PT

Remote management

Capabilities we tested that were specific to the Dell OptiPlex 7070 Micro Desktop solution we tested:

✔ Get keyboard, video, and mouse (KVM) control with extra security

✔ Save time with remote, one-to-many BIOS settings configuration

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

Compared to two competitor desktops equipped with AMD Ryzen 5 PRO 3400G processors

Companies investing in ultracompact Dell OptiPlex™ 7070 Micro Desktops with optional Intel® vPro® processors unlock remote IT support capabilities. So, how do those remote IT support capabilities compare to the capabilities of desktops equipped with AMD Ryzen™ PRO processors?

To find out, we evaluated the remote IT support capabilities of the Dell OptiPlex 7070 Micro Desktop, powered by an Intel Core™ i5-9600T vPro processor and managed via the Intel vPro platform with Dell Client Command Suite. Then we compared the above-mentioned results from our testing to those of the HP EliteDesk 705 G4 Mini PC and the Lenovo® ThinkCentre® M75s SFF, both powered by AMD Ryzen 5 PRO 3400G processors. Neither HP nor Lenovo offered vendor-specific client systems management tools equivalent to the Dell Client Command Suite, so we managed those desktops via the AMD PRO platform with AMD Management Console. We found that the Dell OptiPlex 7070 Micro Desktop, equipped with an Intel Core i5-9600T processor, delivered more comprehensive desktop management capabilities than either of the AMD Ryzen 5 PRO 3400G processor-based desktops we tested.

With today's social distancing mandates in effect and more employees working from home for the foreseeable future, comprehensive remote IT support tools can help keep everyone productive.

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

June 2020

Managing the new normal—remotely

Comprehensive remote management tools are tremendously helpful in the day-to-day management of company desktops spread across multiple locations. Here are the solutions we tested:

- **Dell/Intel vPro solution:** We managed two Dell OptiPlex 7070 Micro Desktops, powered by Intel Core i5-9600T vPro processors, via the Intel vPro platform with Dell Client Command Suite.

- **HP/AMD PRO solution:** We managed two HP EliteDesk 705 G4 Mini PCs, powered by AMD Ryzen 5 PRO 3400G processors, via the AMD PRO platform with AMD Management Console.

- **Lenovo/AMD PRO solution:** We managed two Lenovo ThinkCentre M75s SFFs, powered by AMD Ryzen 5 PRO 3400G processors, via the AMD PRO platform with AMD Management Console.

This remote management study is a follow-on to our May 2020 report, "Dell OptiPlex 7070 Micro Desktop: Save time and get better performance on office tasks." That report compared the responsiveness of the Dell OptiPlex 7070 Micro Desktop, HP EliteDesk 705 G4 Mini PC, and Lenovo ThinkCentre M75s SFF across a wide range of collaboration and media creation tasks. To gauge productivity, we also compared the business-class desktops' scores in two benchmarks that reflect real business worker usage.
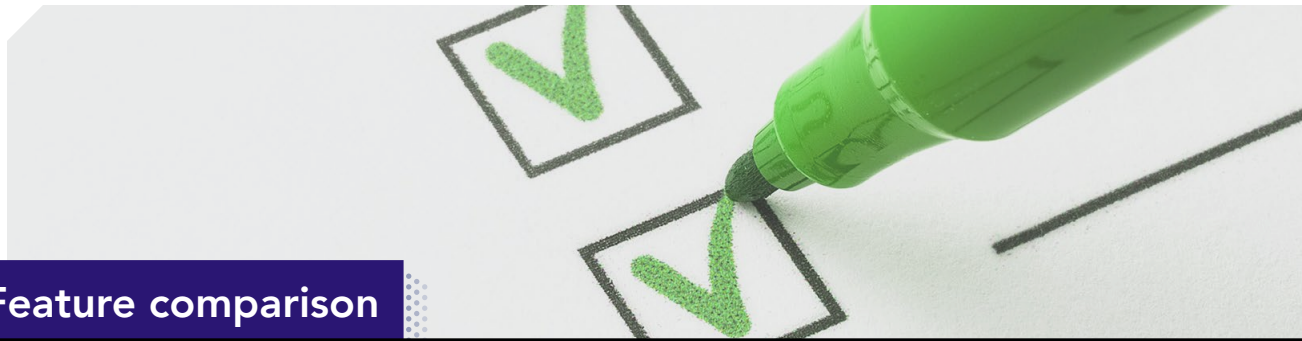
Dell OptiPlex 7070 Micro Desktop

According to Dell, the Dell OptiPlex 7070 Micro Desktop is "an ultracompact desktop with versatile mounting options, featuring optional Intel® vPro™ and Intel Unite® to empower faster productivity."[1]

Intel Active Management Technology (AMT)

According to Intel, "Intel® Active Management Technology, included as part of the Intel vPro® platform, which spans Intel Core™ vPro® processors and Intel Xeon® processors, helps reduce overall PC maintenance and administrative costs. With features to remotely discover, repair, and help protect networked computing assets, Intel Active Management Technology allows IT Ops to support a mobile workforce."[2]

Dell Client Command Suite

According to Dell, "The Dell Client Command Suite is a collection of IT management tools that automates and streamlines client deployments, configurations, monitoring and updates - reducing IT's workload."[3]

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

June 2020 | 2

Feature comparison

DASH standard compliance

According to DMTF, an industry standards organization, DASH (Desktop and mobile Architecture for System Hardware) is a client management standard that "provides support for the redirection of KVM (Keyboard, Video and Mouse) and text consoles, as well as USB and media, and supports the management of software updates, BIOS (Basic Input Output System), batteries, NIC (Network Interface Card), MAC and IP addresses, as well as DNS and DHCP configuration. DASH specifications also address operating system status, opaque data management, and more."[4] Documentation for Intel vPro and AMD PRO notes that both platforms support DASH compliance.[5,6] We tested a sample of the features that DASH standard compliance ensures—boot control, inventory, and media redirection—and confirmed that the three solutions we tested supported those three features.
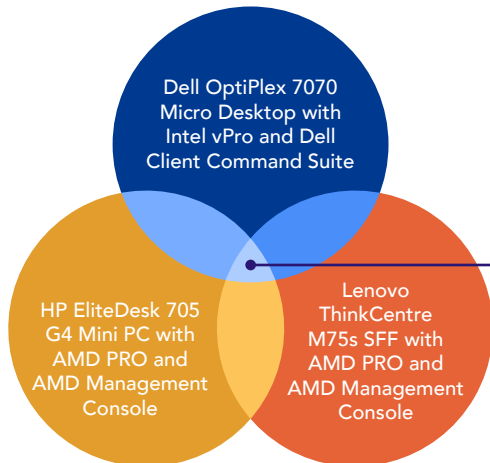
Hands-on testing results overview

While all three solutions supported compliance with the DASH standard, the Dell/Intel solution we tested was the only one that delivered more than DASH standard compliance. Read the rest of the report for an in-depth discussion of the following feature comparison table.

	Dell OptiPlex 7070 Micro Desktop with Intel vPro and Dell Client Command Suite	HP EliteDesk 705 G4 Mini PC with AMD PRO and AMD Management Console	Lenovo ThinkCentre M75s SFF with AMD PRO and AMD Management Console
Three key features of DASH standard compliance: Boot control, inventory, and media redirection	✔ Yes	✔ Yes	✔ Yes
Keyboard, video, and mouse (KVM) control with extra security	✔ Yes	BIOS only	✗ No
Remote, one-to-many BIOS settings configuration	✔ Yes	✗ No	✗ No

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

June 2020 | 3

Adapting to new challenges

An employee's productivity can grind to a standstill if they're having computer problems and your IT team can't drop by their desk to give them a hand. Whether your company has multiple offices and a mobile workforce or is pivoting in reaction to today's changing landscape, comprehensive remote desktop management can help bridge the gap.

Dell OptiPlex 7070 Micro Desktop with Intel vPro and Dell Client Command Suite

HP EliteDesk 705 G4 Mini PC with AMD PRO and AMD Management Console

Lenovo ThinkCentre M75s SFF with AMD PRO and AMD Management Console

Common grounds for remote management

These three features—all of which fall under DASH standard compliance, which we define on page 3—were the only functions we tested that we could reliably accomplish with all three solutions:

✔ Boot control: allowed us to control power over multiple systems at once

✔ Inventory: allowed us to collect inventory data

✔ Media redirection: allowed us to mount an ISO using USB redirection or out-of-band connection
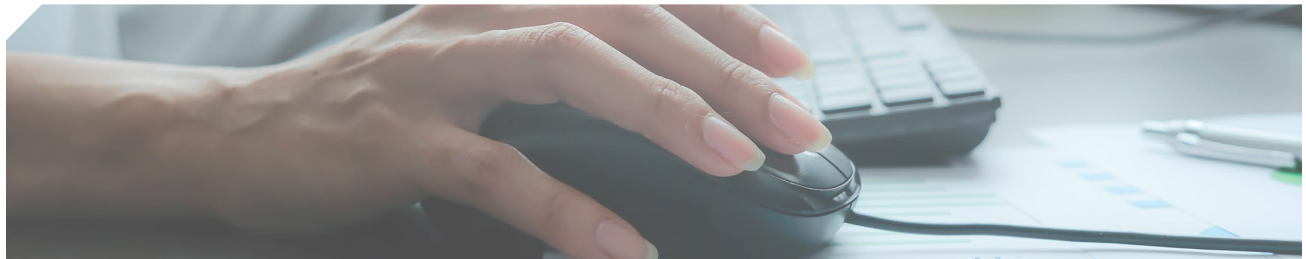
KVM control

KVM allows admins to take direct control of a problematic desktop connected to the corporate network—regardless of its OS state— through a full-color display console. This feature gives them control of the keyboard, video, and mouse on that desktop so they can see what's going on and fix it. KVM control is a feature that could save hours of administrative time by eliminating long trips to manually fix a problematic desktop.

✔ Of the three solutions we tested, only the Dell OptiPlex 7070 Micro Desktop solution offered KVM control. Intel AMT KVM also has an optional safeguard that allows admins to require that the Dell OptiPlex 7070 Micro Desktop end user enter a private PIN before anyone can take control of their system—providing an extra layer of security, which could help prevent unauthorized KVM control.

The KVM capabilities in the Lenovo ThinkCentre M75s SFF and HP EliteDesk 705 G4 Mini PC solutions we tested were limited by the desktops themselves:

✘ The Lenovo ThinkCentre M75s SFF did not support KVM at all. This means admins would not be able to make remote BIOS-level changes or remotely access other BIOS menus on the Lenovo/AMD PRO solution we tested.

✘ The HP EliteDesk 705 G4 Mini PC KVM capabilities were limited to the BIOS configuration screen. This means admins would not be able to select boot options during POST, view non-text-based images, or view other BIOS-level menus on the HP/AMD PRO solution we tested.

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

June 2020 | 4

Gaining key remote IT support tools with Dell and Intel

Every IT person understands how important routine updates are, whether they're to fix bugs, improve system responsiveness, or add security. But those updates may be pushed to the bottom of the to-do list if they take too much time or are too labor-intensive.

Remote, one-to-many BIOS settings configuration

For this task, we were able to push out a profile of BIOS changes to both Dell OptiPlex 7070 Micro Desktops at once with Intel vPro and Dell Client Command Suite. This was in stark contrast to the HP EliteDesk 705 G4 Mini PC solution we tested, where we had to push changes to each desktop individually because the AMD Management Console only allowed for a single KVM connection at a time and offered no tool for pushing BIOS changes without accessing the BIOS settings menu. The Lenovo ThinkCentre M75s SFF didn't come with KVM capabilities or the ability to push BIOS updates from a console.

**Change BIOS settings on one system
in up to 38% less time**

Save up to 47 seconds

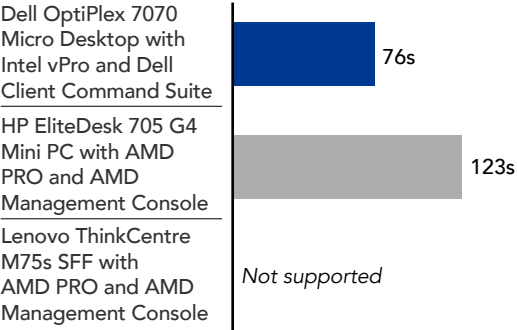|	
Dell OptiPlex 7070 Micro Desktop with Intel vPro and Dell Client Command Suite	76s
HP EliteDesk 705 G4 Mini PC with AMD PRO and AMD Management Console	123s
Lenovo ThinkCentre M75s SFF with AMD PRO and AMD Management Console	*Not supported*

Figure 1: Changing BIOS settings on one desktop. Time (sec). Lower is better. Source: Principled Technologies

**Change BIOS settings on two systems
in up to 68% less time**

Save up to 171 seconds

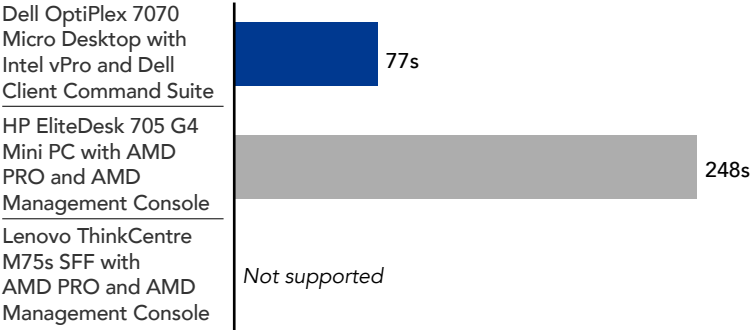|	
Dell OptiPlex 7070 Micro Desktop with Intel vPro and Dell Client Command Suite	77s
HP EliteDesk 705 G4 Mini PC with AMD PRO and AMD Management Console	248s
Lenovo ThinkCentre M75s SFF with AMD PRO and AMD Management Console	*Not supported*

Figure 2: Changing BIOS settings on two desktops. Time (sec). Lower is better. Source: Principled Technologies

For IT teams managing more than a handful of desktops remotely, pushing BIOS changes to those systems all at once instead of one at a time could make the difference between a time-consuming project and a quick update.

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

June 2020 | 5

Conclusion

We compared the remote IT support capabilities of the Dell OptiPlex 7070 Micro Desktop, powered by an Intel Core i5-9600T vPro processor and managed via the Intel vPro platform with Dell Client Command Suite to those of the HP EliteDesk 705 G4 Mini PC and the Lenovo ThinkCentre M75s SFF, both powered by AMD Ryzen 5 PRO processors and managed via the AMD PRO platform with AMD Management Console. In our hands-on tests, we found that the Dell/Intel vPro solution we tested delivered more comprehensive remote IT support capabilities than the HP/AMD PRO and Lenovo/AMD PRO solutions we tested.

1   Dell, "OptiPlex 7070 Micro Desktop," accessed May 20, 2020,
    https://www.dell.com/en-us/work/shop/desktops-all-in-one-pcs/optiplex-7070-micro-desktop/spd/optiplex-7070-micro.

2   Intel, "Intel vPro Platform: Intel Active Management Technology," accessed May 20, 2020,
    https://www.intel.com/content/www/us/en/architecture-and-technology/intel-active-management-technology.html.

3   Dell, "Dell systems management," accessed May 20, 2020,
    https://www.delltechnologies.com/en-us/endpointsecurity/manageability.htm.

4   DMTF, "Desktop and Mobile Architecture for System Hardware," accessed May 20, 2020,
    https://www.dmtf.org/standards/dash.

5   Intel Developer Zone, "Intel AMT and DMTF's DASH," accessed May 20, 2020,
    https://software.intel.com/en-us/forums/intel-business-client-software-development/topic/302979.

6   AMD Developer Central, "Tools for DMTF DASH," accessed May 20, 2020,
    https://developer.amd.com/tools-for-dmtf-dash/.

Read the science behind this report at http://facts.pt/er2o13v ▶

Principled Technologies®

Facts matter.®

This project was commissioned by Dell Technologies.

Get more comprehensive remote IT support capabilities on a Dell OptiPlex 7070 Micro Desktop equipped with an Intel Core i5-9600T vPro processor

June 2020 | 6