



Unmasking the Top 5 End-User Computing (EUC) Challenges



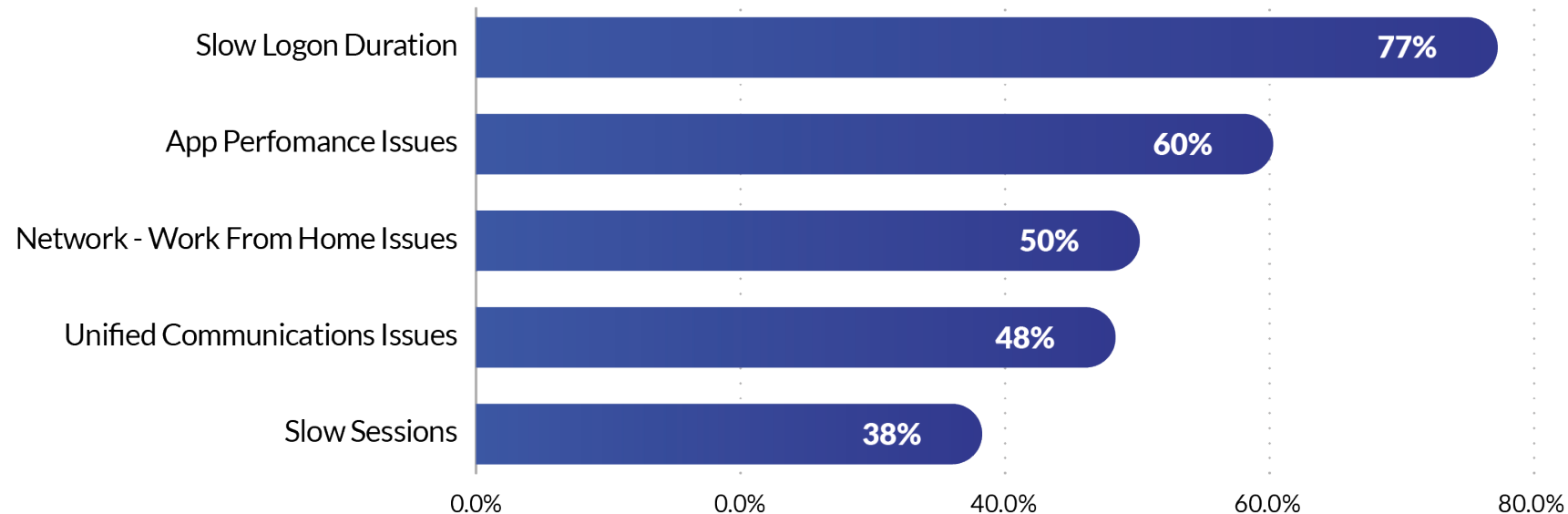
A look at survey results for the top problems supporting virtual applications and desktops



Survey Results

As a result of the pandemic, millions of people across the globe are now working remotely. Though COVID-19 will soon be but a memory, this “work-from-anywhere” trend will continue long into the future. To support remote workers, organizations have deployed virtual applications and desktops, but still struggle to make the employee experience as good or better than the office experience.

We surveyed over 450 end-user computing administrators and asked them about their most challenging problems in supporting remote work. This paper explains the top 5 survey findings and explores the ways ControlUp helps mitigate these problems.



Long Logon Durations | #1 Most-Reported Problem

The problem cited most frequently by IT administrators supporting virtual desktops and applications is addressing slow logons. Often, users assume excessive logons are normal, some think lengthy logon duration is a bandwidth issue, but most think it's a product of IT imposing outdated and lackluster technology on them.

Some questions to consider are: What factors affect the logon duration (e.g. *logon script, profile, group policy*)? How can logons be made faster? How does my environment compare to others?

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What we really like are the right-click features for administration to be able to do remote GPO management, look at the registry. The biggest feature we really love is the compare tool for the registry, the services and files system, everything.

Sean Cottrell | Secura Insurance



Long Logon Durations | ControlUp's Solution

ControlUp solves lengthy logon durations by displaying detailed information about the entire logon process and giving you the tools to pinpoint the root cause of the slowdown.

User	T	Logon Time	T	Logon Duration	▼ T	Profile Load Time	T	Group Policy Load Time	T	Desktop Load Time	T	Logon Duration - Other	T
CONTROLUP\jamesj	Thu, Mar 25, 2021 9:50 AM			64 sec		2 sec		34 sec		34 sec		34 sec	
ACME\jim.slow	Wed, Mar 31, 2021 6:42 AM			77 sec		4 sec		37 sec		2 sec		71 sec	
CONTROLUP\dennisg	Thu, Apr 1, 2021 10:10 AM			74 sec		44 sec		2 sec		3 sec		27 sec	
CONTROLUP\bennttt	Thu, Apr 1, 2021 8:13 AM			43 sec		9 sec		1 sec		0 sec		30 sec	
CONTROLUP\vdgcrc	Thu, Apr 1, 2021 12:33 PM			40 sec		15 sec		1 sec		0 sec		23 sec	

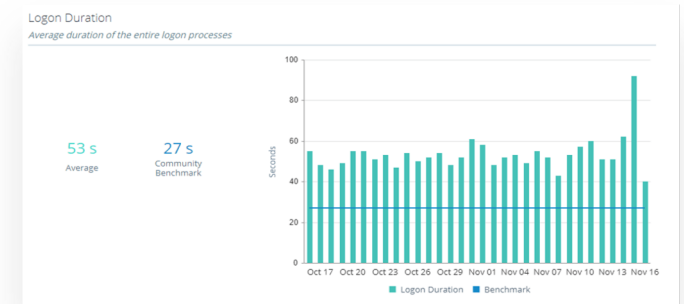
Once a slow logon is detected, ControlUp's Virtual Expert provides contextual help to search for root causes, such as with our Analyze Logon Duration script. With just one click, every major event related to the user's login process can be seen. The output will pinpoint the technology responsible for a logon delay.

```
User name      : amitye
Broker         : H2NConnect.bottheory.local
Display Protocol : BLAST
Client Name    : Z9PE-D16

Logon start   : 4/17/2020 10:59:41
Logon end     : 4/17/2020 11:01:46
Duration      : 124.7 seconds

Source        Phase                Duration (s) Start Time End Time Gap (s)
-----
Windows       Windows Logon Time         0.0          10:59:40.5 10:59:40.5
App Volumes   wait For Volume Attach    15.1         10:59:41.6 10:59:56.7 1.1
FSLogix       LoadProfile               60.2         10:59:46.1 11:00:46.4
Windows       User Profile              0.4          11:00:46.4 11:00:46.8 0.0
Windows       Group Policy              10.4         11:00:46.8 11:00:57.3 0.0
App Volumes   ShellStart                0.0          11:00:57.5 11:00:57.5 0.0
FSLogix       ShellStart                3.7          11:00:57.6 11:01:01.3 0.0
Windows       Pre-Shell (Userinit)      0.0          11:01:01.3 11:01:01.3 0.0
Windows       Shell                     45.0         11:01:01.3 11:01:46.3 0.0
Shell         AppX File Associations    15.9         11:01:01.9 11:01:17.8
Shell         AppX - Load Packages     39.0         11:01:02.1 11:01:41.1
Shell         ActiveSetup               7.1          11:01:03.5 11:01:10.7
Windows       Windows Duration          124.7
```

With ControlUp's historical reporting, you can see how your logons improve over time, as well as compare your environment with other customers, using ControlUp's anonymous community benchmarking.



Application Performance | #2 Most-Reported Problem

Business runs on applications; these applications must be available and have the performance to meet the productivity requirements of your users, no matter whether they are installed locally, delivered through virtualization, or are SaaS-based.

Some questions to consider are: Are my applications available when my users need them? Are my applications loading fast enough to meet business needs? Are my applications running at the speeds I need to increase my productivity?

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The ControlUp client uses very little resources and installs quickly. This is the best product I have used for monitoring Citrix servers. I highly recommend it!



Kevin Simpson | Citrix/Windows Infrastructure Specialist



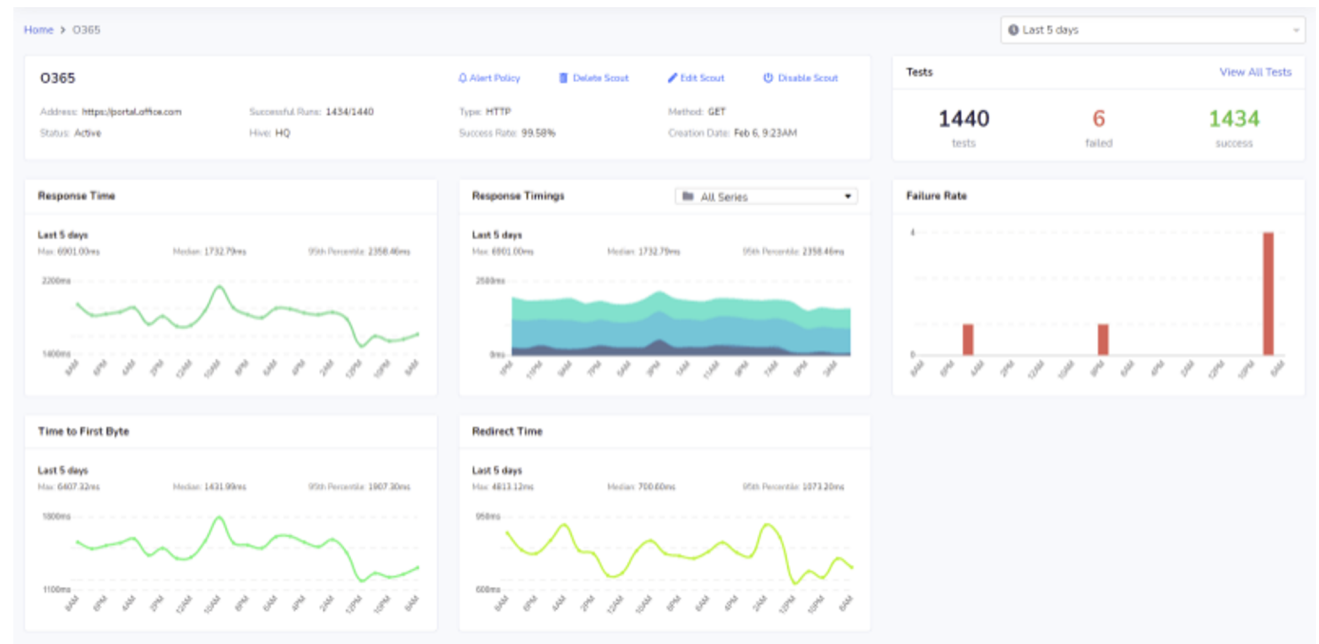
Application Performance | ControlUp's Solution

ControlUp solves application performance issues by observing an application's behavior and availability.

ControlUp provides a simple, accurate way to obtain various application-specific metrics. These include application load time, application performance, and user experience metrics.

Application performance should also observe the availability of the application. With ControlUp Proactive Synthetic Monitoring, you know when and if applications have problems before your users are even aware or have time to open a support ticket.

Once you have observed the performance and availability of an application, you can quickly fix issues with recommended remediation actions.



Home Networking | #3 Most-Reported Problem

Supporting a work-from-anywhere user provides challenges as unique as each user themselves. Some users have access to robust internet service, but experience issues because others in the home (e.g. kids attending “virtual school” or partners performing their day-to-day tasks, too) share the same connection. Conversely, some homes have poor internet speeds, but a sophisticated high-speed Wi-Fi mesh.

Some of the questions to consider are: Are there performance issues with the user's home Wi-Fi? Are there ISP bandwidth or connectivity issues?

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ControlUp for Physical Endpoints technology and the client metrics we get from the online portal help troubleshoot our work-at-home agent issues and provide us endless possibilities with their add-on scripting tools.

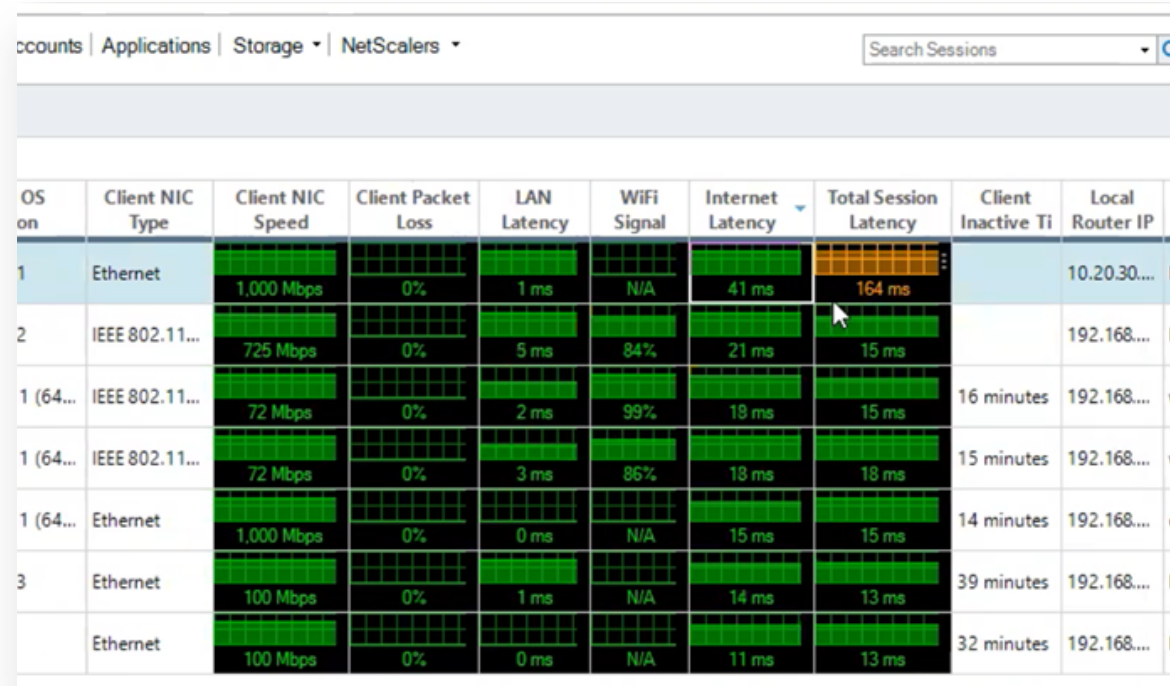
Toan Thai | Manager, Enterprise Cybersecurity, Remote End-Users Solutions Team



Home Networking | ControlUp's Solution

ControlUp exposes home networking issues by monitoring the network from the physical endpoint. No matter the type of device or how a user is connected (or not), ControlUp monitors the user's digital experience, end-to-end.

ControlUp captures client performance experience metrics, such as NIC speed, Wi-Fi signal strength, and LAN latency to calculate total session latency. From here, you can determine, for example, whether a home user needs to move closer to their Wi-Fi router, upgrade their ISP bandwidth, or something else.



The screenshot shows the ControlUp NetScalers interface with a table of network performance metrics. The table has columns for OS, Client NIC Type, Client NIC Speed, Client Packet Loss, LAN Latency, WiFi Signal, Internet Latency, Total Session Latency, Client Inactive Time, and Local Router IP. The 'Total Session Latency' column is highlighted in orange for the first row, indicating a high latency value of 164 ms.

OS	Client NIC Type	Client NIC Speed	Client Packet Loss	LAN Latency	WiFi Signal	Internet Latency	Total Session Latency	Client Inactive Time	Local Router IP
1	Ethernet	1,000 Mbps	0%	1 ms	N/A	41 ms	164 ms		10.20.30...
2	IEEE 802.11...	725 Mbps	0%	5 ms	84%	21 ms	15 ms		192.168...
1 (64...	IEEE 802.11...	72 Mbps	0%	2 ms	99%	18 ms	15 ms	16 minutes	192.168...
1 (64...	IEEE 802.11...	72 Mbps	0%	3 ms	86%	18 ms	18 ms	15 minutes	192.168...
1 (64...	Ethernet	1,000 Mbps	0%	0 ms	N/A	15 ms	15 ms	14 minutes	192.168...
3	Ethernet	100 Mbps	0%	1 ms	N/A	14 ms	13 ms	39 minutes	192.168...
	Ethernet	100 Mbps	0%	0 ms	N/A	11 ms	13 ms	32 minutes	192.168...

Unified Communications | #4 Most-Reported Problem

SaaS applications, such as Slack, Teams, or Zoom can be the closest thing a remote worker has to truly interacting with their teams—a vital part of the employee experience. So, when those applications have problems, the user can be left feeling isolated or stranded.

Some questions to consider are: Are the SaaS-based services Unified Communications (UC) users need to communicate available? Are my virtualization platforms optimized for UC?

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“Previously, I used ControlUp primarily as a dashboard utility to check the status of servers, but new features have opened it up to do so much more. I'm excited about managing App-V packages on my XenApp servers with the script actions. Great work!”

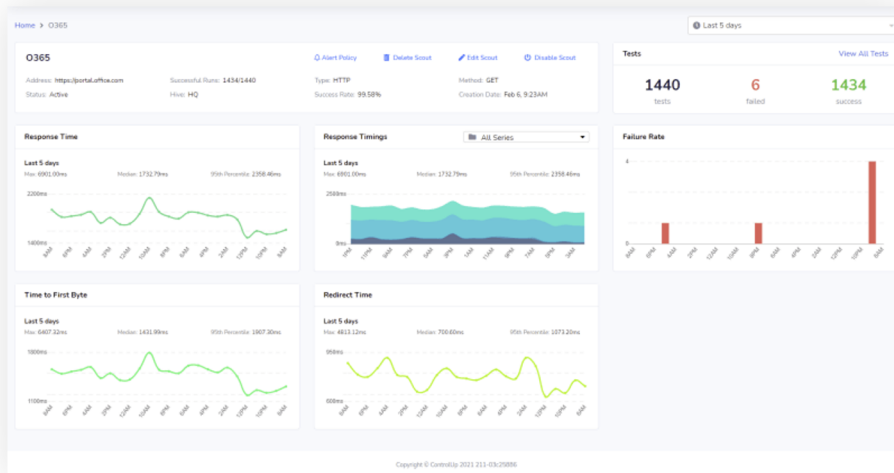
Michael Kutyna | Systems Admin Programmer, University of Florida



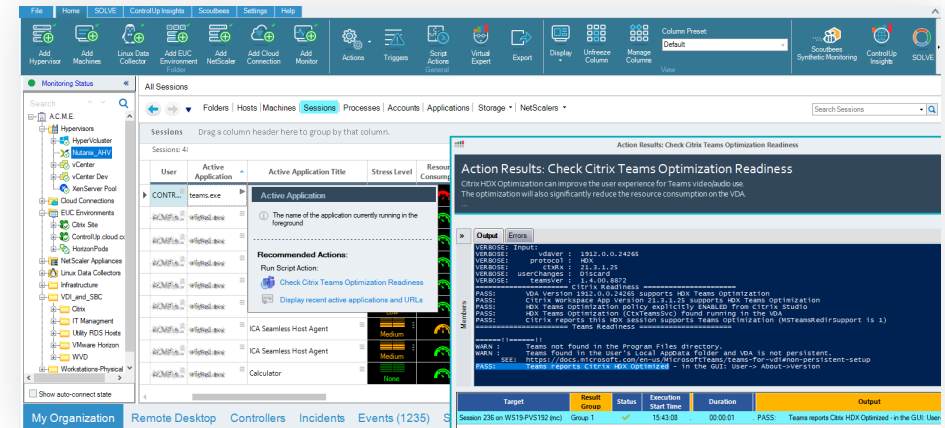
Unified Communications | ControlUp's Solution

ControlUp proactively tests Unified Communications (UC) applications to ensure they run efficiently and can deliver the best possible digital experience.

ControlUp provides synthetic testing to ensure UC applications like Zoom, Slack, and Teams are running as expected and will send proactive alerts when the services are unavailable or experiencing problems.



With ControlUp, you can detect whether the desktop has the correct version of the UC application. And with Citrix HDX optimization, you can improve the user experience for Teams video/audio use.



Slow Virtual Sessions | #5 Most-Reported Problem

When virtual applications and desktops run slow, users get frustrated, and productivity slows down. Detecting and troubleshooting a slow virtual session can be an even greater hindrance.

Some questions to consider are: Are my virtual neighbors hogging resources? Are my hosts or clients misconfigured? Are logon scripts and group policies slowing down my session?

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With ControlUp, you can spend more of your day doing actual work than jumping from console to console, to log files and attending emergency meetings regarding Citrix issues. Honestly, it provides a level of visibility into RDS/Citrix farms that we've never had before, which has helped us be far more proactive in identifying problems.

Dustin Donner | System Analyst, Oregon Health & Science University



Slow Virtual Sessions | ControlUp's Solution

ControlUp displays a holistic view of a user's digital experience and lets you drill down to the process level to see exactly what is affecting their system performance.

ControlUp's machine learning-based Virtual Expert helps find the root cause of problems quickly and invokes a recommended action to fix it and make the user's digital experience problem-free.

User	Stress Level	Latency Avg
CONTROLUP\jamesj	Low	407 ms
ACME\cclear	Medium	400 ms
CONTROLUP\jasond	Low	64 ms
CONTROLUP\jamesj	Medium	1 ms

Conclusion

ControlUp optimizes the digital experience with actionable insights captured through real-time observation.

We have solved the Top 5 most-reported problems with supporting virtual applications and desktops—plus some of the most troublesome work-from-anywhere issues—so your users can stay happy and productive; let us show you how.

- Long VDI logons
- Application performance issues
- Work from home issues
- Unified communications issues
- Slow virtual sessions

In just 15 minutes, we can show you each of the top 5 problems in supporting a virtual environment. Or you can simply install ControlUp yourself; it takes just 10 minutes. It's just that simple.

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