



Enterprise Architecture Informative Technical Brief

End User Services: Windows 10 Service Updates

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End User Services – Windows 10 Service Updates

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Summary:

Windows 10 marks a major change in how Microsoft will provide updates and new features for the Windows Operating System (OS). End-user computing managers dealing with planning and implementing updates will need to revisit their processes to match the new update method. This document will focus on Windows 10 Servicing Branches – Current Branch (CB), Current Branch for Business (CBB), and Long Term Servicing Branch (LTSB) and the new method for servicing Windows 10.

Prior to Windows 10, Windows had been updated through monthly security updates, and less frequently upgraded with new features through new OS versions. Every three years or so, Microsoft would release a new Windows version and work to move the entire installed base to the new platform. With Windows 10, this approach has been replaced by an ongoing stream of updates.¹ Going forward, Windows as a service will deliver smaller feature updates two times per year, around March and September, and quality updates once a month.² This significantly speeds up the pace of updates per year. The Commonwealth will be utilizing the Windows 10 Service Semi-Annual Channel (formally CBB) for servicing ongoing updates to all Windows 10 devices.

Impacts and Key Challenges:

- Windows 7 support will end January 2020³.
- Windows 10 updates will require a process mindset to implement rather than a project mindset that most endpoint computing managers have used in the past.
- If some editions of Windows 10 are not kept current with updates, installing security fixes may not be done without installing the prerequisite updates.
- Infrastructure and Operation leaders (I&O) leaders who don't adapt to Microsoft's (and the industry's) faster pace will fail to implement their organizations' digital workplace initiatives.
- LTSB versions will not be supported on hardware introduced after their release
- LTSB, if chosen, could limit the I&O leader's flexibility with new devices, applications, management approaches and work styles, and could result in software support issues.
- CBB will always have the latest drivers and subsystems to support new hardware, while LTSB likely will not.⁴

New Servicing Approach:

As of October 31, 2016, PC manufacturers stopped pre-loading office equipment manufactured versions of Windows 7 on machines. Future processors (as of November 1, 2016) will not be

¹ Stephen Kleynhans, Michael A. Silver (2016, November 09). How to Deal With Windows 10 Accelerated Updates on PCs.

² Retrieved on 8/1/2017 from <https://docs.microsoft.com/en-us/windows/deployment/update/waas-overview#naming-changes>

³ Stephen Kleynhans, Michael A. Silver, (2016, September 13), Update Windows Migration Plans to Reflect Changes that Occurred in the First Year of Release.

⁴ Stephen Kleynhans, Michael Silver (2018, August 07) Rethink Windows 10 Long Term Service Branch Deployment based on Microsoft Updated Guidance



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supported by Windows 7 and will need to run Windows 10 from the onset to be supported. It is important to ensure that critical support dates for Windows 7 are built into your Windows 10 migration plan.

With Windows 10 there are two release types: feature updates that add new functionality twice per year, and updates that provide security and reliability fixes at least once a month. It is recommended that IT professionals plan a servicing strategy for Windows 10 updates.⁵ Therefore, I&O leaders should build a process for their updates that supports at least two significant OS updates per year and preview monthly updates as part of a continuous evaluation process. Windows 10 and Office 365 are key infrastructure to the digital workplace. Being able to stay current on PCs to retain the ability to deliver new applications and support new work styles is critical to the productivity of users and success of the digital workplace.

Feature and Quality Updates

In Windows 10, new features are packaged into feature updates that can be deployed using existing management tools such as the Windows Update. These updates replace traditional version updates. Feature updates are delivered more frequently (twice a year), as changes will come in bite size chunks. This change aligns with Office 365 ProPlus updates. Microsoft has also established a naming convention to identify these "versions" using the year and month the release was finalized (not when it was released). For example, in 2017, a release in the 9th month (September) would be identified as version 1709 (see appendix 1).

Quality updates are delivered as one cumulative monthly update that supersedes the previous month's update, containing both security and non-security fixes. Microsoft considers all monthly quality updates mandatory.

Security fixes arrive every second Tuesday of the month. These fixes are not optional and must be deployed before the next round of security fixes in order to remain supported (this is the same as Windows 7).⁶

Servicing Channels⁷:

Along with the changes in servicing Windows 10, Microsoft has adopted common terminology to make it as easy as possible to understand the servicing process. Going forward, the new terms used will be the following:

- Current Branch for Business (CBB) will simply be referred to as "Semi-Annual Channel".
- Long-Term Servicing Branch (LTSB) will be referred to as Long-Term Servicing Channel (LTSC).

Microsoft has introduced the concept of servicing channels as the new method of delivering feature updates and quality updates in Windows 10. Microsoft claims this will allow the customers to designate how frequently their individual devices are updated. For instance, an

⁵ <https://docs.microsoft.com/en-us/windows/deployment/update/waas-servicing-strategy-windows-10-updates>

⁶ Ibid, Stephen Kleynhans, Michael A. Silver, (2016, September 13)

⁷ <https://docs.microsoft.com/en-us/windows/deployment/update/waas-overview#naming-changes>



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organization may test devices that can be updated with new features as soon as possible, and then specialized devices that require a longer feature update cycle to ensure continuity. Keeping this in mind, Windows 10 offers 3 servicing channels. They are as follows:

- **The Windows Insider Program** – this program provides organizations with the opportunity to test and provide feedback on features that will be shipped in the next feature update.
- **The Semi-Annual Channel** – this provides new functionality with twice-per-year feature update releases. Organizations can choose when to deploy.
- **The Long Term Servicing Channel** – this method is designed to be used only for specialized devices (which typically don't run Office) such as those that control medical equipment or ATM machines, receives new feature releases about every three years.

Even though the concept of servicing channels is new, Microsoft states that organizations can use the same management tools they use to manage updates and upgrades in previous version of Windows. More information on Windows 10 servicing options can be found at <https://docs.microsoft.com/en-us/windows/deployment/update/waas-overview#servicing-tools>.

Semi-Annual Channel:

In the Semi-Annual servicing channel, feature and quality updates are available as soon as Microsoft releases them. This servicing model is ideal for pilot deployments and testing of Windows 10 feature updates and for users such as developers who need to work with the latest features immediately. You choose the timing at which it goes into broad deployment. Organizations that use Windows Server Update Services (WSUS), Microsoft System Center Configuration Manager, or Windows Update for Business, however, can defer feature updates to selective devices by withholding their approval and deployment. In September of 2018, Microsoft has updated its Windows 10 Servicing support model.

Update: All currently supported Windows 10 Enterprise editions (versions 1607, 1703, 1709, and 1809) will receive 30 months of total support. Starting with 1809, all feature updates will be supported for 30 months while the spring features, beginning with 1903) will receive 18 months of continued support.⁸ Effectively, Microsoft has relented to customers' demand and analysts' pleas and now allows enterprises to switch to a 12 or even a 24-month deployment cycle.⁹

Long-term Servicing Channel (LTSC):

According to Microsoft, specialized systems—such as PCs that control medical equipment, point-of-sale systems, and ATMs—often require a longer servicing option because of their purpose. They believe it is important that these devices be kept as stable and secure as possible than up to date with user interface changes. The LTSC servicing model prevents Windows 10 Enterprise LTSC devices from receiving the usual feature updates and provides

⁸ Retrieved from: <https://docs.microsoft.com/en-us/windows/release-information/>

⁹ ibid



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only quality updates to ensure that device security stays up to date. With this in mind, quality updates are still immediately available to Windows 10 Enterprise LTSC clients, but customers can choose to defer them by using one of the servicing tools mentioned above.

The Long-term Servicing Channel is available only in the Windows 10 Enterprise LTSC edition. This build of Windows doesn't contain many in-box applications, such as Microsoft Edge, Windows Store client, Cortana (limited search capabilities remain available), Microsoft Mail, Calendar, OneNote, Weather, News, Sports, Money, Photos, Camera, Music, and Clock. Therefore, it's important to remember that Microsoft has positioned the LTSC model primarily for specialized devices.

Analysis of LTSC (LTSC) ¹⁰:

For most enterprises, Gartner states the best solution is to avoid LTSC for broad user deployments and use the more broadly supported CBB. However, if your organization is subject to government regulations such as health care or pharmaceutical services and were planning to use LTSC, it is recommended to plan to use a mix of Windows 10 CBB PCs to users without validated environments, and restrict LTSC to users or applications that really require it. Gartner suggest an alternative to using LTSC would be to deliver problematic applications via some sort of container, like server-based computing, they claim this enables the user to have the full benefits of the modern Windows 10 experience, and organizations to have a much more controlled delivery mechanism for change sensitive or fragile applications.

Keep in mind that the goal of LTSC, is to minimize the number of OS changes that could impact application compatibility or operation. As such, many components that are typically considered part of Windows 10 are not connected, because they are updated too frequently or rely on OS facilities that are updated regularly.

Recommendations: ¹¹

The following are top recommendations for Endpoint Computing Managers

- If LTSC is adopted, managers should work with Microsoft and hardware vendors to request more flexibility on long-term model availability
- Plan to provision change –sensitive or fragile applications remotely from containers like remote desktop service (RDS) or virtual desktop infrastructure (VDI), which can run server OS or virtual Windows 10 LTSC that is less tied to hardware
- Analyze the components missing from Window 10 LTSC and determine if there is a cost to losing them
- Discuss support with vendors and developers of the most critical applications to determine which option is best for the organization based on application support: Windows 10 LTSC, Windows 10 CBB, RDS, or VDI

¹⁰ Stephen Kleynhans, Michael A. Silver, (2018, August 7). Rethink Windows 10 Long Term Servicing Branch Deployment Based on Microsoft's Updated Guidance

¹¹ Ibid



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- Shift from a project to a process approach that treats validation of updates as an ongoing assembly line process
- Rely more heavily on piloting rather than testing where possible

Recommendations for I&O Leaders Focused on Mobile and Endpoint Strategies:¹²

- Identify which users/devices/applications, if any, must use the LTSC version of Windows 10. Limit usage of LTSC to only where it is essential.
- Work with Microsoft and hardware vendors to request more flexibility on long-term model availability to limit the impact of processor generations.
- Plan to provision change-sensitive or fragile applications remotely from containers like RDS (remote desktop service) or VDI (virtual desktop infrastructure), which are less susceptible to change and easier to manage, and can run server OS or virtual Windows 10 LTSC that is less tied to hardware.

Vendor Application Support¹³

If an organization must run LTSC, be aware that third-party (such as point of sale software), may suffer over time. Application vendors may only support LTSC with application versions that were shipped at the time the LTSC shipped. I&O leaders who want to run newer versions of an application may need to have their organizations upgrade to a newer LTSC to receive independent software vendor (ISV) support for an updated application and vice versa and, conversely, those who plan to update their LTSC version and not update applications could be forced to update applications to remain supported. Gartner predicts that in 2020, LTSC will be used on less than 5% of the enterprise PCs. Therefore, it is expected that some software vendors will limit support for LTSC.

The COV suppliers are in the planning stages for the Windows 10 SAC onboarding of agencies.

¹² Ibid

¹³ Ibid