Pass-the-Hash (PtH)
- Overpass-the-Hash
- Forged PAC (MS14-068)
- Golden Ticket
- Malicious replications
- Reconnaissance
- Brute Force
- · Remote execution



Abnormal behavior

Behavioral analytics leverage Machine Learning to uncover questionable activities and abnormal behavior.

- Anomalous logins
- Unknown threats
- Password sharing
- · Lateral movement



Security issues and risks

ATA identifies known security issues using world-class security researchers' work.

- Broken trust
- Weak protocols
- Known protocol vulnerabilities

Azure Active Directory Premium

Intune

Azure Rights Management Premium Advanced Threat Analytics









Right now, EMS (the Enterprise Mobility Suite) consists of these four workloads



To Sum It Up

- at it's core, EMS is about enhancing security
- EMS complements Office 365's capabilities well, but EMS doesn't require Office 365
- If you have Office 365, it's worth seeing what you already have before jumping into EMS
- Microsoft is continuously adding to EMS

Office 365 versus EMS

Enterprise Mobility Suite



Hybrid identity management

Azure AD for O365+

- · Single Sign on for all cloud apps
- · Advanced MFA for all workloads
- Self Service group management and password reset with write back to on prem directory
- Advanced security reports
- MIM (Server + CAL)

Basic Identity Mgmt. via Azure AD for O365:

- Single Sign on for O365
- Basic Multifactor Authentication (MFA) for O365

Mobile device and app management

MDM for O365+

- PC Management
- Mobile App Management (prevent cut/copy/past/save as from corporate apps to personal apps)
- Secure content viewers
- Certificate Provisioning
- · System Center integration

RMS for O365+

protection

 Protection for on-premises Windows Server file shares

Access & Information

- Email notifications when sharing documents
- Email notifications when shared documents are forwarded

Basic Mobile Device Management via MDM for O365

- Device Settings Management
- Selective Wipe
- Built into O365 Mgmt. Console

RMS Protection via RMS for O365

- Protection for content stored in Office (on-prem or O365)
- Access to RMS SDK
- · Bring your own Key

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· Introducing Enterprise Mobility + Security

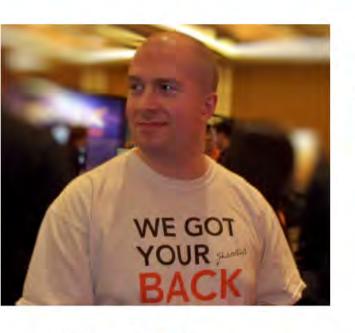
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