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- » Gaining a general understanding of a cloud-based PC
- » Exploring how Windows 365 is the future of Windows
- » Finding answers to common questions that arise as Windows moves into the future

Chapter **1**

Getting Familiar with the Future of Windows

The concept of a cloud-based PC is not an easy one to get your head around. Until recently, a computer was a physical device that sat on your desk, or perhaps on your lap, or in your pocket. How can Microsoft move that physical computer into the cloud? Keep reading to find out!

In this chapter, you get familiar with the future of Windows and the ways Microsoft is moving the PC into the cloud. We explore the concepts behind Windows 365 and walk through new terminology you will need when thinking and talking about the new Windows. Finally, because this is a brand new way of thinking about a PC, we dig into some of the common questions that we had, and that most people have, when learning about Windows 365 for the first time.

Meeting the Cloud PC

We remember when we bought our first computer. It was a long time ago, and it was a beautiful machine. It had a proud place sitting right on our main desk and we used it frequently. That was decades ago, but over the years not much has changed with the ways we bought and used our PCs. Until now!

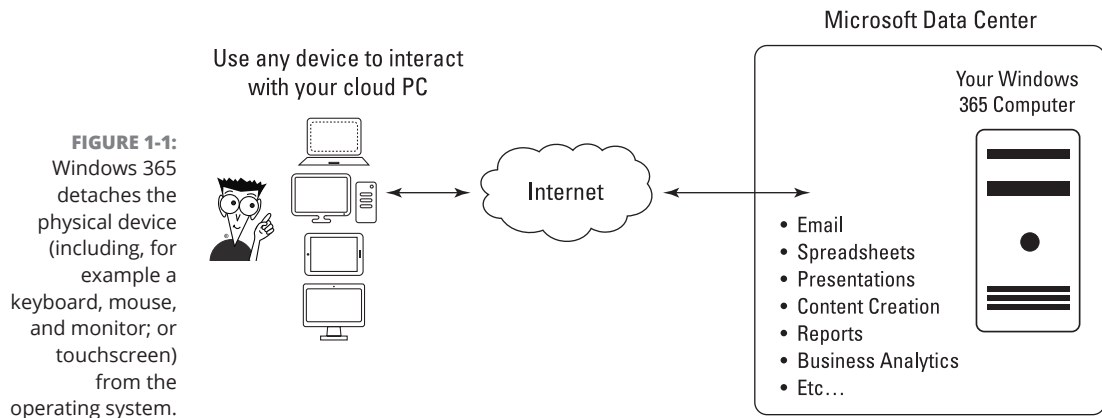
Microsoft has moved the PC into the cloud with Windows 365. When we first heard about the concept, we had to scratch our heads. How could it be possible? A PC is something you sit down in front of and type and work on. Unless there is a way to plug our brains into the virtual world (did someone say metaverse?) then a PC will always be a physical thing, right? Well, this is where Windows 365 changes the equation.



TIP

Windows 365 is a cloud-based PC, and you interact with it using any physical device you choose.

Yes, for the time being, using a computer will still require you to interact with a physical object, such as a keyboard, mouse, and monitor. What Windows 365 does is detach the keyboard, mouse, and monitor you are physically using from your cloud PC computer. Because the cloud PC is running in a Microsoft data center, you can use any other device to connect to it and use it. All you need is an Internet connection and a physical device you can interact with. In other words, the physical device becomes a simple bridge to work on your cloud PC. Most any physical device will do the job, because your physical computer becomes a “dumb” computer. All the really wonderful things you do for work still live on your Windows 365 computer, as illustrated in Figure 1-1. We cover the requirements of the physical device you use and the Internet connection required to access your cloud PC in Chapter 16.



You may find yourself asking, what is a cloud PC good for? What is it not so good for? A cloud PC is great for companies that are remote or hybrid. This is because the cloud PC can be centralized for your organization and remote workers connect to it just like they would come into an office and turn on their desktop computer. As an organization, you can think of all of the cloud PCs as being “inside” your organization. You control them, and remote users connect to them to get work

done. The actual cloud PC never “leaves” your organization, though. If someone exits your organization, they simply stop logging in and you retain all information, content, and work that was performed on the cloud PC. Where cloud PCs are not so good is when people in your organization don’t have a stable and reliable Internet connection. The cloud PC is streamed over the Internet, and if you don’t have a solid Internet connection then a cloud PC will not work.



TIP

Think of your cloud PC as nearly identical to the physical computer you have at home, or in your office, running Windows. Any software you would install on your physical computer running Windows you can also install on your cloud PC running Windows 365. Of course, you still need to keep in mind the requirements for the software such as memory and disk space. Just like your physical computer, your cloud PC has a set amount of memory and disk space. We cover how to select the amount of memory and disk space in Chapter 2.

No, really, what is Windows 365?

To understand what Microsoft is doing with Windows, all you have to do is look back a decade or so ago at what they did with Office. You remember Office, right? Office programs like Word, Excel, and PowerPoint have been around for ages.

It used to be that Microsoft would release a new version of Office every few years. You would buy it and install it on your computer and hope you would remember to make backups frequently and keep your files secure. Then Microsoft moved to a new cloud-based model offered as a subscription called Office 365. With Office 365, you sign up and you always have the latest Office programs. You don’t have to wait for the next version of Office to come out in order to get the new features. With Office 365 you get them right away, as they are released. And because these programs are cloud-based, your files are saved to the cloud and automatically backed up and secured for you. We must admit that over the last decade, Office 365 has saved our files from some computer crashes and mishaps on multiple occasions.

Microsoft is starting the same journey with Windows as they did with Office. The success of Office 365 led Microsoft to do the same thing with Windows. In particular, Windows 365 is a subscription based offering that is constantly improved with new features and updated. By adopting the “365” model and moving the PC to the cloud, Microsoft makes Windows a cloud based operating system. This is important because it removes the friction and burden of managing your own physical computer. In a way, when you use a cloud PC you are offloading to Microsoft the burden of running a computer.

You don’t have to look further than the 365 in the name to figure it out. And as you can probably guess, using the number 365 is a standard for Microsoft moving

forward. You know, because there are 365 days in a year, and you can get new features on any of those days instead of just on a particular day every few years. Figure 1-2 illustrates how Microsoft is doing with Windows what they did with Office.

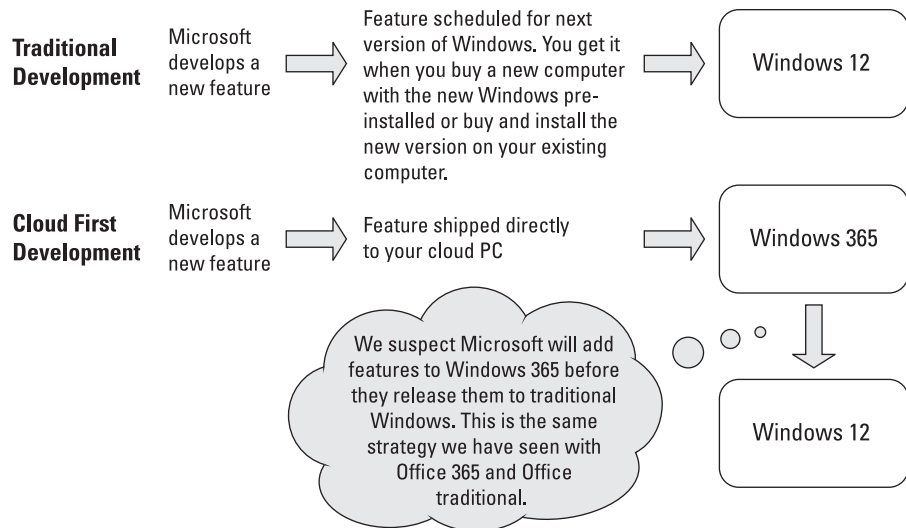


FIGURE 1-2: Windows is following the same journey as Office.



TIP

Parts of Office 365 have recently been renamed to Microsoft 365. You will still find Office 365 for enterprises but for small business and personal use you will see the branding as Microsoft 365. With Microsoft 365, you still get Office, and Microsoft has bundled a number of other things into the subscription as well. For larger enterprises, you will still see the branding as Office 365.

Looking at a real-world example

To get a better understanding of why Microsoft is on this 365 cloud journey, let's look at a real-world example. As we write this book, we type on many different physical computers. We use our laptops when we are out, in coffee shops, hotels, and elsewhere (hopefully more often as the pandemic fades), and we use a desktop computer both at home and in the office. Office 365 lets us do this because we have the Office programs installed on all of our devices, and our files are saved in the cloud. This works great for the work we do in Office, but what about all the other programs we use at work?



REMEMBER

We cover signing up and getting started with Windows 365 in Chapter 2. We cover using Office 365 with Windows 365 in Chapter 9.



TIP

Office 365 moves your apps and files to the cloud so you can work on them from any device as long as you have the Office app installed on that device. Windows 365 moves your entire PC and all of the programs installed on it to the cloud so that you can work on from any device.

On our work computers, we have all sorts of programs. When we need to get work done with those programs, we wait until we are sitting at our work computers. This is where Windows 365 comes into play. Windows 365 takes your entire computer and moves it to the cloud so you can connect to it using any computer or device. We no longer have to wait until we get to the office to work on our computer there. It is always available to us wherever we are in the world and on whatever physical device we happen to be using at the time.



TIP

To make the point, though we don't recommend it, you could even chuck your physical computer in the ocean and a minute later pick up another physical computer and continue working on your cloud PC just like nothing ever happened. With Windows 365, your PC becomes detached from the physical world. Have you seen the new *Matrix* movie? Maybe your Windows 365 computer is inside the Matrix — though we aren't sure we want to jack in using a spike in the back of our heads just yet.

Always on, always available, and just how you left it

Your Windows 365 computer stays the same regardless of how you connect to it. For example, you might connect to it from bed in the morning using your Google Chromebook, then move down to your home office using your Mac for breakfast, and then using your Linux laptop on your commute, and finally a Windows desktop computer in your office.

Even though you are moving between physical computers, you are always connecting to the same Windows 365 computer, as shown in Figure 1-3. If you are like us — not good at keeping your computer tidy — and you leave some windows open and some files saved to the desktop of your computer, they will still be in the exact same location when you open your cloud PC from another physical computer.

Your Windows 365 computer has all of your programs installed on it, and when you disconnect it from one physical computer and reconnect it to another, your cloud PC computer is in the exact same state you left it. Did you save a document to your desktop? It will still be there. Did you leave your email program open along with a spreadsheet you were working on? You will find them exactly as you left them.

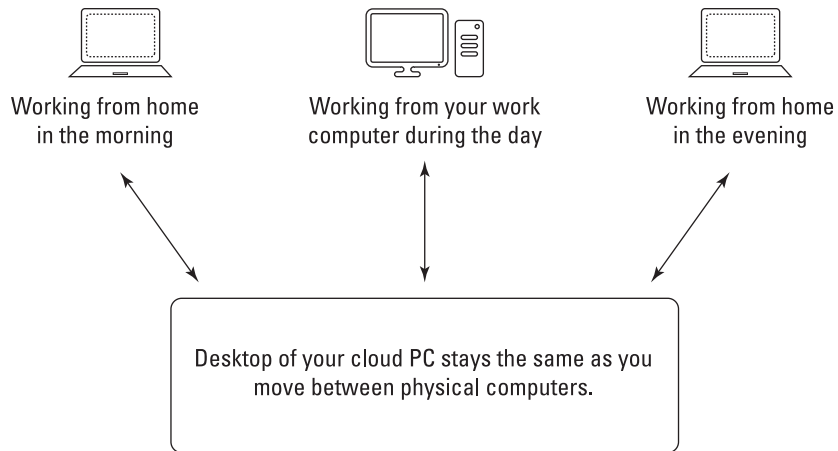


FIGURE 1-3: Your cloud PC always stays the same as you move between physical computers.

One of the best things we have found is that you, or your IT team, only have to install your software on a single computer (your cloud PC computer). Your other computers act as a view port into your cloud PC. In other words, your physical computers can come and go but your cloud PC will be there forever.



TIP

Windows 365 provides you a computer in Microsoft's data center that you connect to from any other computer. And the best part is that Microsoft keeps it up to date, secure, and free of viruses for you automatically. The IT team doesn't have to worry about managing your computer for you. Microsoft does it for them. (We cover security with your Windows 365 computer in Chapter 13.)

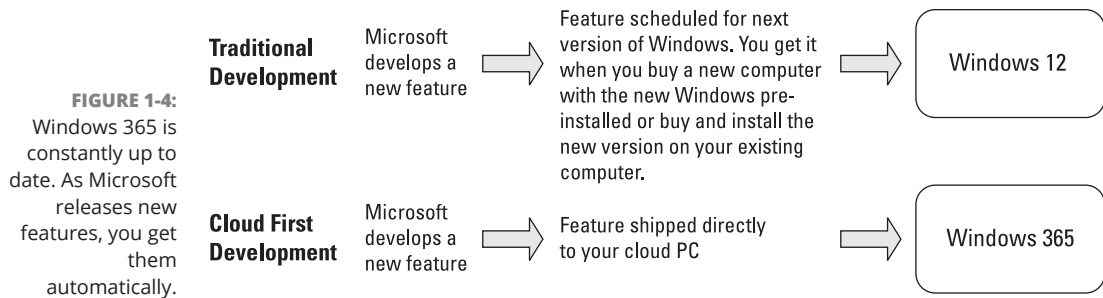
How Windows 365 Differs from Previous Windows

If you are like us, then you remember your computer running DOS. And then the world changed and a graphical interface in the form of Windows and Macintosh blew our minds. Since the change from text-based to windows-based interactions, there hasn't been a lot more change. Yes, most people moved to using their phones instead of a desktop or laptop computer, but the concepts there are still the same. And for work, most people still use a desktop or laptop computer. Microsoft is changing this paradigm by introducing Windows 365. With Windows 365, you have a single computer that doesn't change and that stays with you, by your side, fighting the good fight. Okay, maybe we got a little bit carried away there. But you get the point.

Jumping off the upgrade merry-go-round

Every few years we all have to buy a new computer that has the latest specifications, the latest operating system, and can run the latest software. We then have to go through the process of installing all of our software again. Looking back on how many times we have been through this cycle, we feel like a hamster on a wheel. The wheel keeps spinning into the future, and the view never changes.

Let's take a look at how Microsoft currently develops features for Windows and how they will do it in the future. In the past, Microsoft would develop features for Windows and then at some point a release would be announced and everyone could go buy that release. For example, right now Windows 11 is out and the next version will likely be Windows 12. Windows 365 changes this model because the operating system is in the cloud and Microsoft can make updates to it automatically. Figure 1-4 illustrates the point.



TIP

As a common practice, hardware is often refreshed every few years. The new hardware will include the latest version of the Windows operating system. Or, your business might buy upgraded hardware and then buy the latest version of Windows separately and install it on your computer. Windows 365 charges a monthly subscription and your cloud PC is always updated to the latest and greatest automatically. Behind the scenes, Microsoft takes care of upgrading any actual hardware such as memory and storage for you. You don't have to keep up with the latest hardware, you just use your cloud PC. You might want to buy a new computer but it won't be a requirement in order to stay up to date with the latest hardware for your cloud PC. Your cloud PC will work fine with hardware you wouldn't have dreamed of using in the past.

Earlier in this chapter we discuss Office 365, and we think this is worth repeating: Microsoft is doing the same thing with Windows that it did with Office. You used to buy a new version of Office every few years. Then Microsoft moved Office to the cloud with Office 365, and you now buy it with a monthly subscription so you always have the latest and greatest Office.

UPDATING YOUR CAR WITH THE CLOUD

Microsoft is not the only company incorporating instant updates to their products. You might think of a car as something you buy and then it stays the same until you buy another car. Tesla changed this model by providing Over-The-Air (OTA) updates.

When you buy a Tesla, you obviously are buying the car. However, you are also buying updates that Tesla provides to your car wirelessly. You might go to sleep at night with one version of the Tesla car and wake up in the morning with the new version.

Other car companies have quickly followed suit, and by doing so, the car industry has shifted customer expectations and experiences dramatically.

With Office 365, you get the latest features as they are released (seemingly daily) instead of waiting a few years in between releases. Windows will follow the same model with new Windows features that are released to Windows 365 first and then eventually released as the “latest” version of Windows at the next major release date.



TIP

Although Microsoft keeps your cloud PC updated to the latest version, you still need to do some things to stay up to date with the rest of your software. We cover keeping things up to date in Chapter 13.

Keeping your knowledge and moving to the cloud

One major concern we often hear about is the cost and pain of learning new things. Learning new software is painful, but learning a new operating system can be unbearable! There is good news on this front, Windows 365 is not much of a change (yet). All it does is take us off the hamster wheel of computer upgrades and reinstalls. Microsoft does all of that for you with your Windows 365 computer. You just use it to get your work done.



TIP

Your Windows 365 computer is always up to date. Microsoft takes care of the security updates for you automatically so you don't have to worry about it. In short, you always have the latest and greatest without having to lift a finger.

Windows 365 is brand new and, as of right now, it is nearly the same Windows that you would get if you went to a store and purchased a physical computer. It runs Windows 11 but in a more streamlined and degunked way, which is built and optimized for the cloud. So when it comes to learning a new operating system, you

can take comfort in the fact that you won't have to if you switch to Windows 365. If you are already familiar with Windows, then you are already familiar with Windows 365. We like to think of this as easily packing our long-term Windows knowledge in a suitcase and taking it with us on our journey to the cloud, as shown in Figure 1-5.

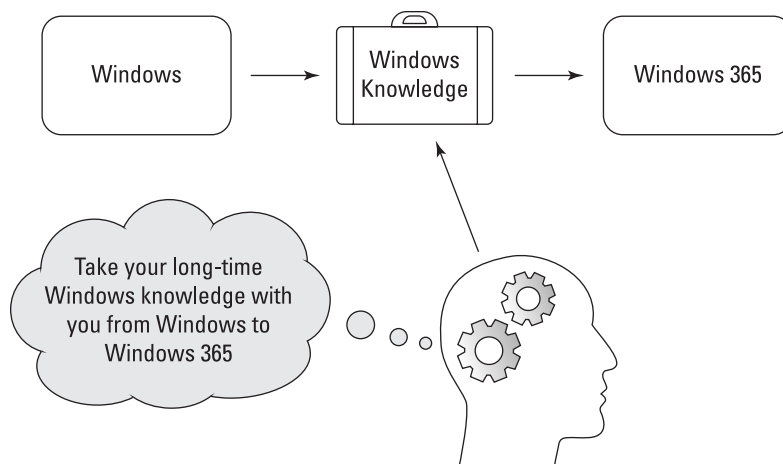


FIGURE 1-5: All of the knowledge you have in working with Windows directly relates to Windows 365.



TIP

As of 2022, Windows 365 is available only for business and enterprise. We expect a couple of things to happen in the future. The first is that Microsoft will extend the offering for home users, too. Technically, anyone can sign up for a Microsoft 365 business license and get Windows 365. At this point, the features are geared toward businesses (and maybe power home users). We expect home versions in the future will focus on features that make sense for home use. The second thing we expect to happen is that Windows 365 will start to have new features that are available only in Windows 365, cloud-enabled features that focus on the benefits only a cloud-based PC can offer.

Building a Mental Model of a Cloud PC

When we started using Windows 365, we liked to think that Microsoft bought us a physical computer and set it up for us and tucked it into their data center. We imagined that computer on a nice pedestal with a great view of Mt. Rainier. This is a great way to envision how Windows 365 works, but it is not accurate. Windows 365 is a virtual computer. In reality, there are a number of major servers all connected together in a data center, and our Windows 365 computer is run on that server hardware.

Our cloud PC computer is not self-contained in the same way we think of a computer on our desk. This has some major advantages, though. For example, imagine we want to upgrade our computer so it has more memory or a bigger hard disk. With a physical computer, we need to buy the upgraded equipment, open our computer, remove the old and install the new. Not complicated, but a pain. With Windows 365, we can upgrade the specifications (think memory and storage space) of our computer with the click of a few buttons on an administration page. (We cover upgrading the specifications for a Windows 365 computer in Chapter 18.)

Freeing up Administrators and Information Technology Teams

Every business needs technical experts and administrators to keep all the computers running and the lights blinking green. Much of this work involves installing new versions of software and keeping it up-to-date and secure. This work can be mundane and time-consuming. Windows 365 shifts this work to Microsoft and frees up the valuable tech experts for other, more important tasks that have a higher business impact (such as optimizing the key business systems). In other words, the experts don't have to run around managing the mundane tasks of administering the operating systems on local computers.

As you may have guessed, we love to build analogies to get across a concept. With Windows 365, we like to think of power plants and power systems. In the old days, power was produced on-site by horses or water or countless other mechanisms. Each of these mechanisms had experts in that area. The experts might be focused on training the horses or optimizing the water wheel. As power evolved and power plants came online, the experts could focus on more important tasks that directly related to whatever the business was trying to achieve. The power necessary to run machines became a given, and no business effort was required to achieve it (except for paying the electric bill). When this happened, the expertise in the company could be shifted. In other words, the value of those experts transformed with the result being a massively greater business impact.

We see the same thing happening with Windows 365. Rather than keeping all the individual computers blinking green, the technical experts in a business can focus on other more important things with the end result being more value (and higher pay).



TIP

The administrative interface for setting up a new Windows 365 computer is very straightforward. You don't need a vast level of technical expertise to do it. Looking back again at Office as an example, it used to require expertise to get Office installed and available to everyone in a business. Now, a technically savvy office administrator can do it. (We cover signing up for Windows 365 in Chapter 2 and administrative tasks in Chapter 18.)

Getting Comfortable with Microsoft Branding

When we say *cloud PC*, we are referring to your Windows 365 computer. However, competitors to Windows 365 also offer similar functionality. For example, you can get a cloud PC from <https://www.parallels.com> too, a direct competitor to Microsoft's Windows 365. Parallels refers to their offering as a hosted virtual desktop. A hosted virtual desktop and a cloud PC are two ways of describing the same thing. A cloud PC is just a computer you access through the Internet (the cloud). In reality that "PC" is running on a computer in a data center somewhere in the world. Because we don't know where that data center is, we just refer to it as "out there" in the "cloud."

One nice thing about a giant company like Microsoft is that they are predictable. Several years ago, Microsoft moved Office to the cloud and called it Office 365. Now Microsoft is moving Windows to the cloud and calling it Windows 365.



TIP

Office 365 and Microsoft 365 can be confusing branding terms. Originally, when Microsoft moved Office to the cloud they called it Office 365. A couple of years ago they added in more software and rebranded some of the subscriptions to Microsoft 365. At the same time, you can still buy Office 365 subscriptions that are geared towards large enterprises. In a general sense, it is safe to use the branding terms Office 365 and Microsoft 365 interchangeably. If you are interested in the differences between Office 365 and Microsoft 365, check out: <https://www.microsoft.com/en-us/microsoft-365/enterprise/compare-microsoft-365-and-office-365>.

If we want to look at the future of Windows 365, all we have to do is look at what Microsoft has already done with Office 365. Office moved from software you install every few years to a continually developed application that is updated constantly and paid for with a subscription. Windows is now taking the same journey, and with Windows, the journey is just getting started.

Questions (and Answers) Likely on Your Mind

What is Windows 365? Windows 365 is a cloud PC. You can think of it as a computer that Microsoft buys, sets up, and manages for you and that you access from any physical device, anywhere in the world.

How is Windows 365 different from Windows 10 or Windows 11? Windows 365 is a computer that is running in a Microsoft data center somewhere. In other words, in the cloud. The computer is running the latest version of Windows. As of this writing, the latest version of Windows is Windows 11. So if you signed up today, you would get Windows 11 on your cloud PC. We expect that in the future Microsoft will develop features that are only available in Windows 365, but for now you can think of Windows 11 and the Windows you use in Windows 365 as nearly identical.

Can I run Windows 365 on my three-year-old PC? Yes! The nice thing with Windows 365 is that it runs in the cloud and you access it using any physical computer you want. We cover requirements in Chapter 15; however, in a nutshell, just about any physical computer can be used to access your Windows 365 cloud PC. Your physical computer becomes a dumb computer and is just used so you have something physical to type on and interact with in the physical world. This concept will become clearer in Chapter 2 where you get up and running with a Windows 365 cloud PC.

How do I pay for Windows 365? You pay monthly on a subscription basis and have a constantly up-to-date computer. In essence, your Windows 365 cloud PC is born and never dies — until you cancel your subscription, that is.

How fast is my Windows 365 computer? Your Windows 365 cloud PC computer is networked at 10 Gigabits per second (Gb/s). That is 10 billion bits per second, which is screaming fast and is as fast as almost any Internet connection available. As for performance for things like memory, CPU, and disk space, you decide what you want, and you can change it any time with a few clicks of your mouse. We cover choosing a Windows 365 computer in Chapter 2 and cover administration and how to upgrade in Chapter 18.

What is Azure Virtual Desktop and how is it different from Windows 365? On the surface, Azure Virtual Desktop and Windows 365 seem nearly identical. The difference is that Azure is a virtual machine you control completely. You have to keep your Azure virtual computer updated yourself. You manage it. Windows 365 is managed by Microsoft and kept up to date by Microsoft.

What is the difference between Windows 365 and Microsoft 365? Windows 365 is the brand name for Microsoft's new cloud PC offering. As we covered previously, Microsoft moved Office to a cloud-based offering and rebranded it as Office 365 and then rebranded that to Microsoft 365. Now Microsoft is moving Windows to the cloud and branding it Windows 365.

Is this concept of using a computer in the cloud something new? No, the concept of a computer that you access remotely has been around for ages. In fact, the first computers used the same concept. The computer was as big as a room and people would access it using a dumb terminal. When personal computers burst onto the scene, the operating system shifted and became local to the personal computer. Now Microsoft is shifting again and moving the operating system to the cloud, and your personal computer becomes a dumb terminal, and your main computer is in the cloud. The same concept is often used in other operating systems, such as Linux. You can connect to a Linux server using just about any device and work on it. However, Windows 365 is the first time Microsoft is offering a cloud PC that is based on their Windows operating system.



TIP

Because Windows 365 is a new concept, Microsoft is constantly adding to a frequently asked questions list. The list of questions and answers is large and continually growing. You can check it out at: <https://www.microsoft.com/en-us/windows-365/faq>.

Now that the first chapter is out of the way and some of the main ideas and concepts of Windows 365 are covered, let's get on with it! In Chapter 2, you get up and running with Windows 365 in just a few minutes. There is no better way to learn something than to just dive in and start doing it. Let's go!

