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## Highlights

- Get a single easy-to-understand device health score based on multiple data points pulled together from across the organization
  - Reduce support costs and productivity losses by refreshing devices before they begin to fail
  - Extend device lifespan by leaving well-performing devices in use longer
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# How cognitive health scoring can enable better device refresh decisions

*IBM Services: Device Health with Watson helps maximize device value, reduce support costs, and improve employee satisfaction and productivity*

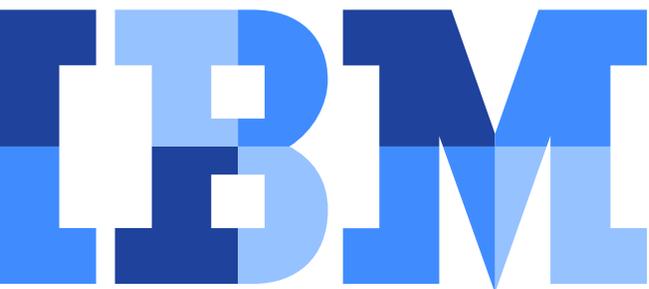
The enterprise device landscape has never been as complex or challenging as it is today. Organizations are under pressure to offer employees device choice, as it's a key factor in driving employee productivity, satisfaction and engagement. In fact, Forrester found that 31 percent of employees believe having a specific device or ecosystem is necessary for them to do their job.<sup>1</sup>

To keep employees satisfied and productive, IT teams must manage many different devices within the same environment. This makes it very difficult for them to know when to refresh a particular device, as different devices tend to degrade at different rates.

Even when employees use the same devices, they may use them differently based on their job roles. A travelling salesperson will likely put much more wear and tear on a device than an office-based employee would; therefore, the salesperson would need a new device much sooner.

Despite this, IT has traditionally made device refresh decisions based on time alone. Since they didn't have access to insights about device performance, they had no other option than to operate on a set refresh schedule—usually every two to four years.

Things have changed: the data needed to understand device health is now more readily available. However, organizations need a solution that can make sense of all that data and turn it into actionable device insights. This is where IBM® Services: Device Health with Watson™ can help.



## Moving beyond time-based refreshes

IBM Services: Device Health with Watson is a patented, first-of-its-kind solution for computing device health scores. It gives organizations the capabilities and insights they need to move past time-based refresh cycles and begin refreshing each individual device at the right time. This allows them to maximize productivity while optimizing support and hardware costs.

Organizations benefit from IBM Services: Device Health with Watson because their current time-based refresh schedules don't take into account how devices actually age. This creates two major areas of concern.

- Some devices begin to fail before their refresh date. They'll stay in use after their performance has degraded below acceptable levels. As devices decline, service tickets and requests will naturally rise, leading to higher costs. When devices fail altogether, the organization will suffer lost productivity and decreased job satisfaction as a result.
- Some devices are replaced on their refresh date, despite the fact they're still performing well. This will result in wasted value, overspending on new devices, and unnecessary migrations between devices.

Using the IBM solution to take a more informed approach to device refreshes could contribute to measureable business benefits. Examples of potential benefits include:

- Keeping a device in use for an additional six months beyond its typical refresh date could result in cost savings of 17 percent.<sup>2</sup>
- You could surpass the average cost of a new device after as few as four support desk tickets.<sup>3</sup>
- Failed devices cost an organization an average of \$300 per day in lost productivity.<sup>4</sup>
- For a company with 500 employees, five minutes per day of lost productivity due to poor device performance would cost almost \$400,000 annually.<sup>5</sup>

## Gain visibility and insight with device health scores

IBM Services: Device Health with Watson extracts insights from device data and turns them into a single easy-to-understand device health score. Each device is assigned a unique health score, expressed as a percentage. IT leaders need only look at the health score for a particular device, and they'll get an accurate understanding of how the device is currently performing. This will allow them to make an informed decision about whether it should be refreshed.

The IBM solution computes health scores using data points pulled together from across the organization, including procurement, device usage, support tickets, and more.

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## Why time-based refreshes may fall short

**Wasted resources:**  
refreshing too soon can add unnecessary costs

**Lost productivity:**  
refreshing too late can contribute to poor performance and reliability

**Support costs:**  
refreshing too late may lead to an increase in support tickets

## Potential benefits of moving past time-based refreshes



**17%<sup>2</sup>**

Cost savings achieved by keeping a device in use for six additional months



**\$300<sup>3</sup>**

Cost of lost day of employee productivity



**4 tickets<sup>4</sup>**

Equivalent cost of a new device

The solution aggregates health scores for all the devices an organization manages into a single management dashboard. This makes it simple for IT to get a top-level view of how devices are performing across the enterprise, or to drill down for details about a particular device.

Organizations can apply filters to the dashboard based on location, business unit, device type, operating system, persona, and more, allowing them to work with a focused group of devices. This can be very helpful, since organizations typically won't refresh all their devices at the same time. For instance, IT leaders could use dashboard filters to look specifically at how Windows 7 laptops in the US were performing.

### **Making sense of device data**

Pairing the device health dashboard with the cognitive capabilities of Watson allows IT to gain deeper insights into why devices are performing the way they are, finding key trend data and predictive insights into how to manage those devices going forward.

With Watson's predictive analytics capabilities, IT leaders can know what to expect going into the future, including:

- When a particular device is likely to fail (or how much life it currently has left)
- What factors are likely to cause device failures, and what can be done to prevent those failures.
- How many devices are likely to fail across the organization, empowering IT leaders to make informed financial forecasting decisions

Together, these insights can help reduce the number of service tickets required for existing devices, or direct future device spend toward more reliable, cost-efficient models. The device with the lowest purchase price won't necessarily have the lowest total cost of ownership after accounting for lifespan, support costs and productivity losses. When IT leaders can understand how much a particular device actually costs the business over time, they can make a more informed decision about whether or not they should continue buying that device in the future.

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*“When IT and procurement teams can make the right device decision at the right time, it’s a tremendous opportunity for them to drive value for the organization and reduce unnecessary spend. A device health score puts them in a position to capitalize on that opportunity.”*

— Gene Morita, Global Offering Manager, IBM GTS Digital Workplace Services

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IT leaders can also use geographical and geospatial analytics to analyze device performance based on location. By determining that devices are performing better in certain locations than in others, IT admins can make sure their limited device refresh resources are spent where they're needed the most.

### **For more information**

To learn more about IBM Managed Mobility Services, contact your IBM representative, or visit [ibm.com/marketplace/managed-mobility-services](https://ibm.com/marketplace/managed-mobility-services).



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- 1 “Redefine Your Workforce Enablement Through Productivity”, a commissioned study conducted by Forrester Consulting on behalf of Dell. November 2016. ([http://www.workforcetransformation.com/media/1427/dell-workforce-enablement\\_final-updated\\_en.pdf](http://www.workforcetransformation.com/media/1427/dell-workforce-enablement_final-updated_en.pdf))
- 2 According to GfK Global, the average sales price of a new smartphone as of Q1 2018 is \$374. (GfK Global, “Global quarterly smartphone demand down year-on-year though revenue growth remained strong” [www.gfk.com/fileadmin/user\\_upload/dyna\\_content/Global/documents/Press\\_Releases/2018/20180425\\_GfK-Global-Smartphone-Sales-Q1-2018-efin.pdf](http://www.gfk.com/fileadmin/user_upload/dyna_content/Global/documents/Press_Releases/2018/20180425_GfK-Global-Smartphone-Sales-Q1-2018-efin.pdf))

According to Gartner, the average lifespan of a smartphone in an enterprise setting is 2.5 years. (Gartner, “Use These Recommended Life Spans to Guide Mobile, PC and Other Device Replacement Strategies”. [www.gartner.com/doc/3871479/use-recommended-life-spans-guide](http://www.gartner.com/doc/3871479/use-recommended-life-spans-guide))

Spreading the cost of the average smartphone over the average smartphone lifespan, IBM assumes an average annual device cost of \$149.60. Leaving the same smartphone in use for six months longer than average (3 years) would create an assumed annual device cost of \$124.67.

Based on these assumptions, an organization that refreshes smartphones every 3 years rather than every 2.5 years could spend approximately 17% less on devices using health scores could allow organizations to make informed decisions about whether the device lifespan can be extended without negatively affecting performance or reliability.

- 3 According to the Bureau of Labor Statistics, the total annual cost of compensation for the average employee is approximately \$75,000. (Bureau of Labor Statistics, “Employer Costs for Employee Compensation—December 2017”. [www.bls.gov/news.release/pdf/eccec.pdf](http://www.bls.gov/news.release/pdf/eccec.pdf)). Assuming there are 250 business days in a year, each day of compensation for the average employee would cost the business about \$300.

Device failure due to not refreshing soon enough can be directly responsible for this lost productivity. This is based on the assumption that the employee who previously used the device to perform their duties is unable to work for at least one business day while he or she waits for a replacement device to arrive.

- 4 According to HDI, the average cost of a desktop support ticket is \$109. (HDI, “Metric of the Month: Desktop Support Cost per Ticket”. [www.thinkhdi.com/library/supportworld/2017/metric-of-month-desktop-support-cost-per-ticket.aspx](http://www.thinkhdi.com/library/supportworld/2017/metric-of-month-desktop-support-cost-per-ticket.aspx))

According to GfK Global, the average sales price of a new smartphone as of Q1 2018 is \$374. (GfK Global, “Global quarterly smartphone demand down year-on-year though revenue growth remained strong”. [www.gfk.com/fileadmin/user\\_upload/dyna\\_content/Global/documents/Press\\_Releases/2018/20180425\\_GfKGlobal-Smartphone-Sales-Q1-2018-efin.pdf](http://www.gfk.com/fileadmin/user_upload/dyna_content/Global/documents/Press_Releases/2018/20180425_GfKGlobal-Smartphone-Sales-Q1-2018-efin.pdf)).

Based on these assumptions, the average cost of four support tickets (\$436) would be more than the average cost of a new smartphone (\$374). Since leaving devices in use beyond their optimal refresh date may contribute to an increase in support tickets, refreshing devices on time could lead to cost savings over time, even after accounting for the purchase price of the new devices.

- 5 According to the Bureau of Labor Statistics, the total annual cost of compensation for the average employee is approximately \$75,000. (Bureau of Labor Statistics, “Employer Costs for Employee Compensation—December 2017”. [www.bls.gov/news.release/pdf/eccec.pdf](http://www.bls.gov/news.release/pdf/eccec.pdf)). Assuming there are 250 business days in a year, each day of compensation for the average employee would cost the business about \$300.

Poor device performance due to not refreshing devices soon enough could be directly responsible for employees not being as productive as they might be otherwise. Assuming there are 480 minutes of working time in each business day, and the average employee costs \$300 in total compensation every day, each minute of employee compensation will cost the business about 62.5 cents. If five minutes of productivity are lost on each of 250 business days, the total annual cost will be about \$781 per employee. Thus, in this scenario, a hypothetical organization with 500 employees would experience \$390,500 in lost productivity.



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