

# BCNET

Shared IT Services for Higher Education & Research

# Conference 2017



University  
of Victoria

## Learning to Live with Windows 10

What we've learned at UVic



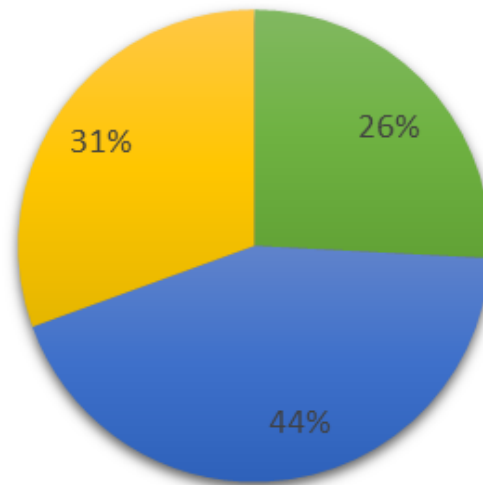
# Where the journey started

- Early adopters of Windows 10 in Fall 2015
- Limited deployment in Spring 2016 with version 1511
- Moved to Windows 10 on all standard computers purchased after June 2016



# Where we are today

- All standard computers deployed with version 1607
- $\frac{1}{3}$  of our managed fleet are using Windows 10



■ Win 7 ■ Win 8.1 ■ Win 10



# A few common terms first

Term	Description
Upgrade	A new Windows 10 release that contains additional features and capabilities, released two to three times per year.
Update	Packages of security fixes, reliability fixes, and other bug fixes that are released periodically, typically once a month on Update Tuesday (sometimes referred to as Patch Tuesday). With Windows 10, these are cumulative in nature.
Branch	The windows servicing branch is one of four choices: Windows Insider, Current Branch, Current Branch for Business, or Long-Term Servicing Branch. Branches are determined by the frequency with which the computer is configured to receive feature updates.
Ring	A ring is a groups of PCs that are all on the same branch and have the same update settings. Rings can be used internally by organizations to better control the upgrade rollout process.

Source: <https://technet.microsoft.com/de-de/itpro/windows/manage/introduction-to-windows-10-servicing>



# What did we learn

During the build process

- Don't try to remove all modern apps
- Modern apps are sensitive to sysprep and image capture
- User and computer settings are reset in upgrades
  - Local policy and group policy considerations
- Watch insider discussions
  - What is broken in one version is usually fixed in the next cumulative update



# What did we learn

During the build process

- Manage default applications using XML export/import
  - Set a default other than Edge
- Resource:  
<https://technet.microsoft.com/en-ca/library/hh825038.aspx>



# What did we learn

## Group Policy management

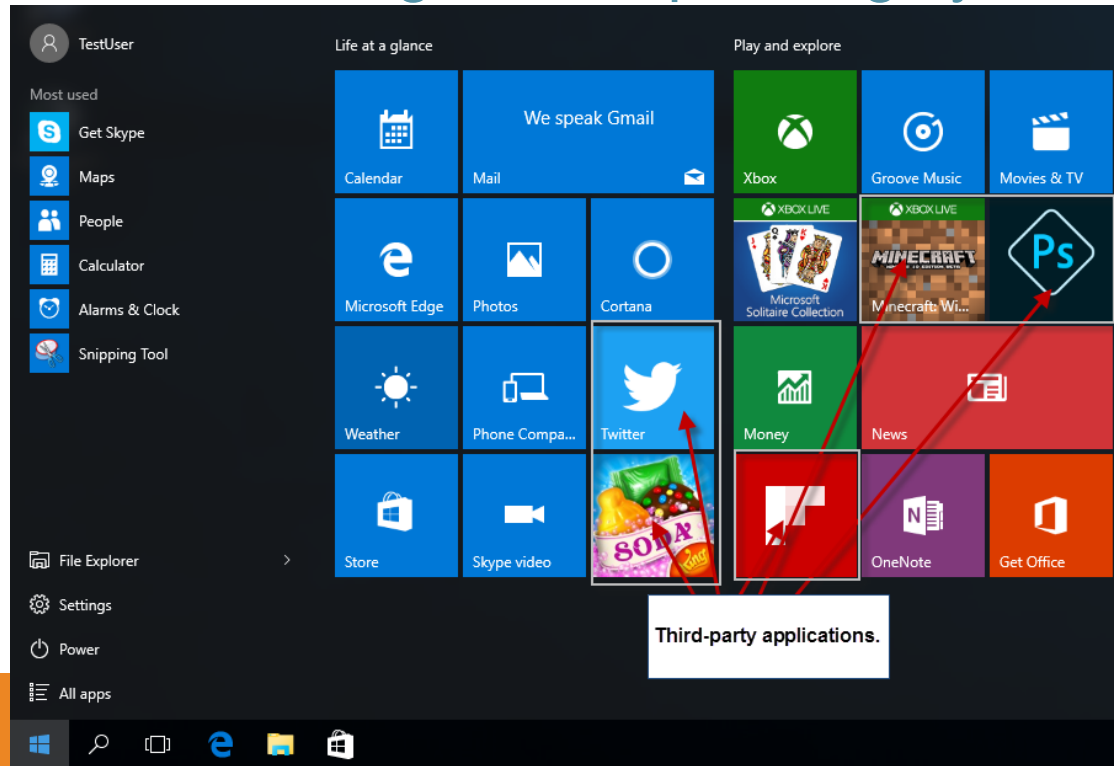
- Policies per feature release (1511, 1607, 1703)
  - WMI filters to apply the right GPOs to the right version
  - Different GPOs manage same settings/keys in a conflicting way
- Descriptions inconsistent; some policies do not work as described (eg – upgrade deferral)
- Test all GPOs
  - Undocumented changes (eg – wireless auth'n)



# What did we learn

## Group Policy management

- Microsoft Customer Experience GPO
  - Prevents “fun” applications
  - Prevents advertising within operating system





# What did we learn

## Group Policy management

- Privacy and security settings:
  - Cortana and Windows Search
  - Telemetry
  - Wifi sense
  - Modern app access to data

- Resource:

<https://blogs.technet.microsoft.com/secguide/2016/10/17/security-baseline-for-windows-10-v1607-anniversary-edition-and-windows-server-2016/>



# What did we learn

## Deployment process

- Build environment requires update for every version upgrade
  - What appears to work may have subtle impacts you don't immediately notice (eg – dism)
- Test capture/deployment on your fleet for each version upgrade
  - Driver incompatibility that only occurs during deployment (eg – USB on Optiplex 3040)



# What did we learn

## Ongoing support

- Version upgrades require updates of all support resources
  - WDS
  - SCCM
  - ADMX GPO templates



# What did we learn

## SCCM

- Basic support added in SCCM 2012 R2 SP1 CU3
- Windows Servicing features added to better manage version upgrades
  - SCCM current branch, 1610
  - Updates add workflows for specific versions of Windows 10



# What did we learn

## Windows update

- Feature upgrades are more like a fresh install than a service pack
  - 1607 upgrade boots to PE and reinstalls Windows
- Version upgrades can be deferred for 180 days in 1607, 365 days in 1703
- Even if using WSUS/SCCM, feature upgrades cannot be deferred indefinitely



# What did we learn

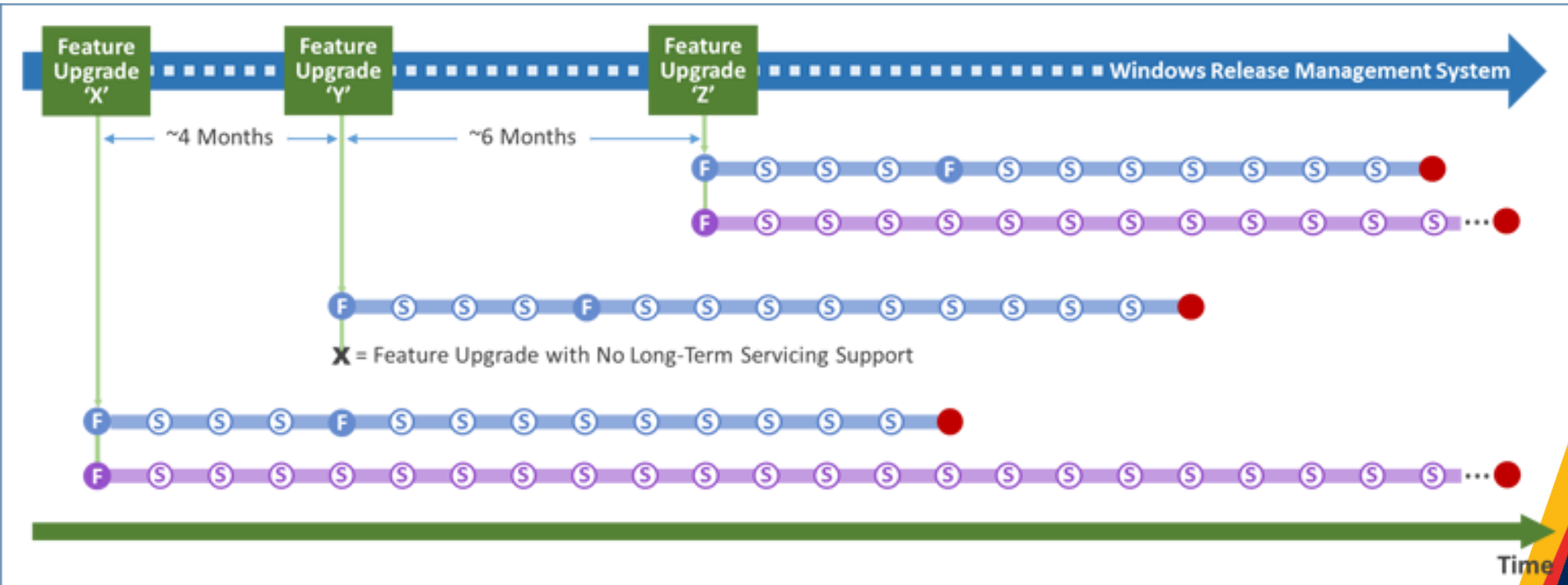
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# What did we learn

## Windows update



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# What did we learn

## Ongoing lifecycle

- Identify a few machines for the Insider Program
  - Current Branch immediately when released
- Don't forget about the end of the deferral window
- Prepare and plan for version upgrades as you would for a new release of Windows





# What did we learn

## Roadblocks to version upgrades

- Antivirus compatibility
  - Symantec Endpoint Protection at UVic
  - Version compatibility will prevent upgrades but Windows support lifecycle marches forward
- Version upgrades are immense
  - 1607 upgrade was ~6.6GB



# Next step opportunities

- User State Migration Tool to assist with upgrades
- Update cycle for SCCM
  - More important to remain at current branch
- Plan for regular update cadence of Windows as well as baseline software



# Our 1607 upgrade



Source: <https://www.youtube.com/watch?v=5-CYF2Oy9GU>

- Learn from our mistakes!



# For discussion

- Versions of Windows 10: Education vs Enterprise
- Success stories from the room:
  - Successful version upgrades?
  - Experience with Windows Servicing?
  - Other resources that you have found helpful?

