HP MultiSeat / MS MultiPoint Server 2011 Solution

HP MultiSeat Website

HP New T150 Client with USB Port

Microsoft MultiPoint Server 2011 TechNet Reference Guide

Microsoft MultiPoint Server 2011 Deployment Guide

Microsoft MultiPoint Server 2011 PowerPoint

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Windows MultiPoint Server 2011

Windows MultiPoint Server 2011, based on Windows Server 2008 R2 SP1, has been recently released to manufacturing. New features in Windows MultiPoint Server 2011 include:

- The ability to add connect stations and thin clients over the LAN via traditional RDP methods and Direct Video – Also wireless
- Support for RemoteFX capable thin clients
- The ability to be backed up by Windows Small Business Server Essentials 2011 (the only server SKU that allows and supports this)
- Features that allow administrators to view and interact with thumbnails of station desktops, including
  - Projecting a single station's desktop to one or all stations
  - Locking the keyboard and mouse of station and displaying a message
  - Remotely opening and/or closing applications
  - Restricting internet browsing to a specific list of sites or blocking browsing to a specific list of sites
- Management of multiple WMS servers and station pods from within a single administration console
- Support for running Windows MultiPoint Server within a virtual machine
- Split-station viewing – Use 2 sessions on one wide screen monitor

In addition, Windows MultiPoint Server 2011 has both Standard and Premium editions. The following table compares the two editions' differences; they share all other features equally.

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Premium</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum simultaneous stations</td>
<td>10</td>
<td>20</td>
<td>Hardware limits still apply and Client Access Licenses are required (see below)</td>
</tr>
<tr>
<td>(licensing limit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Random access memory</td>
<td>8 GB</td>
<td>32 GB</td>
<td>Motherboard limitations still apply</td>
</tr>
<tr>
<td>Supported processor sockets</td>
<td>1</td>
<td>2</td>
<td>Only x86-64 sockets are supported.</td>
</tr>
<tr>
<td>Domain join</td>
<td>No</td>
<td>Yes</td>
<td>See also: Active Directory</td>
</tr>
<tr>
<td>Hyper-V support</td>
<td>No</td>
<td>Yes</td>
<td>&quot;1 on 1&quot; licensing model for the Premium edition.</td>
</tr>
<tr>
<td>Licensing</td>
<td>1 OS license per WMS instance, 1 WMS 2011 CAL per station, and for copies purchased through Volume Licensing, 1 Windows Server 2008 CAL per station as well.</td>
<td>All licenses are sold either via OEMs or Volume Licensing.</td>
<td></td>
</tr>
</tbody>
</table>


Hey folks, this is Dean, posting from TechEd 2011.

A couple folks have asked about the minimum hardware requirements for Multipoint. You can find that info and more in the Windows MultiPoint Server 2011 Planning Guide.

Relevant content copied here:

Table 1: Minimum recommended hardware.

<table>
<thead>
<tr>
<th>Application scenario</th>
<th>Up to 4 stations</th>
<th>5-6 stations</th>
<th>7-10 stations</th>
<th>11-14 stations</th>
<th>15-20 stations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office, Web</td>
<td>CPU: 2C</td>
<td>CPU: 2C</td>
<td>CPU: 4C</td>
<td>CPU: 4C</td>
<td>CPU: 4C+MT or 6C</td>
</tr>
<tr>
<td>browsing, line-of-business applications</td>
<td>RAM: 2GB</td>
<td>RAM: 4GB</td>
<td>RAM: 6GB</td>
<td>RAM: 8GB</td>
<td>RAM: 8 GB</td>
</tr>
</tbody>
</table>

| **Mixed**            |                  |              |               |                |                |
| Productivity plus:   | CPU: 2C         | CPU: 2C      | CPU: 4C       | CPU: 4C+MT or 6C |
| Occasional video     | RAM: 2GB        | RAM: 4GB     | RAM: 6GB      | RAM: 8GB       | RAM: 8 GB     |
| use by some users    |                  |              |               |                |                |

| **Video intensive**  |                  |              |               |                |                |
| Productivity plus:   | CPU: 2C         | CPU: 4C      | CPU: 4C+MT or 6C |
| Frequent video use   | RAM: 2GB        | RAM: 4GB     | RAM: 6GB      | RAM: 8GB       | RAM: 8 GB     |
| by all users         |                  |              |               |                |                |

Notes

1 2C = 2 cores, 4C = 4 cores, 6C = 6 cores, MT = Multi-threading. Processor speed should be at least 2.0 gigahertz (GHz).

2 Video testing was performed using 360p H.264 video at its native resolution.

3 RemoteFX, or equivalent technology for RDP, is required when 15 – 20 remotely connected thin clients running full motion video within their session. For more information about hardware requirements for RemoteFX, see [Hardware Considerations for RemoteFX](http://go.microsoft.com/fwlink/?LinkId=211310).

These are the basic requirements for MultiPoint Server. Actual requirements will vary based on your system configuration, the programs and features that you decide to install, the number of users and how the system is used. The actual configuration sizing depends on the workload you are running and the hardware capability. You should always validate the sizing using your own applications and hardware.
Getting personal computers into schools can transform education, from teaching information literacy, to augmenting classroom instruction, to giving students a foundation for lifelong success in a global, knowledge-based economy. Educators all over the world are looking for ways to incorporate technology into the classroom so that their students learn these vital skills. But in many schools, the high cost of technology, coupled with budget constraints, can limit student access to the latest technology.

Windows® MultiPoint Server™ 2011 can reduce the total cost of educational computing by 66%, compared to traditional a 1:1 computing environment. By allowing multiple users to simultaneously share one computer—each with his or her own independent Windows experience—educational institutions can afford to give every student individual access to PCs. And that means schools around the world can boost achievement and global competitiveness.

More computing at a lower cost
Many schools have limited budgets and can’t afford as many computers as they’d like. Others may have computers, but don’t have the IT resources to make sure everything is running smoothly. Windows MultiPoint Server 2011 makes it cost-effective and simple to give more students access to technology. Multiple stations can be powered by a single host computer. Schools can put more technology into classrooms, computer labs and libraries at a lower initial cost and with fewer separate computers for IT staff to maintain.

Reduced energy consumption
Some schools have limited power capacity or higher power costs. Others simply want to be more environmentally-conscious. With Windows MultiPoint Server 2011, energy consumption and associated costs can be lower because you’re only powering one computer and its associated stations rather multiple computers. Customers in Haiti** and Africa are reporting energy saving from 67-80%.

Easy to scale
Windows MultiPoint Server 2011 gives you the flexibility to purchase the right amount of computing for your needs. For instance, you may decide to add a Windows MultiPoint Server 2011 setup to each classroom with one station for each student. If another student joins the class, it’s simple to add another station. And if you already have monitors, mice, and keyboards, you can use them as part of your solution so that the money you’ve already invested won’t go to waste.

The latest Windows experience
With Windows MultiPoint Server 2011, you’ll get the familiar Windows environment that students and teachers expect and already know how to use. Its interface is based on Windows® 7, so you’ll be able to use familiar features like Windows® Internet Explorer®, Windows® Search, and Windows Media® Player as well as exciting new features like Jump Lists. As a result, teachers and students will spend less time having to learn new technology and navigating different user interfaces—and more time on what counts: teaching and learning.

Simple set up and management
Windows MultiPoint Server 2011 is easy to set up and start using right away because it offers flexible configuration options. You can connect workstations directly to the host computer by using USB or video card solutions, or connect them through the school’s local area network (LAN). You can even use a hybrid of both connection methods. Then, you can connect keyboards and mice at each station either using USB or a wireless connection.
Top 10 things you can do with Windows MultiPoint Server 2011 in the classroom

1. Give each student their own computing experience
   With Windows® MultiPoint™ Server 2011, students feel like they have their own computer instead of having to share one with other students. That's because each user station accesses the host computer’s processing capabilities, but gives students their own monitor, keyboard, and mouse, and independent Windows® 7 computing experience.

2. Provide every student their own account
   You can easily create an account for each student. With individual accounts, each student can set their own favorites in Windows® Internet Explorer®, customize desktop backgrounds, set up their own desktop icons, customize the Start menu, and more. Plus, it doesn’t matter which user station students log in to—they can always save and access their individual settings and work.

3. Easily manage student accounts
   MultiPoint Manager, an intuitive user interface, makes it simple to manage student accounts. You can easily delete an account, create a new one, or change a password from one convenient location. You can even set up generic or class specific accounts that anyone can use when you don’t want to manage many different individual student accounts.

4. Monitor and control the student experience
   You retain control over what your students are doing—and make sure they stay on track. When you want to see what your students are doing, you can view thumbnails or a full view of each monitor. When you want students to pay attention, you can block all activity at each station. You can even open and close applications and links on all stations and restrict internet access to specific sites.

5. Easily share desktops, files, videos, and more
   Want to showcase how something needs to be done or highlight a great student example? You can broadcast you or your students’ station view to the entire class so everyone sees the same thing. You can also share files and videos with students, making it easier for them to collaborate on a project. Simply drag and drop content from your Documents Library to the Public Documents folder. The content will automatically appear in everyone’s Document Library.
6. Let students save private data
   Some files should be public so everyone can access them—and some files
   should be private so only certain people can view their contents. With
   Windows MultiPoint Server 2011, students can save files in their own
   private folders, so only they and the teacher can access them. And if they’re
   working on personal files that they don’t want to share with anyone, they
   can save them to their own USB drive plugged in to the USB hub at their
   station. Then, if they want to share the content on their USB drive with the
   class, all they need to do is plug it into the host station hub.

7. Watch videos or listen to music and podcasts
   without disturbing everyone else
   With Windows MultiPoint Server 2011, you can plug in a headset or
   microphone at each station. Then students can enjoy a multimedia
   experience without worrying about disrupting other peoples’ work.

8. Allow students to work and learn in
   multiple languages
   With Windows MultiPoint Server 2011, you can download up to 36
   Windows MultiPoint Server Language Packs onto the host computer that
   students can access. Best yet, students can work in different languages
   simultaneously, which gives you even more flexibility when it comes to
   scheduling learning activities.

9. Install an application once and see it appear
   automatically on all user stations
   Whether you want to use Microsoft® Office programs or compatible
   educational applications, Windows MultiPoint Server 2011 makes it
   simple to install software. Just install your program a single time on
   the host computer and it will be ready to use on each user station.*

10. Pause your work with the “Disconnect” feature,
    saving you and your students’ time
    With the Disconnect feature, students can save their working sessions
    without logging off, yet still free up the user station for someone else. Let’s
    say a student has multiple Internet Explorer tabs open for research along
    with Microsoft® Office Word. If they don’t want to lose their working session
    just because they’re going to lunch, they can use the Disconnect feature
    instead of logging off. When they reconnects later—at any connected user
    station, everything appears on their desktop just the way they left it. If
    your students forget to disconnect, you can do it for them from the host
    computer or any user station.

“One of the greatest advantages and one of the things I hear most from teachers is the ability
to direct their students, to keep them on task, on focus, especially when they’re in a computer lab
or sitting in a computer pod.

With Windows MultiPoint Server they can actually decide where the kids can go. They can
build a list of sites that they want the kids to visit or explicit sites that they don’t want the
kids to visit. They can freeze their work stations. They can lock their work stations. They can
send them a message saying, ‘hey, get back on task.’ The teachers are just loving it”.
—David Moon, IT Director, Sultan School District

* Applications do not come preinstalled with Windows MultiPoint Server 2011. You will need to check with individual software manufacturers to ensure proper licensing
   in a shared computing environment.

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A better teaching and learning experience

With Windows MultiPoint Server 2011, all students get their own independent computing experiences—just like having their own PC. At the same time, teachers can be more effective and active in leading classroom activities and work. Windows MultiPoint Server 2011 enables teachers to:

• **Provide every student their own account.** Teachers can easily create an account for each student from the host computer. With individual accounts, students can set their own favorites in Internet Explorer, customize desktop backgrounds, set up their own desktop icons, customize the Start menu, and more.

• **Easily manage student accounts.** MultiPoint Manager makes it simple to manage student accounts. Teachers can easily delete an account, create a new one, or change a password from one convenient location. They can also see how many stations are being used, which student is using which system, and check to see whether hardware is connected properly.

• **Monitor and orchestrate the student experience.** Teachers can easily control and monitor their students’ productivity. For instance, thumbnail views in MultiPoint Manager give them an instant view of each student’s desktop. To get a closer look, they can zoom in on an individual student’s desktop. If they want everyone to see what’s on a desktop—their own or a student’s—they can broadcast it to the entire class. Teachers can also block all station activity when they want students to pay attention to them, open and close applications, and restrict internet access to specific web sites relevant to the particular lesson.

• **Broadcast files, videos, and more.** When teachers want to share a file or video with students, they can save the file in a shared folder—or they can broadcast them to everyone’s desktop. If students are working at different levels, they can assign and distribute files based on individual level or need.

• **Install an application once and see it appear automatically on all user stations.** Whether a school wants to use Microsoft Office programs or compatible educational applications, Windows MultiPoint Server 2011 makes it simple to install software. A program just needs to be installed on the host computer once and it will be ready to use on each user station.***

**Licensing and support**

Windows MultiPoint Server 2011 is simple and cost-effective to license—all you need is Windows MultiPoint Server 2011 for the host computer and a single Windows MultiPoint Server 2011 Client Access License (CAL) for each user station.**** Support can be obtained through Microsoft’s authorized partners or directly from Microsoft. And you can get the latest security enhancements, such as updates and patches that you can automatically or selectively install.

**Learn more today!**

To learn more about Windows MultiPoint Server 2011, please visit: www.microsoft.com/multipointserver.

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*Gartner, September 2010.

**Microsoft, 2011.

***Applications do not come preinstalled with Windows MultiPoint Server 2011. You will need to check with individual software manufacturers to ensure proper licensing in a shared computing environment.

****Under Microsoft Volume Licensing Academic Programs, Windows MultiPoint Server 2011 Academic is required on the host computer and both a Windows Server CAL and Windows MultiPoint 2011 CAL are required for each user station.

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“The world of technology has opened up so many avenues. I don’t think we would be responsible public educators to not be moving down that path in a manageable way so that our students have access to the broad and changing world.

MultiPoint Server has had a real positive impact on our technology vision, working as the hard drive that is operating anywhere from six to seven computers and giving the kids the same instructional experience, the learning experience that they once had from an individual machine. So from a cost standpoint, it’s been just phenomenal.”

—Dan Chaplick, Superintendent, Sultan School District
Top 5 things you can do with Windows MultiPoint Server 2011 in the IT department

1. Maximize your technology investments and reduce upfront costs.
   Windows® MultiPoint™ Server 2011 gives you a way to tap into the unused processing power of a single PC to give multiple users their own computing experience. Because you can reuse older hardware, you can reduce hardware acquisition costs by 35 to 50 percent—all while giving your users the most current Windows® 7 experience. You can even use large screen monitors and split screens between users.

2. Reduce energy costs and consumption.
   Because you’re only powering one computer for multiple users, Windows MultiPoint Server 2011 can help you reduce your energy consumption. Many schools have saved up to 90 percent in their power costs. In addition, you won’t need as many drops.

3. Provide broad client support.
   With Windows MultiPoint Server 2011, you can connect in multiple ways and support different clients. For instance, you can connect workstations directly to the host computer by using USB or video card, or connect PCs, thin clients, network monitors, and more through your local area network (LAN). You can even use a hybrid of both. And if you choose the LAN option, Remote FX supercharges high-definition video. Finally, you can connect keyboards and mice at each station either using USB or a wireless connection.

4. Get simple setup and management.
   With Windows MultiPoint Server 2011, you’ll have fewer hosts to maintain, and those that remain can be managed from the single MultiPoint Manager console. In addition, administrators can log on to all stations at one time with auto-logon, use existing Windows Group Policies, and provide on-site or remote assistance when teachers or staff need additional help. Windows MultiPoint Server 2011 also lets you run some educational and testing applications and programs that may require unique IP addresses.

5. Use Microsoft Windows® Update for updates and patches.
   You can get automatic access to updates and patches through Windows® Update so you can be confident that your computing systems are up to date. In addition, support is available from Microsoft or our authorized partners—even remote assistance if teachers need help.

“We saved $70,000 on hardware by purchasing Multipoint Server instead of individual Desktops. We saved $60,000 on network switches due to the reduced amount of ports that we needed, and we saved about $5000 on networking cabling which is about a total of $135,000 savings.”

—Jason Golec, Manager of Network Operations, Bellevue School District