WinHEC 2018

Intelligent OS Updates and Driver Servicing – Dev Center Update

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Introduction and Agenda

Session Introduction
We will recap Windows as a Service (WaaS) & partner feedback and review changes to update platform and user experience in Windows 10 October 2018 Update (version 1809)

Session Agenda:
WaaS recap
What we’ve heard
1809 update platform improvements
Updating at Scale

Approaching 700M Active Windows 10 devices

- +13B Security/Quality updates
- +1B Feature updates
- +250M Version 1803 upgrades in 45 days
- 10M New Active Devices per month

WinHEC 2018

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Why Stay Up to Date?

- Improved management, performance, stability and latest hardware support
- Enhanced security against modern threats and zero-day attacks
- Access to the latest features and capabilities for better productivity and creativity
Windows as a Service
A new way to build, deploy, and service Windows

Quality Updates
A single cumulative update each month with no new features
- Security fixes, reliability fixes, bug fixes, etc.
- Supersedes the previous month’s update

Feature Updates
Twice per year with new capabilities
- New features and innovation APIs and security capabilities
- Very reliable, with built-in rollback capabilities
- Try them out with Insider Preview

HBI: Microsoft Confidential
For WinHEC 2018
Shared under NDA
11-05-18
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Its been a bumpy road
Challenges you have highlighted to us

- Download Size of Quality and Feature Updates
- Offline install time
- Quality of update content
- Uninstalling Feature and Quality Updates
- Frequency of updates
- Refresh Media
- User Experience
Quality Update Improvements
Latest Cumulative Updates

Quality Updates (QU): update released every month (bug fixes, security patches, etc.)
- Also referred to as the Latest Cumulative Update (LCU)

Challenges:
- Package size increases over lifetime (~1GB)
- Download bandwidth
- Increased download times

Important:
- If a language pack is installed after a LCU, you must reinstall the LCU
- Recommend to install LCU always after installing all language packs

Download Size (MB)

<table>
<thead>
<tr>
<th>Time</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months after RTM</td>
<td></td>
</tr>
<tr>
<td>12 months after RTM</td>
<td></td>
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<tr>
<td>18 months after RTM</td>
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Reduced LCU Download Size

Available in the 1809 release for all customers

- Reduced network bandwidth between host (server) to the target (client) device
- Reduced download + install time
- Optimized disk usage

Reference:
Quality Update Uninstall

In 1809, Windows Recovery Environment (WinRE) enables uninstall of Latest Cumulative Update (LCU)
Feature Update Improvements
Feature Update Installation Phases

Scan
- Checks for applicable updates
- Manual: Settings App
- Automatic: Scheduled Scans

Download
- Download files necessary to complete update
- Utilize Background Intelligent Transfer Service
- Pause when battery <50%

Install
- Multi-phase process
- Online & Offline
- User managed reboot
Reducing Offline Install Times
Offline Install Time Improvements

**Offline time** considered one of the big pain points for end users

- Average of 82 min *(starting from first reboot)*
First introduced in **Fall Creators Update** to help minimize the offline time – performing more work while the device is online.

- Default behavior for all Win10 devices starting in 1709
- Average install of 30 min *(starting from when install initiated)*
- Updates up to 63% faster by reducing the amount of time your device is offline

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https://insider.windows.com/en-us/articles/were-listening-to-you/
Factors impacting offline times

- # of Win32 apps
- # of Features on Demand (FoDs)
- # universal drivers (i.e. without co-instalers)
- free disk space
The newest Windows feature update is here
It’s ready to install - with new features and apps, this one could take a little longer than other updates. You decide when to make it happen!

Important updates are pending
The newest Windows feature update is ready to install. We need you to kick it off. With new features and apps, this one could take a little longer than other updates.

Important updates are pending
The newest Windows feature update is ready to install.
Not ready? Select ‘Restart Tonight’ and let Windows install the update outside of your active hours.
Countdown to goodness

We’re all set for the Windows update scheduled at 9:22 PM.
If you’re not ready, we’ll check back again in an hour.

OK  Wait an hour  Restart now

Your PC will restart in 15 minutes

To finish installing the latest Windows update, we’ll need to restart your PC.
Ready? Restart now. Not ready? Save your work before we start the update.

Restart in 15 minutes  Restart now
Let’s get back on track

We couldn’t update Windows because your device wasn’t free at our scheduled time. Maybe it was turned off or the battery was low? Select ‘Restart now’ to get going again, or we can retry in an hour.

Restart now
Wait an hour
Working on updates
Part 2 of 3: Installing features and drivers
50% complete

Don't turn off your computer, this will take a while
नमस्कार दीप्ति

11:30
मंगलवार, 6 फरवरी

सरिता को साथ ले जाएं
विज्ञान मेला
15:00
Session Objective(s):
Review Windows as a Service basics
Understand Windows 10 version 1809 update platform and user experience improvements

Up-to-date devices offers the most reliability, security and best feature experiences for our customers
Use Universal Drivers (INF install only) to reduce offline installation times
Honorable Mentions

We think you should review

Best Practices for Building Low Storage Windows 10 devices (NDA only)

http://aka.ms/dc-preview/

Introduction to Driver Module Framework Lab

Introduction to Component Firmware Update

Stop by “Ask the Experts” with your questions
Driver Servicing — Dev Center Update

Keith Kepler
Senior Program Manager
Introduction and Agenda

Session Introduction
We will discuss Hardware Dev Center new features and enhancements

Session Agenda:
Driver Flight Telemetry for published drivers
Performance and Search Enhancements
Dev Center APIs for complete driver Lifecycle Management
Driver Flight Telemetry

Shipping Label enhancements will provide driver health telemetry measures and status during “Microsoft Approval” stage

(Coming to Dev Center before then end of 2018)
Expanded “Microsoft approval” status

Finer grain statuses inform Partners
In Flight – Your driver is being offered to Windows Insiders
Telemetry is gathered about your driver's health

This shipping label requires manual approval by Microsoft. The approval process might take up to two weeks and involve multiple flights of the driver.

Expected Completion Time: 10/12/2018
Driver Flights Status Dashboard

- All flights are in a single dashboard view
- Quickly see the status, telemetry snapshot and risk assessment
- Hyperlinks will take you directly to your shipping label for a detailed view
Systemic health data view

- Install success
- Post-Install errors
- Problem codes during install
Crash and adoption trends

Driver adoption rate

Driver crash data

Coming soon:
- Cancel a flight
- Decision reports
- Device Class telemetry
Performance & Search Enhancements

Performance improvements to the “Hardware” landing page and new powerful Search capabilities for Submissions
New and faster landing page

- 85% performance improvement for the "Drivers" landing page
- Enhanced Search capabilities
- Most relevant columns, including Private Product ID.
Enhanced Submission Search

• Type ‘@’ to bring up the list of special search fields
• Use * for wildcard searching
• Chain multiple search terms together to identify new relationships
  • @HardwareID:"PCI VEN" @IsExtensionDriver:"true"
• Shipping Label search coming soon
Dev Center APIs

- Complete driver lifecycle management
- REST APIs for Submissions and Publishing
- Pre-built GitHub Dev Center Manager tool (available now)

What customers are saying

“We were able to automatically upload and then download our signed package in just 10 mins, and everything was smooth and straightforward. This API will definitely save our Cert Engineers meaningful cycles pretty much every day now that we no longer have to do this manually.”

“Over a 6 month period we are spending an avg. of 18 man days on various WHQL signing tasks. With these APIs we have eliminated the need for manual downloading of WHQL signed bits for internal postings. Calculating the estimated man days we will save on creating, submitting shipping labels and updating status is still in progress but trust me – it will be a significant time saver.”

Other bonus benefits we are getting:

- No human errors.
- No need to sit and watch after hours.
- No one from our team needs to watch on holidays and weekends.
Call to action

Session Objective(s):
Try out the new Driver Search features on Dev Center
Use driver health telemetry to enhance your existing validation practices
Explore the Dev Center APIs to see how it can save you time

Introduction to Driver Module Framework Lab
Introduction to Component Firmware Update
Stop by “Ask the Experts” with your questions
Resources

Dev Center Resources

Submission Search:
- https://docs.microsoft.com/en-us/windows-hardware/drivers/dashboard/find-hardware-submission

Driver Flight Telemetry: (Coming before end of 2018)

Driver Flighting:
- https://docs.microsoft.com/en-us/windows-hardware/drivers/dashboard/driver-flighting

Hardware Dev Center APIs:
- https://docs.microsoft.com/en-us/windows-hardware/drivers/dashboard/dashboard-api

Microsoft Dev Center Manager tool to automate Submissions and Shipping Label Creation:
- https://github.com/Microsoft/SDCM

Hardware Compatibility Requirements Blog:
- https://blogs.msdn.microsoft.com/windows_hardware_certification/
Please Complete An Evaluation
Your input is important!

Multiple ways to access Evaluation Forms:
1. CommNet stations located throughout conference venues
2. Via WinHEC app on your Windows Phone and Windows device
3. Via BYOD browser from any wired or wireless internet connection to <link>