

End User Computing (EUC)

Performance survey report 2019



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Introduction

Welcome to the “VDI Like a Pro” - End User Computing – **Performance** edition. A new small survey designed specifically for the VDI Performance Summit in Amsterdam but with the same goals as the annual BIG state of EUC survey. We believe the results presented in this report will provide valuable insights in real-world deployments, configuration, and performance of end-user computing (EUC) solutions such as VDI and SBC, both on-premises and in public clouds.

Topics in the survey cover performance related items in Virtual Desktop Infrastructure (VDI), Desktop as a Service (DaaS), public cloud, Server Based Computing (SBC) environments. The goal of the survey is to get a clear view on how the industry is changing and to support all involved with valuable, independent, and unbiased research results based on actual and objective customer data.

Over 200 people supported the survey and, with support from the EUC community, the results are freely available to everyone. This is truly a great achievement and community effort.

About VDI Like a Pro

Independent research organization VDI Like a PRO started the State of the Union Survey in 2013, with the goal to provide an annual insider view of the End User Computing (EUC) market. VDI Like a Pro (www.vdilikeapro.com) is an initiative by Ruben Spruijt, Mark Plettenberg and Christiaan Brinkhoff.

Nutanix, Login VSI and FSLogix actively support Mark, Ruben and Christiaan in their community activities, however, they aren't involved in the survey results presented in this whitepaper, community blog, or presentations. This community effort is fully unbiased and independent.

As this is the first time this **performance** survey has been executed, no year-to-year data is available currently. The survey closed on the 24th of January, 2019.

The results of the survey are reported in this whitepaper which is available to all at www.vdilikeapro.com. The content from this survey will also be presented at leading industry events such as Microsoft Ignite, VMWorld, Citrix Synergy, NVIDIA GTC, E2EVC, and more.

If you want to share information from the survey or participate in the EUC community, feel free to contact Mark, Ruben or Christiaan.



Made possible by:

Login VSI

Login VSI (www.loginvsi.com) is the industry standard in synthetic load testing and active monitoring for SBC/VDI and DaaS environments (infrastructure and applications). The software of Login VSI is used by enterprises with centralized desktop environments and/or business-critical applications running in VDI, and by all major IT vendors that offer infrastructure solutions for VDI.

Frame

Frame (www.fra.me) lets you run any Windows software, including full desktops, in a browser. Applications run on virtual machines in the public cloud (e.g. AWS, Azure, etc.) and their user interface can be streamed to any device. IT organizations in enterprise and government, managed service providers, and software vendors use Frame to create and manage secure, software-defined workspaces in the cloud.

FSLogix

FSLogix, (<https://fslogix.com>), now part of Microsoft, is the leading innovator of solutions that reduce the amount of hardware, time and labor required to support Digital Workspace platforms. With implementations ranging from less than 1,000 to over 50,000 users in various countries, FSLogix Apps enhances user experience and productivity, while reducing support requirements for IT departments.

Teamwork

A community project cannot be successful without inspiring individuals and dynamic companies. Here are some that made this possible:

- Many community friends on LinkedIn and Twitter
- The Login VSI marketing team for their support
- Login VSI and Frame for support of this year's survey
- Many other community friends on LinkedIn and Twitter

Team and contact

All information about VDI Like a Pro can be found at www.vdilikeapro.com. We try to provide accurate, concise, and practical information. We appreciate any feedback. If you have any comments, corrections, or suggestions for improvements of this document, then we want to hear from you! Please send an email: (team@vdilikeapro.com) and include in your message: the title of the document, the version number, and the page that you refer to.

Leaderboard

The EUC Performance survey 2019 is executed by:



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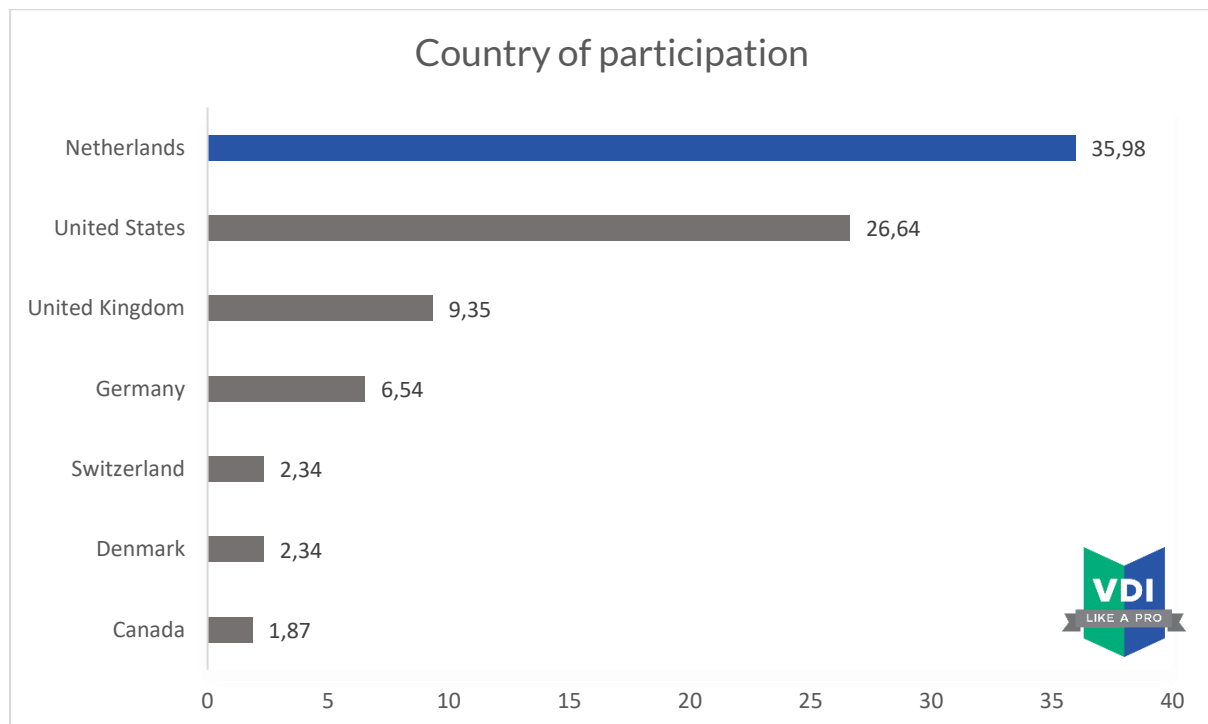
Participant information

Over 200 people supported the survey and on average, completed the survey in less than 5 minutes. Participants from almost 30 different countries around the globe took part in the survey, with a majority in Western-Europe. Approximately 35% of respondents were from the Netherlands and 27% from the United States. The response is measured based on client IP address.



There is a relatively high number of participants from the Netherlands, primarily because VDI Like a Pro and their team members are well-connected with end-users, partners, and vendors in this region. Secondly this survey is especially designed for the first VDI Performance Summit in Amsterdam where a large group of the attendants participated.

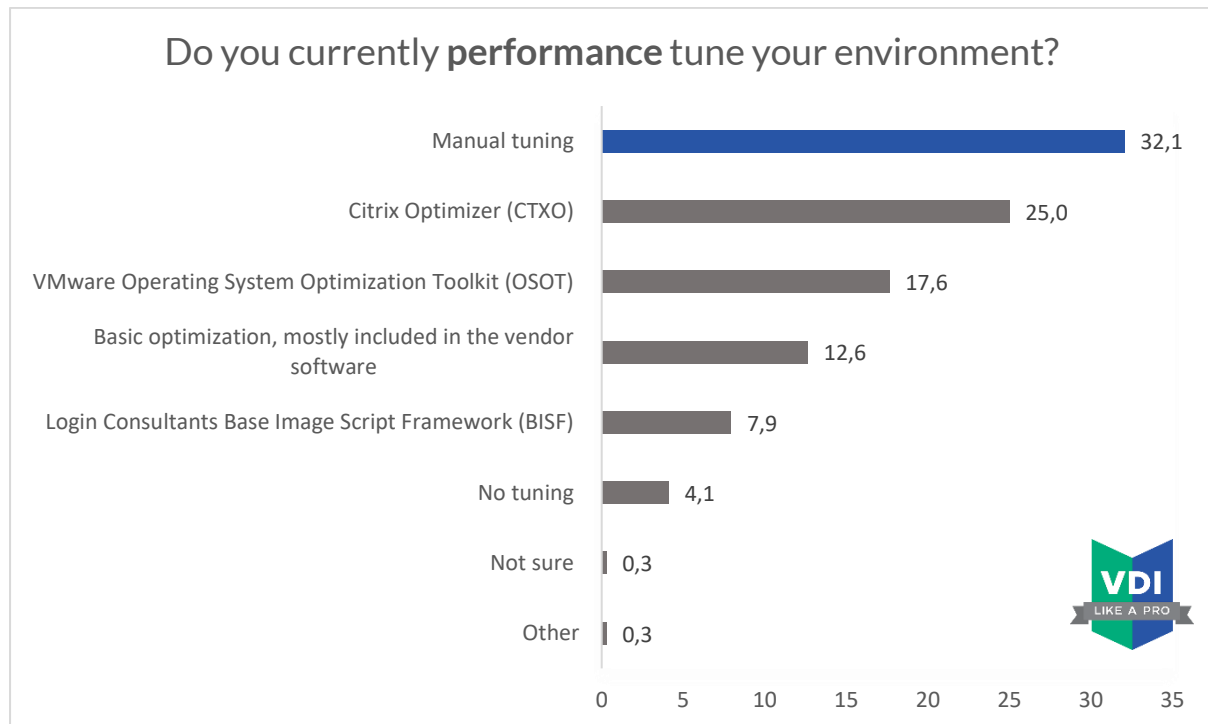
We could have said that the Dutch are leading the way in the EUC space with their high adoption rate, awesome customer deployments, and super engaged community consisting of leading MVPs, CTPs, and vExperts -- but that's just bragging about the Dutch and isn't based on survey results.



Do you currently performance tune your environment?

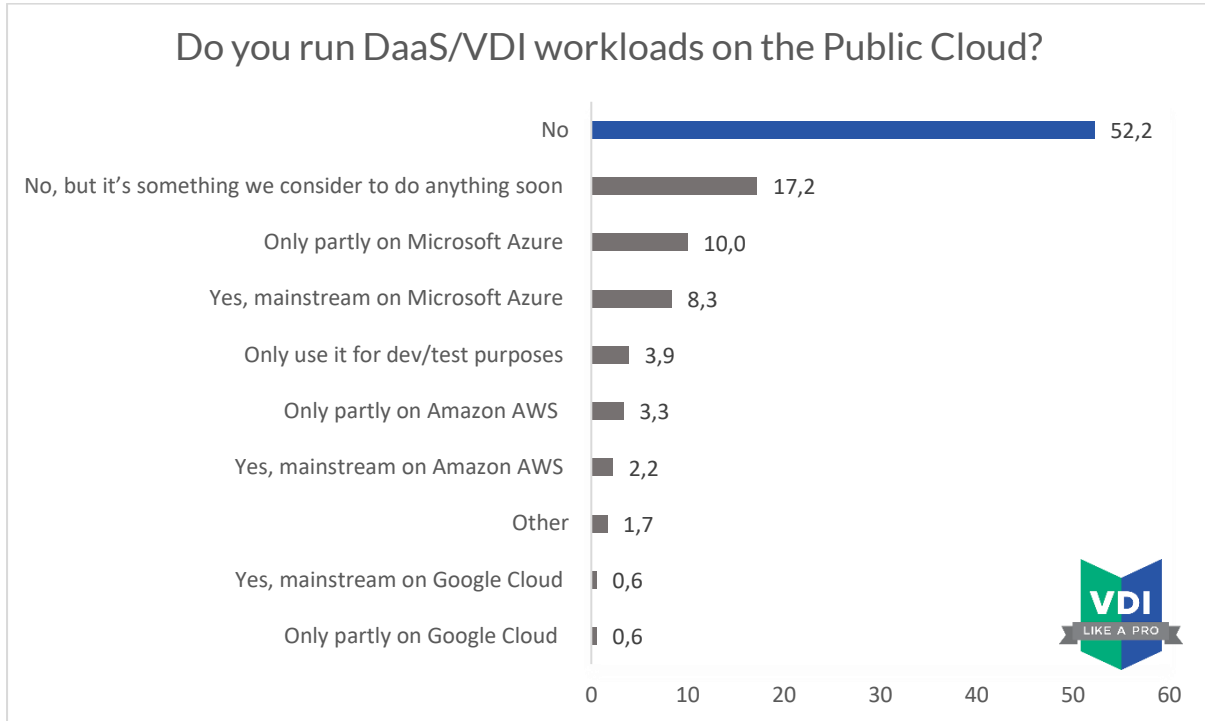
With a survey revolving around performance how could we start with a different question. Many participants choose to manually tune the performance of their environment, these can be changes in the BIOS, Storage systems, Hypervisor or even in the operating system.

Especially for tuning in the operating system we highly recommend VMware OSOT and the Citrix Optimizer, both products support command-line usage so they can be used in your automated operating system deployment or image creation.

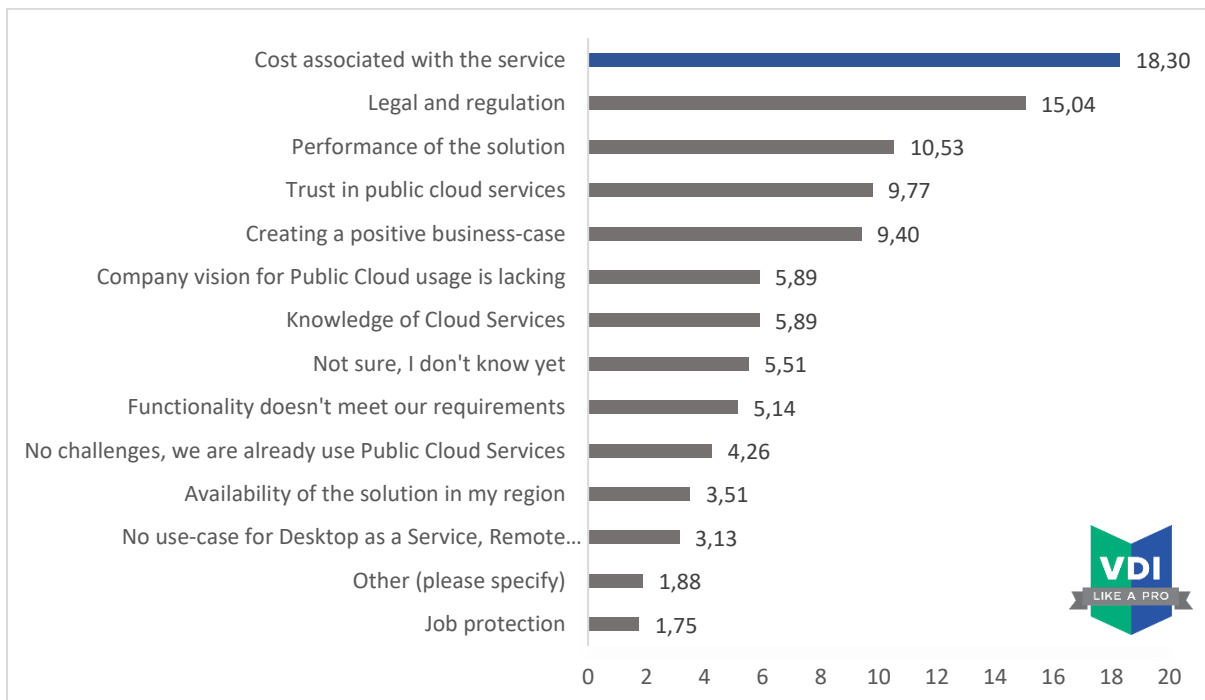


Do you run DaaS/VDI workloads on the Public Cloud?

Moving desktops to the cloud remains something a lot of companies are still undecided on. In 2019 it will be interesting to see if Microsoft’s Windows Virtual Desktop offering will make a big change in number of people migrating to the cloud.

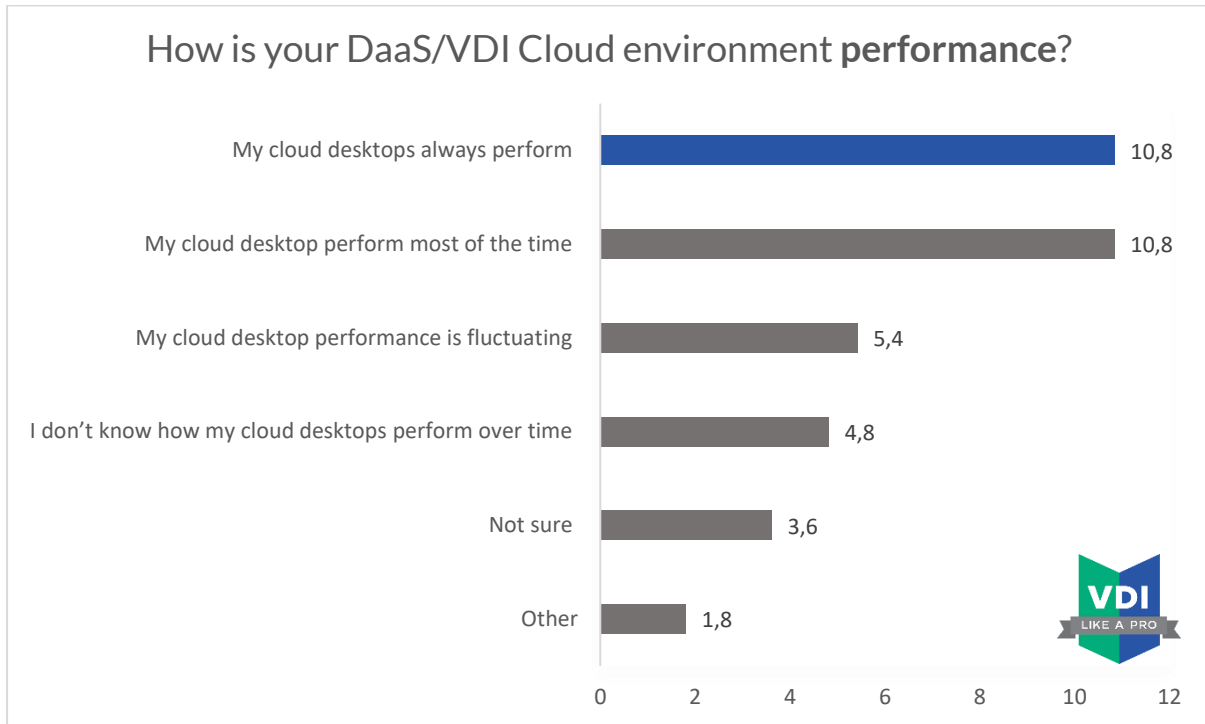


From the State of EUC survey 2018 we know that the biggest challenges in adopting public cloud Desktop as a Service (DaaS) and application remoting as a service are cost, legal/regulation, and performance. Trust and creating a positive business-case is also considered challenging.



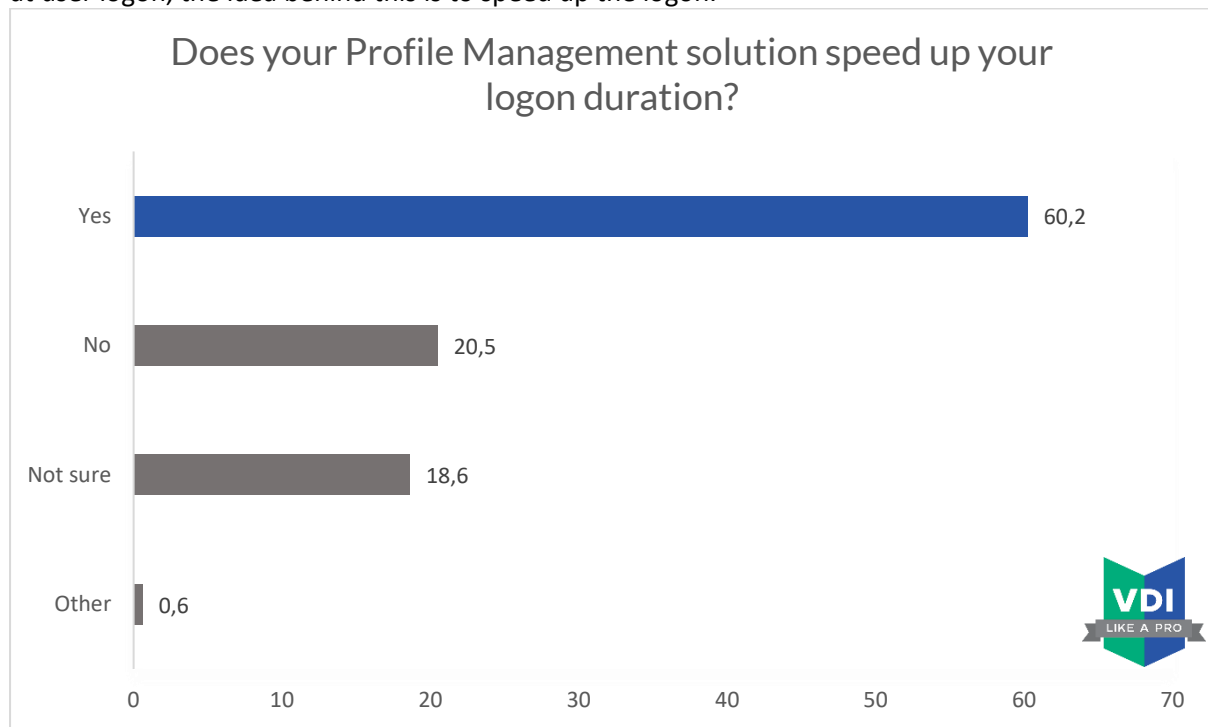
How is your DaaS/VDI Cloud environment performance?

To show a clear picture the 62,7% of respondents that does not have desktops in the cloud has been removed from this chart. Only 30% of the respondents that have a desktop in the cloud say the desktop always performs. In all other cases the performance is OK most of the time, or fluctuating.

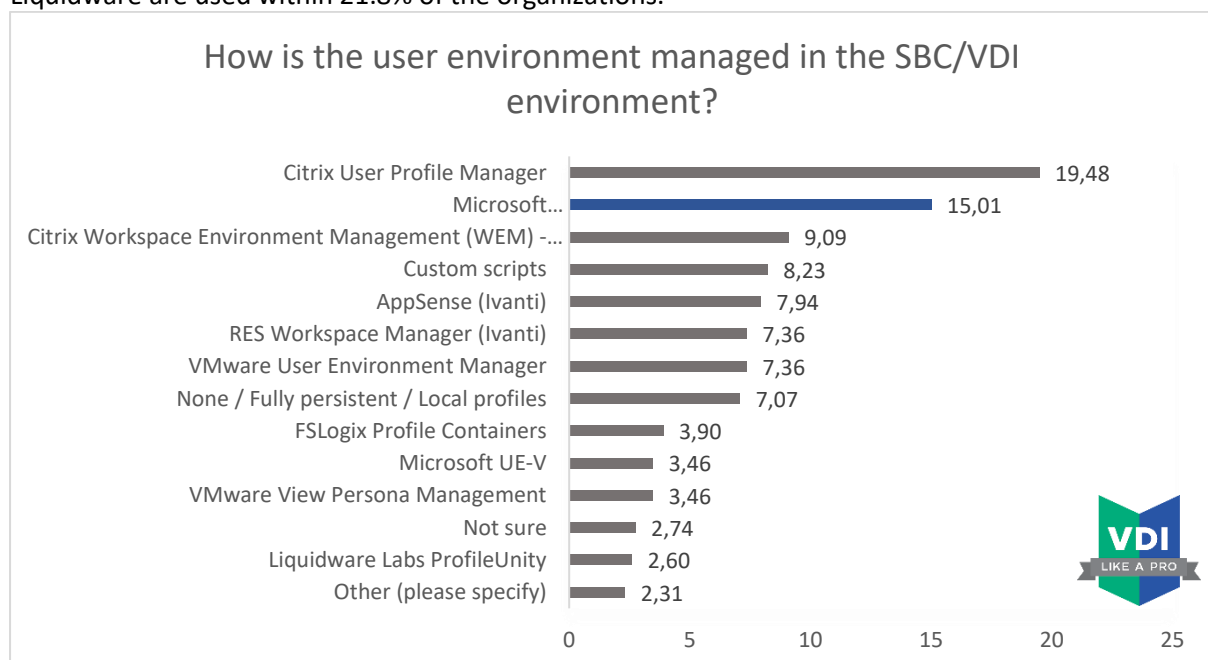


Does your Profile Management solution speed up your logon duration?

Profile management solutions have been around as long as VDI and SBC exist. Firstly to work around the problem that the same user has been logged on locally and remotely, losing settings at logoff (last logoff wins). Secondly to exclude unwanted pieces of profile keeping it nice and small. The last year we've seen vendors come up with different solutions to load and or attach the profile at user logon, the idea behind this is to speed up the logon.



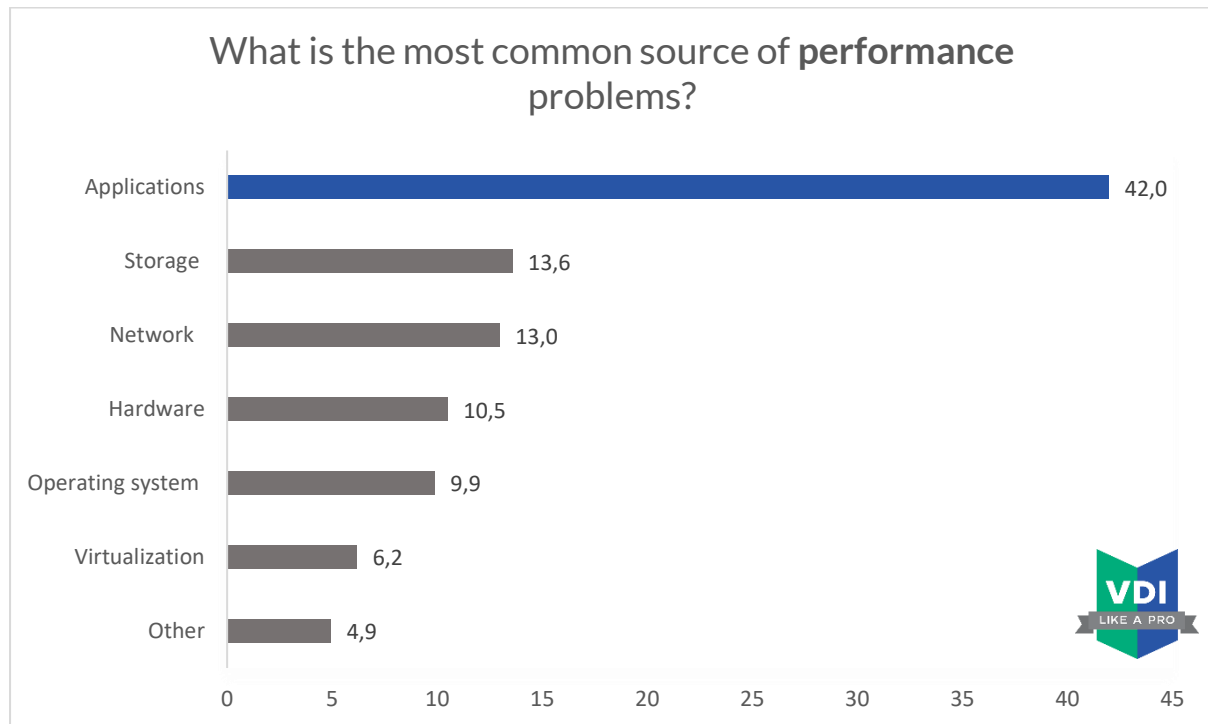
In the VDI Like a Pro State of EUC 2018 report we've seen that: Most of organizations use user environment management (UEM) solutions from Citrix, Microsoft or VMware, totaling 76.2% in 2018. UEM from 3rd party solutions such as Ivanti (AppSense and RES), FSLogix (now Microsoft), and Liquidware are used within 21.8% of the organizations.



What is the most common source of performance problems?

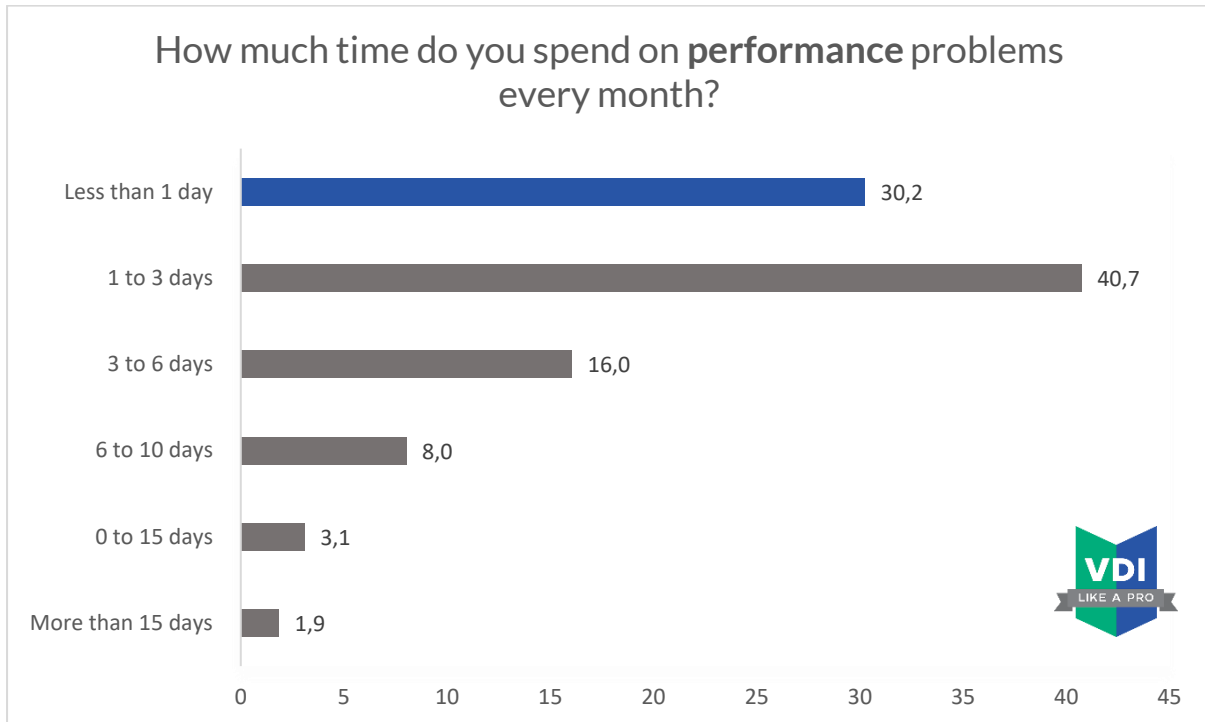
Applications, whether they are on premises, in the cloud or on mobile devices on thing is clear. They are the most common source of performance problems. The root causes are very diverse: Some applications are simply not developed for multi user systems, other have latency problems when a database is on a remote site or in the cloud and lastly some require a lot of GPU power.

Storage and network are another popular source of problems, what can be frustrating is that these components are handled by a different department that is not focused on VDI/SBC and therefore does no specific tuning.



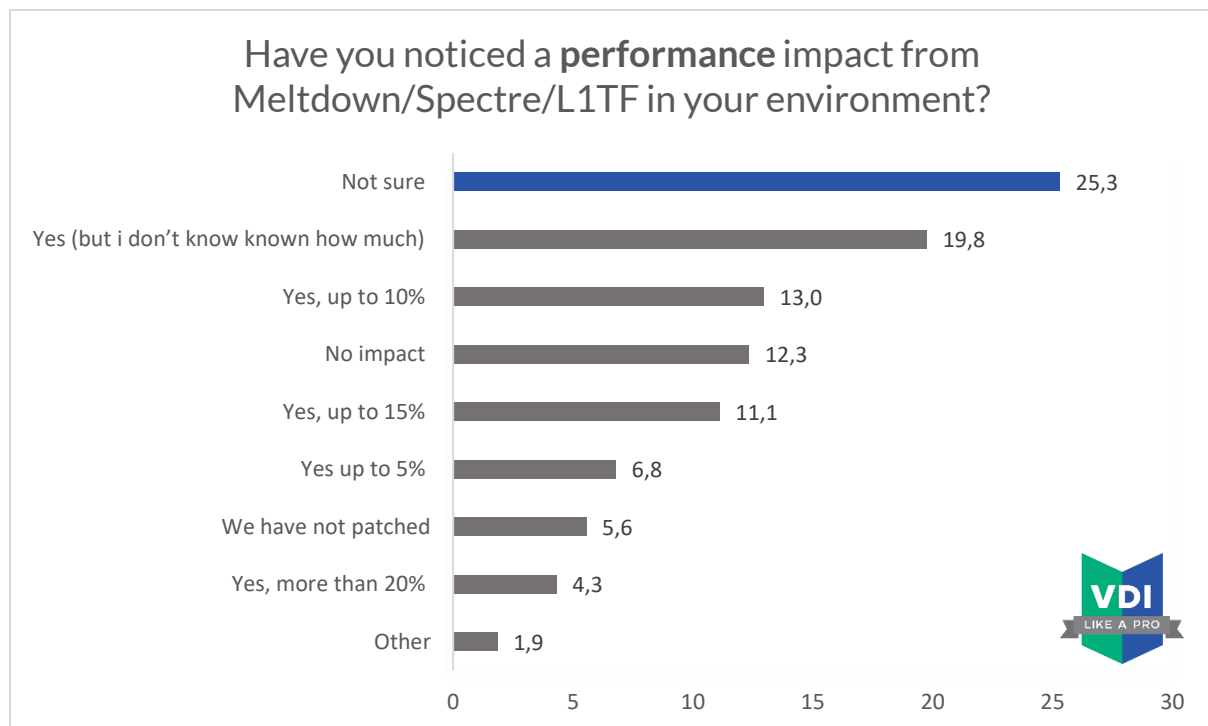
How much time do you spend on performance problems every month?

Performance problems can be particularly hard to troubleshoot, most respondents spend 1-3 days every month working on this commonly related to the most common source of performance problems: Applications.



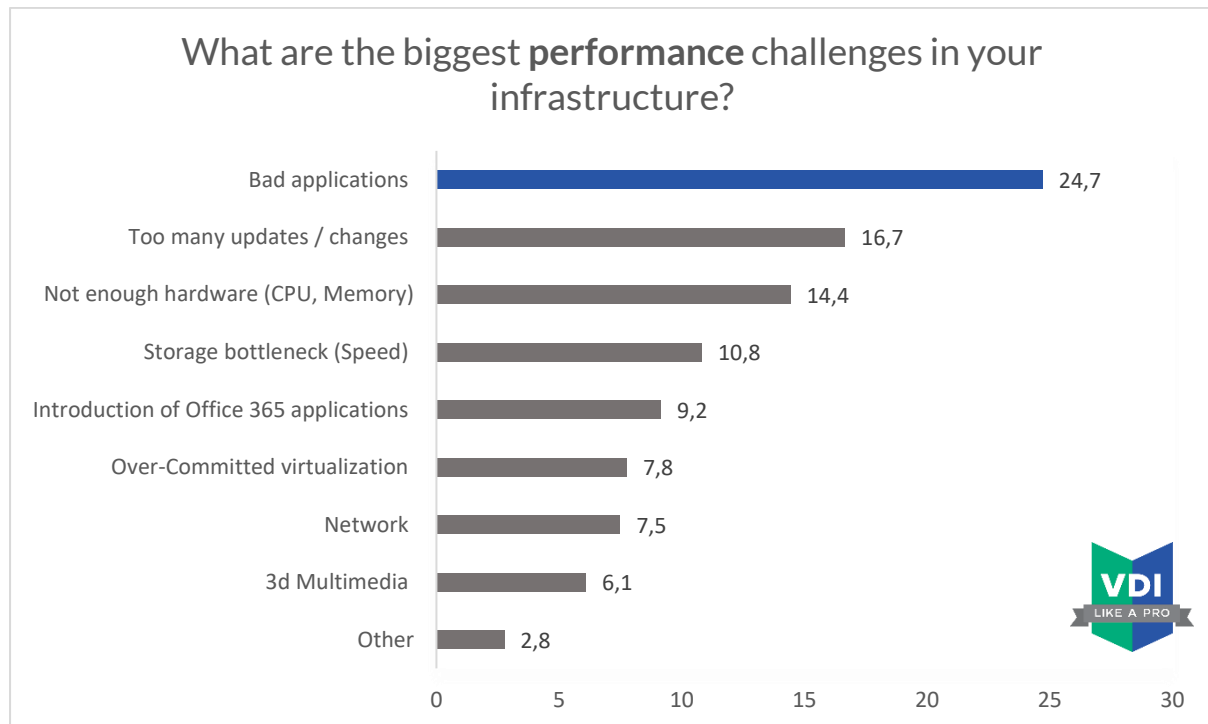
Have you noticed a performance impact from Meltdown/Spectre/L1TF in your environment?

Most EUC admins have not enjoyed 2018’s degraded performance due to exploits found mainly in Intel CPU’s. In some environments performance has dropped significantly and especially cloud desktop providers have been hit hard as they have to turn on all software mitigations as all VM’s are untrusted to each other. While most companies have completed patching many have no idea how much performance they have lost as this is hard to gauge from looking at CPU utilization.



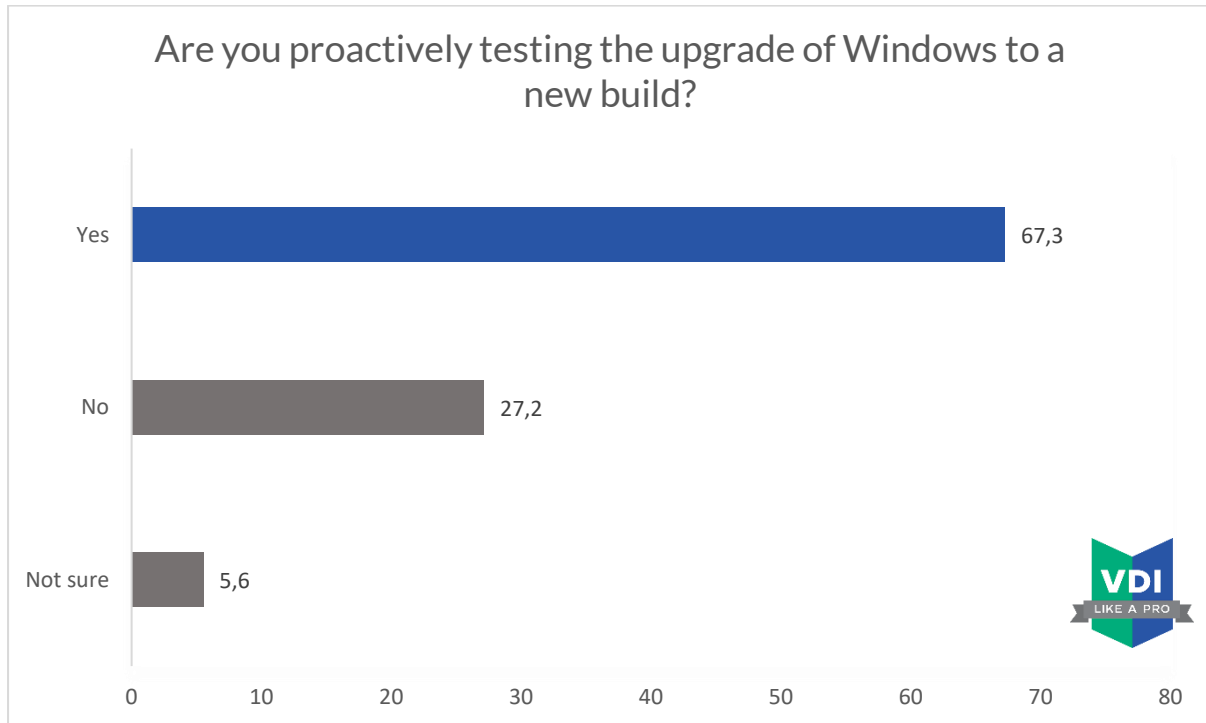
What are the biggest performance challenges in your infrastructure?

We've already concluded that applications are the most common source of performance challenges but they are also the biggest challenge to resolve. A major problem with applications is that you have to support them as-is, it is not very common for software companies to work together with customers to improve performance (for multi-user systems). Additionally requirements from software vendors might drive the price of your environment without technical gains but "Just to be on the safe side" or worse so you do not lose official support from the vendor.



Are you proactively testing the upgrade of Windows to a new build?

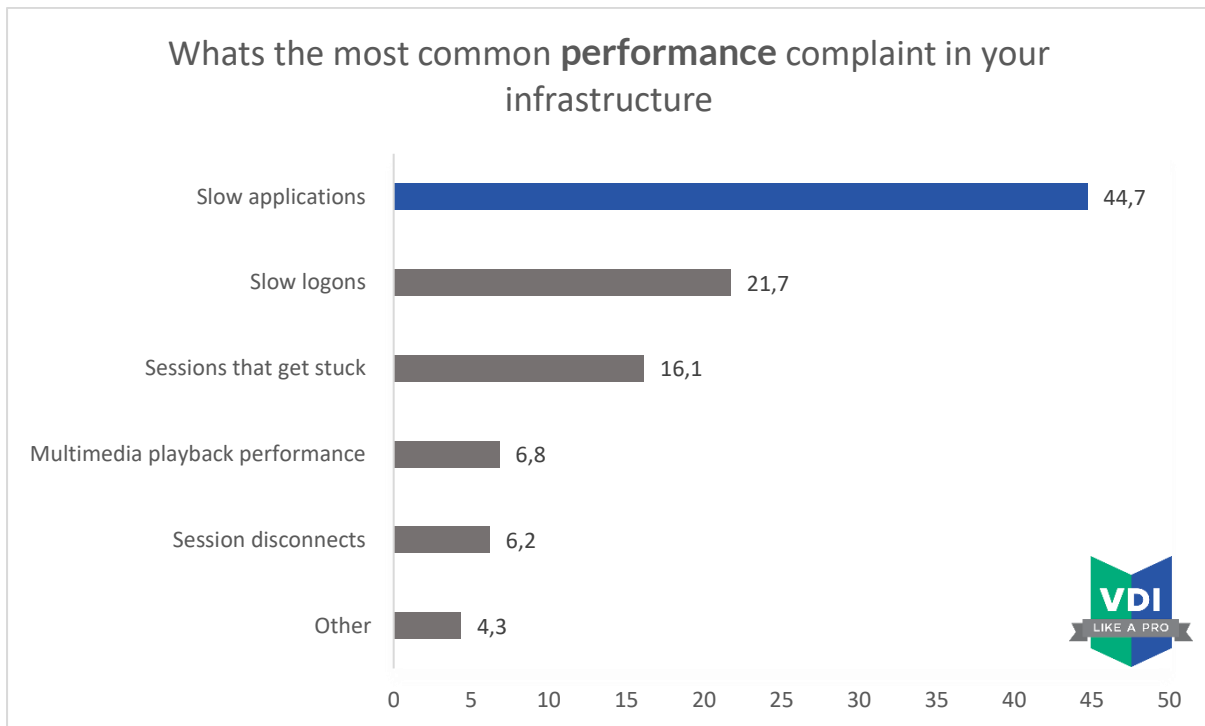
Most organizations are pro-actively testing new builds of Windows 10, most of the effort is put into testing deployment and application compatibility.



What's the most common performance complaint in your infrastructure

Next to IT-Admins users have also elected applications as their favorite reason to raise a complaint to the IT department. Especially in the enterprise Logon performance remains a crucial part to optimize.

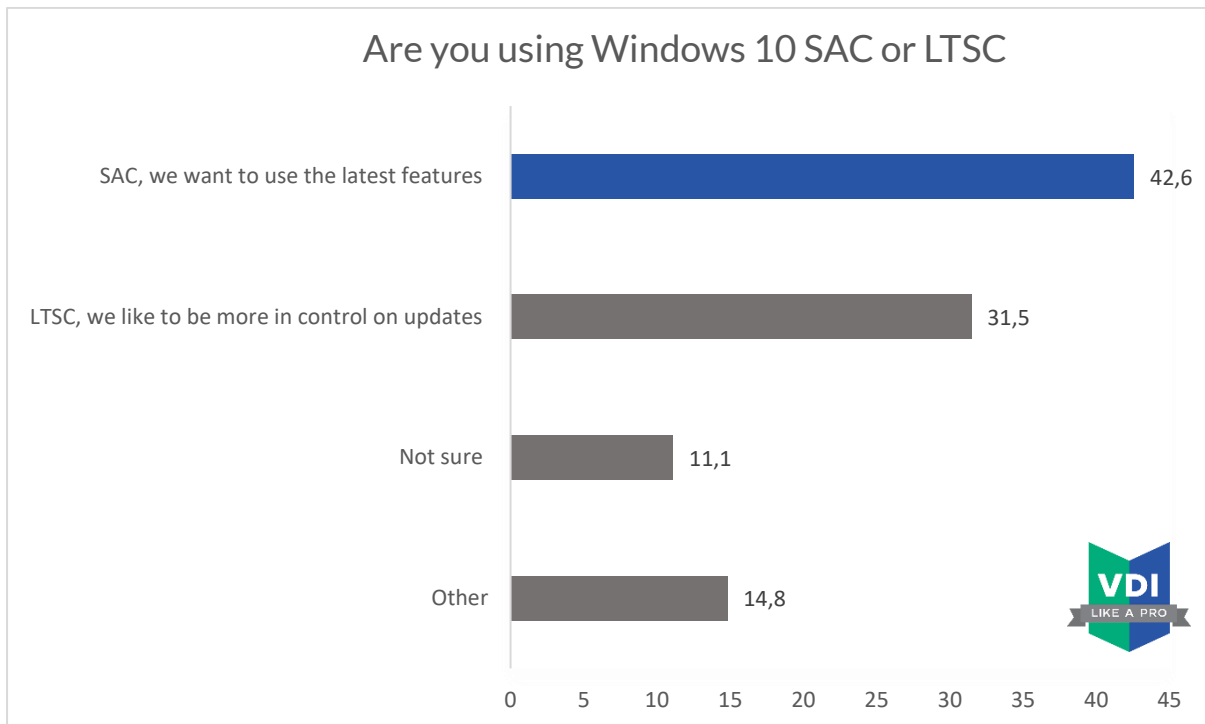
Sessions that get stuck can have multiple reasons, where we see a lot of last-mile connectivity issues and with an increased remote-work force home network quality and overcrowded WiFi network's come into play.



Are you using Windows 10 SAC or LTSC

Windows 10 is available in different channels: Semi-annual (Also known as Current) with updates every 6 months and the Long Term Servicing Channel that receives an update every two to three years.

Microsoft advices to use the Semi-Annual channel but about 30% of the survey participants chooses to deploy it nevertheless.



How often do you upgrade Windows to a new build?

Last years Windows 10, 1809 release has not been a textbook example on releasing reliable software. It is therefore our advice to always wait deploying (at scale) a new build of Windows until it has been tested in the real world by other enterprises. Testing a new build in a pilot environment is of course advised and one should not wait doing this.

