uila

Success Story: Healthcare organization facing long VDI logon times for medical-staff members

Background

Large Not-for-profit healthcare organization located in the United States.

Challenges/Needs

Mission-critical medical staff using VDI were experiencing long login times everyday in the morning, especially during the peak hour for logins around 7 am to 8 am.
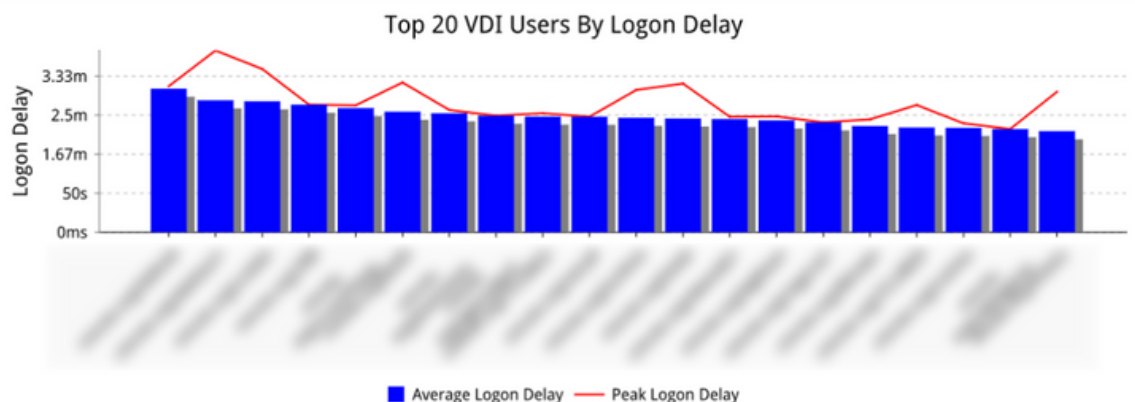

Time: 12/07/2023 05:20
Worst Logon Duration: 145582 ms
Average Logon Duration: 74023 ms
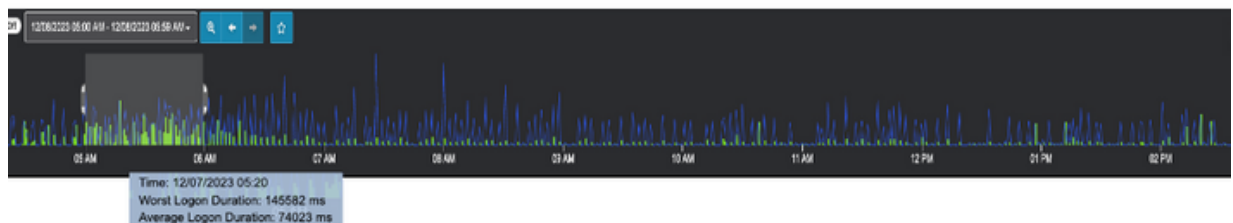
Uila Observations & Recommendations

Logon Issues

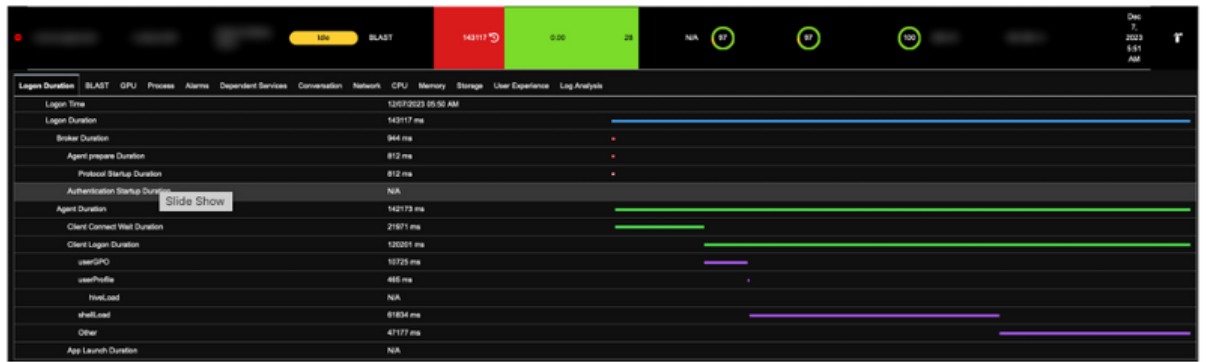Using Uila, the IT team was able to identify the top 20 users experiencing the longest logon times
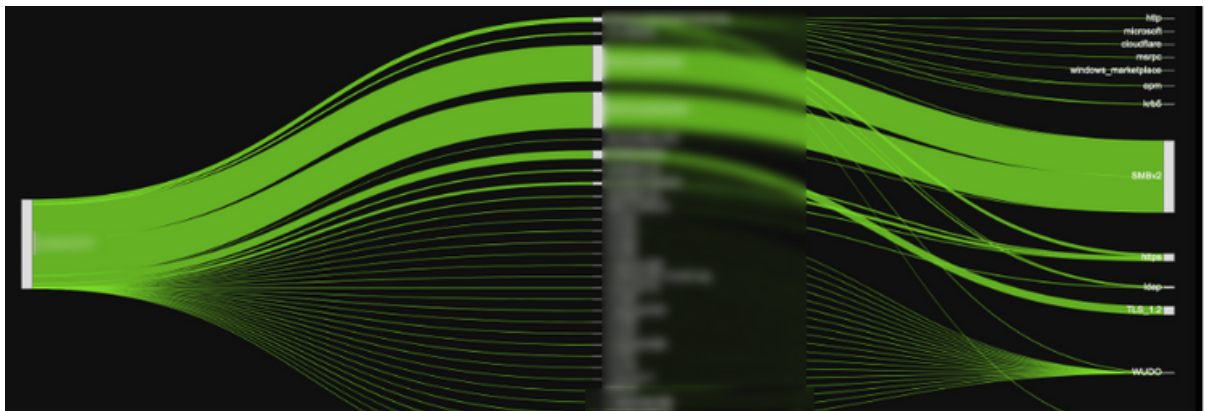

Top 20 VDI Users (Logon)

Top 20 VDI Users By Logon Delay

■ Average Logon Delay — Peak Logon Delay

VDI clients go through multiple steps as part of a typical logon process. It was observed that the longest delay for the VDI users in this case was the Windows Shell Load time as shown below. The shell load time is the time it takes for the Window shell to load, i.e. Explorer. Shell load time starts when Logon Monitor receives a notification from Windows when shell load is starting. It ends when the taskbar window is created.

Profile Server Issues

The Profile Servers are heavily involved with Shell load time during login as shown below.

It is observed that the Profile Servers are not performing at its optimum level for all SMB (file share) requests. Most of the time, they seem to be ok, but at times the performance is below expectation when talking to both the VDI desktops. As shown in the image below, there are many SMB file sharing transactions observed that are taking longer than expected.

Also, after reviewing the resources of the Profile servers on the infrastructure side, it was observed that the Profile Server does not seem to suffer from any resource bottlenecks on the CPU, Memory or Storage side.
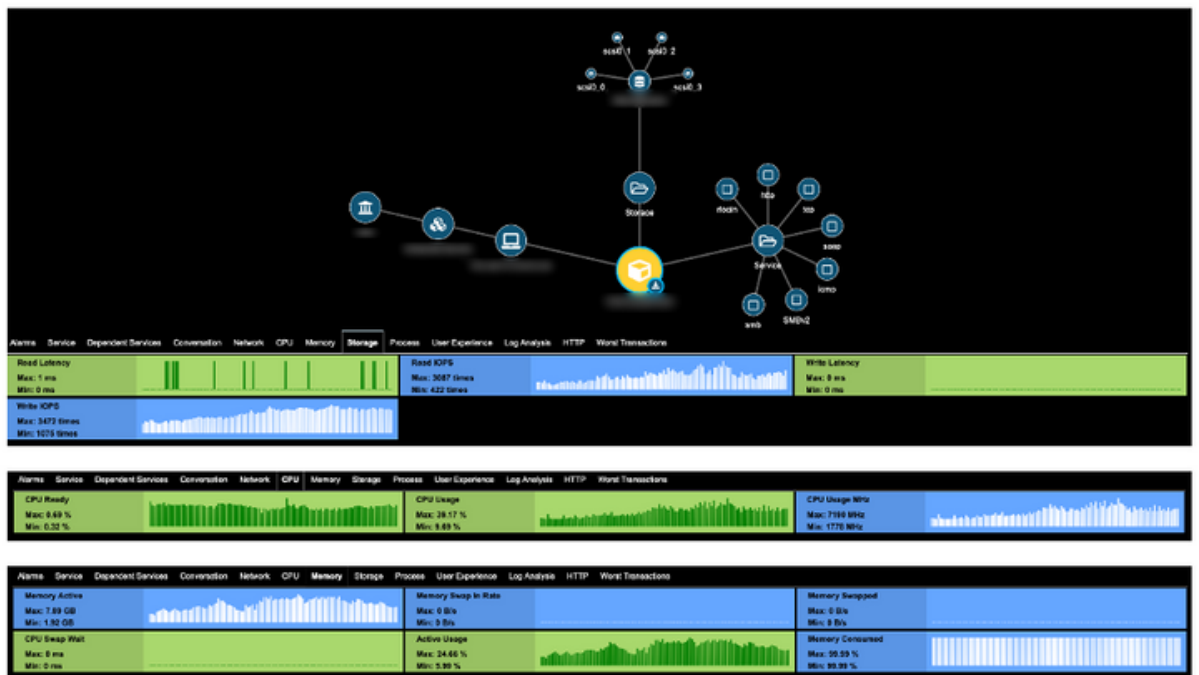
Recommendation

As there are no infrastructure issues, it is recommended that the IT team should look into other issues that could cause the Profile Server to be slow, like drive mapping, file sharing, printer, etc.

Even though 99% of the SMB transactions are executed at optimal performance, but there are a few transactions that are slow and may have a direct impact on the logon time.
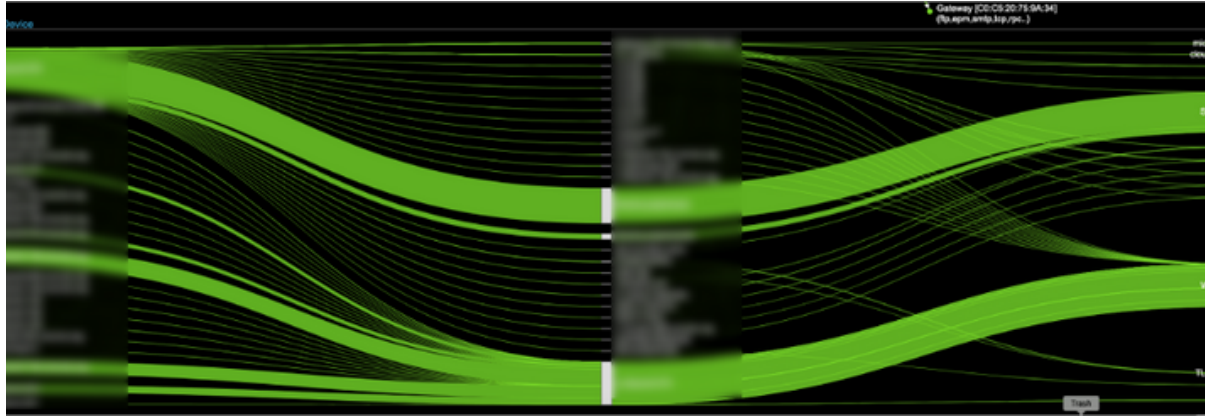
Windows Update Issues

It is observed that WUDO (Windows Update) and the swarm protocol is enabled on all the VDI desktops as shown below. You can observe the Windows Update is one of the top traffic generators in the environment. All the VDI desktops are trying to update and download using bittorrent (swarm) making everything slow. It was observed that the Virtual Desktop Windows is constantly exchanging messages with a few dozen other desktops for Windows Updates.
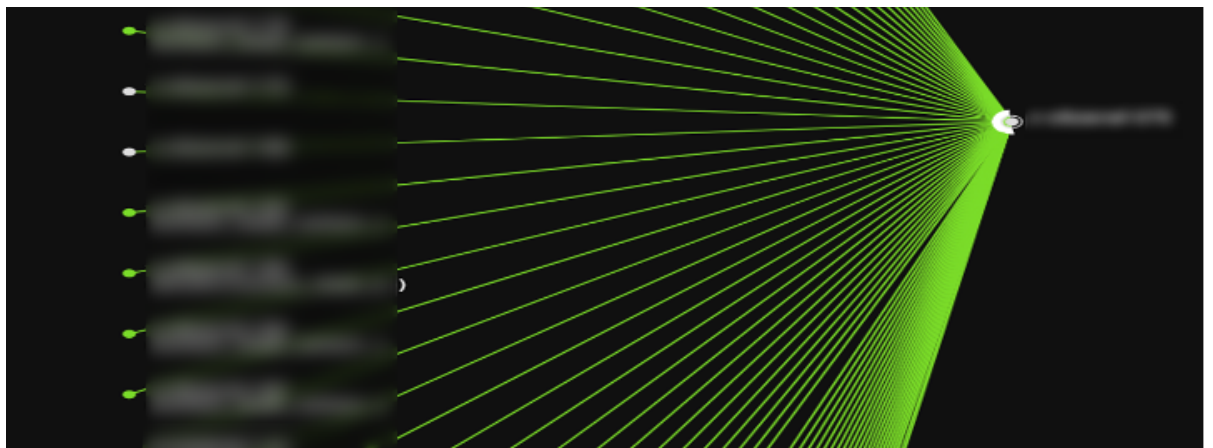

Also, the WUDO (Windows Update Distribution Optimization) traffic is constant and the traffic volume is significant.
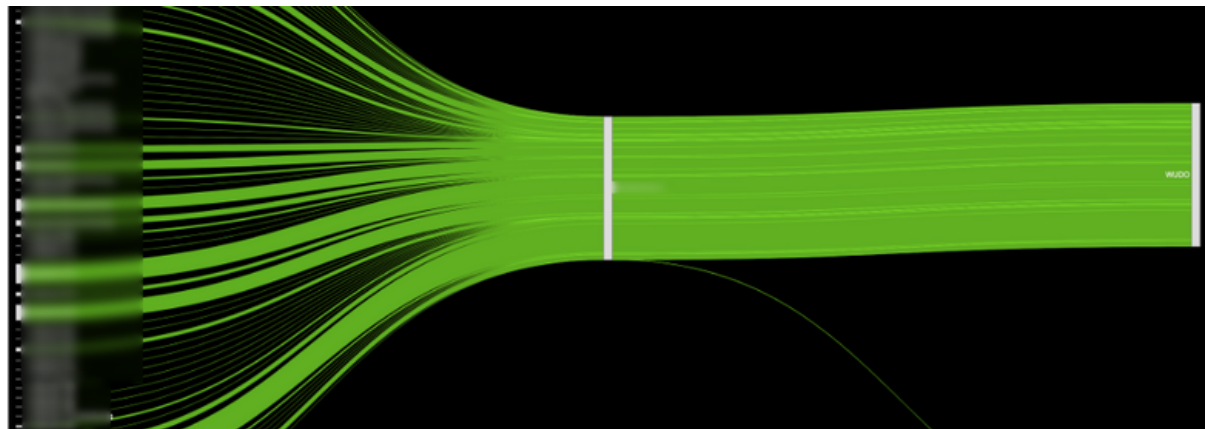
WUDO generates as much traffic and activities as profile servers. This WUDO behavior competes against profile server operations. See figure on the next page.

While evaluating all your Desktop traffic, the WUDO traffic ranked among the highest, second only to SMBv2 (Profile Servers).
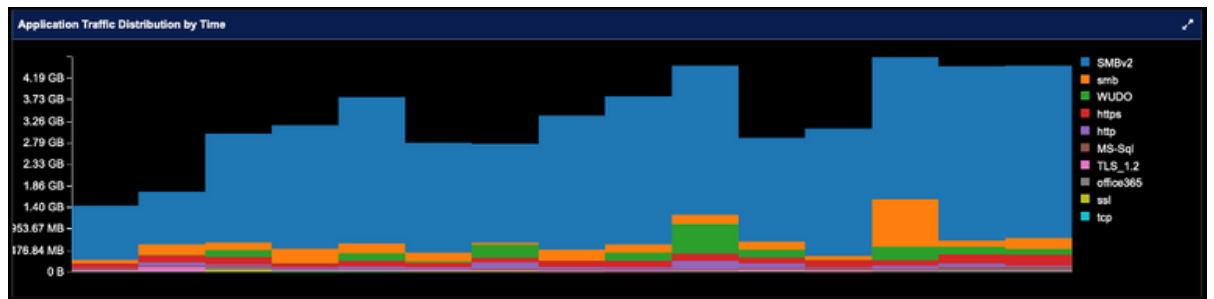
Recommendation

Uila recommended that the IT team should disable windows update (wudo) service to improve the performance of the logon durations for their VDI users.

Uila Benefits

Uila's recommended changes on the profile server and windows updates helped the organization overcome the long VDI logon challenges faced by the mission critical medical staff. Turning off the Windows Update was especially impactful. The VDI Logon time dramatically improved from the usual average multi-minute scale to much less than a minute in the worst case.

All of this was done without making any comprehensive infrastructure resource investment.