



Send ready-to-work PCs to end users faster with Dell provisioning services for VMware Workspace ONE

The service made ordering and provisioning new laptops easier for our IT administrator and reduced delivery time compared to a more traditional approach

For organizations facing an increase in remote workdays (up to 30 to 40 percent by one estimation)¹, replacing more traditional IT operations could free up valuable IT time while boosting end-user productivity by eliminating interruptions. This includes getting ready-to-work laptops in remote workers' hands sooner and managing them in the cloud before and after ordering. With VMware Workspace ONE®, Dell provisioning services can remove the on-site admin time and complexity of traditional methods of provisioning, even when deploying thousands of devices.

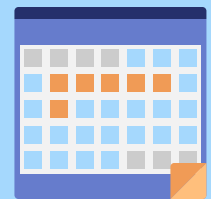
At Principled Technologies, we compared a traditional in-house process of provisioning new Dell laptops to Factory Provisioning, a drop ship service for Workspace ONE that Dell Provisioning Services provides. We estimate that Factory Provisioning can save hands-on IT admin time due to Dell provisioning the devices at the factory before shipment.

Based on our testing, Factory Provisioning can significantly reduce hands-on IT onboarding for new systems—saving 48 hours of hands-on time for 1,000 devices. This can give IT admins more time to focus on more strategic IT priorities. It also means your end users can receive their laptops weeks sooner, provisioned to your organization's specifications for day-one productivity.

Faster time to value



Zero IT touch onboarding
Save up to 48 hours for IT staff*



Minimize employee wait time
Deliver fully configured systems up to 10 business days sooner



Deploy fully provisioned devices at scale
Apply a single, one-time configuration to many systems simultaneously

What is drop ship provisioning?

According to VMware, drop ship provisioning allows Microsoft Windows device OEMs and Workspace ONE administrators “to provide a virtually zero IT touch onboarding experience with virtually zero user downtime.”² OEMs load Workspace ONE configurations, settings, and applications onto Windows 10 and 11 devices at the factory before shipping them to users, which means users could start working as soon as they receive their devices. Factory Provisioning is a type of drop ship provisioning.

Factory Provisioning relies on a fixed provisioning package file (PPKG) that IT staff must create, test, and upload to Dell. Then Dell engineering validates the package and deploys it to each device in an order.

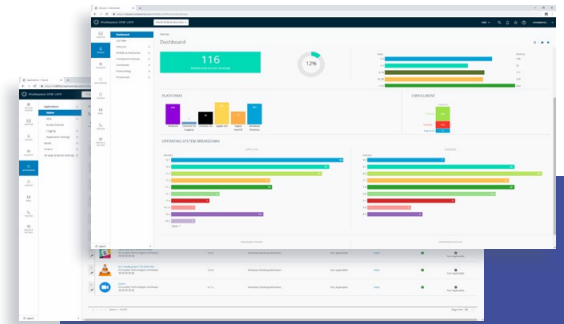
With Factory Provisioning, IT staff works directly with Dell Engineering to create a configuration, which can help save time compared to traditional provisioning. IT sets up applications and settings just once using the Workspace ONE console and Dell manages the operating system and drivers. Using the service, the organization can deploy the configuration across all systems in an order and use it in future orders.

How traditional provisioning processes can drain IT time and prolong device delivery to end users

Traditional methods for provisioning and deploying end-user devices can create real timing and logistical headaches for IT staff and, in turn, prolong getting laptops to end users. Current remote work conditions could exacerbate those headaches. Deploying a single system may not be complex or time consuming, but limited on-site staff and hardware resources can make larger deployments challenging to accomplish quickly, potentially extending the devices’ time to value. For large deployments, some remote users may have to wait weeks after initial procurement before they can start using their devices.

In addition, a traditional provisioning and deployment process could create the following complications, some of which also can directly impact end users:

- Admins need to update drivers for each laptop model deployed within their organization.
- Organizations may have to choose whether to dedicate staff to the deployment initiative or split their time between deployment and technical support duties.
- Upgrading from older devices means administrators must spend time and effort on-site at a data center to maintain deployment server hardware and software.
- Sending laptops to an IT admin first for provisioning lengthens travel time, which increases shipping costs and the likelihood of unexpected delays.
- Manual provisioning requires a lot of physical workspace, making large-scale deployments difficult.



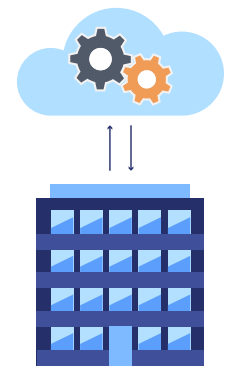
VMware Workspace ONE

Workspace ONE is a cloud-native workspace platform that allows organizations to deliver and manage applications via device profiles for end user devices. Workspace ONE offers unified endpoint management, Zero Trust security, Windows settings management, single sign-on (SSO), integrations with various services, and more. For additional information, visit www.vmware.com/products/workspace-one.html.

A faster way to deliver fully provisioned systems

Our testing aimed to measure how Factory Provisioning can save IT administrators time and deliver end-user devices faster than the traditional process we tested. We created custom configurations that Dell applied to all the devices we ordered. Dell then shipped those preconfigured devices, including up-to-date applications, directly to our designated location with no additional IT involvement.

Compared to the traditional deployment process we used, Factory Provisioning could offer the following benefits:



Save hands-on time for IT admins and reduce IT involvement during device deployment

- Zero IT touch onboarding for small and large deployments – Factory Provisioning could save IT staff 48 hours for 1,000-device orders compared to traditional provisioning (see page 8)
- Fewer hands touching the device could reduce the possibility of misconfiguration

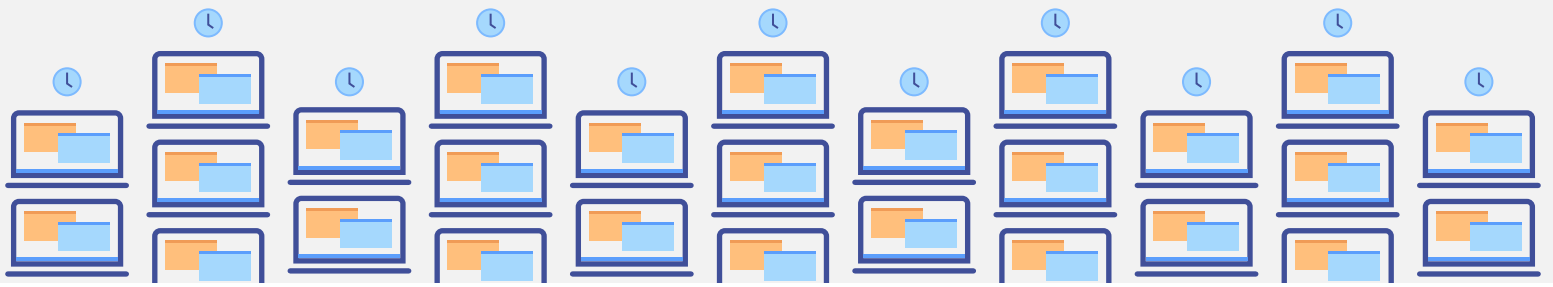
Reduce waiting to boost day-one productivity for end users

With Factory Provisioning, organizations can do the following:

- Deliver fully configured systems up to 10 business days sooner than our traditional process
- According to Dell, using Factory Provisioning for repeat orders with existing configurations does not require any additional administrative time to configure the order³
- Ship laptops directly from the factory to users
- Get users working right away by minimizing app updates after first boot
- Complete just one configuration process

Save money on shipping costs

When you order a system from Dell, the purchase price includes the cost of shipping. But a traditional deployment method requires your staff to ship each system again after provisioning. Standard overnight shipping for a destination 60 miles away (such as Durham, NC to Greensboro, NC) could cost \$58.02 per device—and it could cost \$142.46 per device to ship across the country from Durham to Seattle.⁴ In comparison, we paid just \$30 per system for shipping using Factory Provisioning for Workspace ONE. The service enabled us to send each system directly to its destination, which could save time for your salaried staff and avoid additional shipping costs.



How we tested

First, we configured our environment for each deployment. Then we ordered five laptops for traditional provisioning and five for Factory Provisioning. A single administrator handled the necessary activities to complete each order. After ordering, we provisioned the devices with Google Chrome, Notepad ++, Microsoft Office, Zoom, Slack, VLC Media Player, and many settings.

Here's how provisioning generally happened for the processes we tested:

- For traditional provisioning, we provisioned end-user systems at our data center.
- For Factory Provisioning for Workspace ONE, we provided a PPKG that included our apps to Dell Deployment Services as part of the ordering process. They, in conjunction with VMware Workspace ONE, provisioned the laptops at the factory.

Note that we refer to the Dell provisioning service for Workspace ONE in terms of provisioning, but it also includes ordering, configuring, and shipping the devices. Provisioning does not include managing applications and settings. In addition, our traditional provisioning process did not include managing Microsoft Endpoint Configuration Manager (formerly System Center Configuration Manager).



A closer look at the provisioning processes

Traditional provisioning

In many cases, IT prepares systems using both hands-on and automated tools, such as Endpoint Configuration Manager. If your organization used this method of provisioning, your IT staff would receive a shipment of laptops to unpack, plug in, image, repackage, and ship back out.

Our testing replicated that traditional process:

1. Our procurement team ordered five laptops and had them delivered to our facility.
2. Our inventory team received the laptops and unboxed them.
3. Our inventory team handed off the laptops to one of our IT administrators.
4. Our IT administrator provisioned the devices using Endpoint Configuration Manager. Whenever possible, our administrator moved on to a new system while the previous system finished an installation.
5. Our IT administrator handed back the laptops to the inventory team.
6. Finally, our inventory team prepared each laptop for shipping.

We did not ship them, but in a real-world case, the laptops would take additional time to reach remote users or satellite offices.

Traditional provisioning method



Figure 1: Steps that comprise the traditional deployment process. Source: Principled Technologies.

This process (as illustrated in Figure 1) requires the devices to change hands between multiple teams, and possibly many people, and go through two different shipping cycles—both of which cost your organization while delaying delivery of the laptops to your distributed workforce. There are uncontrollable elements when shipping any device, so adding a second shipping cycle increases the possibility of delays.

Factory Provisioning for VMware Workspace ONE

To deploy with Factory Provisioning from Dell provisioning services for Workspace ONE, we used the following process (illustrated in Figure 2):

1. Our IT team provided Dell with information about the deployment, then uploaded the PPKG file required to configure the end-user devices.
2. Our procurement team ordered five laptops from Dell.
3. Dell provisioned and shipped the laptops directly to their end-user destinations. (For our testing purposes, we had them shipped to our main office.)

Factory Provisioning for Workspace ONE

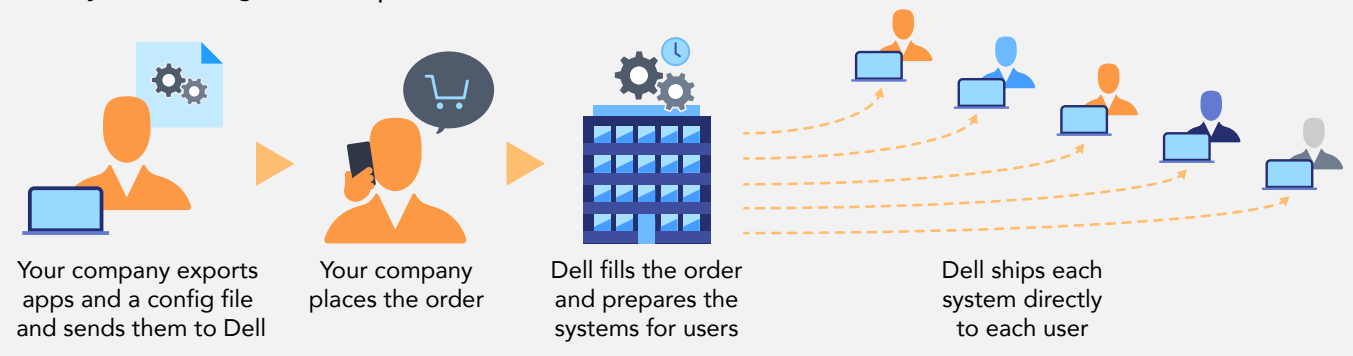
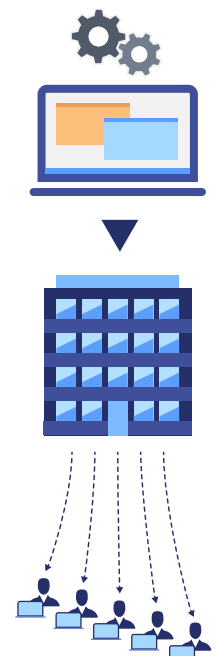


Figure 2: Steps that comprise Factory Provisioning from Dell provisioning services for VMware Workspace ONE.
Source: Principled Technologies.

Factory Provisioning for Workspace ONE helps Dell and VMware customers reduce IT touch for new devices and minimize user downtime. IT admins create provisioning packages and use them to configure those new devices.

Dell provisioning services for Workspace ONE automate nearly all provisioning and deployment actions, which is much different than the traditional process. With Factory Provisioning, your organization orders its desired devices and completes a single configuration process. Compared to the traditional method we used for testing, Factory Provisioning for Workspace ONE could get systems to remote users days (if not weeks) earlier.



Ordering devices with Workspace ONE

Using the Dell Provisioning for Workspace ONE required a one-time setup task that took 2 hours and 50 minutes to complete. This included completing forms, talking to Dell engineers, and creating the provisioning package. After that, our IT administrator did not need to put in any additional effort.

We placed only one order for Factory Provisioning, but based on our testing, we estimated the time that an administrator would need to place an additional order using a new configuration for the provisioning services. Table 1 shows how long it took for us to place our first order using Factory Provisioning and how long it would take for us to place additional orders with the same settings as the initial order and with different settings.

Table 1: Time, in hours and minutes, for an administrator using Dell Provisioning for Workspace ONE to place an initial order, subsequent orders based on the initial configuration, and additional orders with a new configuration. Source: Principled Technologies.

Order	Time required for any number of systems
First order	2 hours, 50 minutes
Subsequent orders using the same configuration (extrapolated)	0 hours, 0 minutes
Additional orders using a different configuration (extrapolated)	2 hours, 20 minutes

We do not include the time to complete our traditional process order in Table 1 because the only required steps were generating and executing a quote, which we also had to do for Factory Provisioning. Additionally, the time it takes to complete those two steps can vary.

Getting systems ready to ship: Small-scale deployments

For admins using drop ship provisioning, preparing systems for shipment requires no hands-on time. For traditional deployments, each additional laptop adds staff time to the process. Table 2 compares the time it took us to prepare one, two, and five systems for shipment using both deployment methods. For more details on our hands-on testing methods, see the science behind this report.

Table 2: Time required from IT to prepare systems after placing an order. Source: Principled Technologies.

Number of systems	Dell Provisioning for Workspace ONE*	Traditional deployment (hands-on admin time)	Traditional deployment (total deployment time)
1	0 minutes	5 minutes, 34 seconds	31 minutes
2	0 minutes	8 minutes, 26 seconds	33 minutes
5	0 minutes	17 minutes, 06 seconds	46 minutes

*After initial admin setup with Dell

We consider hands-on time to be when an administrator actively works on a device. Note that the time also includes unboxing and cabling the laptops, provisioning tasks, and preparing the laptops for shipment.

Also, our analysis does not include the time an administrator spends managing updates for Windows or drivers because they are highly variable. Using the traditional process, your IT team could spend hours each week on updates, depending on the number of different laptop models and how often they require updates.

The time savings and reduced IT involvement is clear for smaller orders through Dell provisioning services, but what happens when the order scales to accommodate a larger workforce?

Crunching the numbers: Large-scale deployments

A company that needs to deliver hundreds of devices in waves can rely on Dell provisioning services for Workspace ONE to automate the process as they do for smaller orders. After placing an order of any size through Factory Provisioning, your IT administrator won't need to complete additional on-site work.

Based on our testing, we estimate the traditional process would require nearly five hours of on-site admin time to deploy a hundred devices (see Table 3). It would take more than 48 hours for an IT administrator to manually deploy a thousand devices—that's six full eight-hour workdays without stoppage and doesn't account for the time your staff would spend preparing the devices for shipping.

With the traditional method for a large-scale deployment, a ready-to-go device may not ship to its end user for over a week.

Table 3: Extrapolated hands-on admin time for large-scale deployments. Source: Principled Technologies.

Number of systems	Dell Provisioning for Workspace ONE*	Traditional deployment
25	0 minutes	1 hour, 14 minutes
100	0 minutes	4 hours, 51 minutes
500	0 minutes	24 hours, 4 minutes
1,000	0 minutes	48 hours, 7 minutes

*After initial admin setup with Dell

Our analysis of the traditional method assumes all the laptops are the same model and that nothing goes wrong in any of the deployments. Your IT admins would still have to repeat this process for each order—if you scaled the 1,000-device deployment to 4,000 and shipped them each quarter, Dell provisioning services could save a month (in workdays) of administrative time per year compared to a traditional deployment.

Deploying any number of devices requires the same amount of time from your IT administrator using Dell provisioning services for Workspace ONE. This could allow IT staff to tackle more challenging, mission-critical tasks for your business.



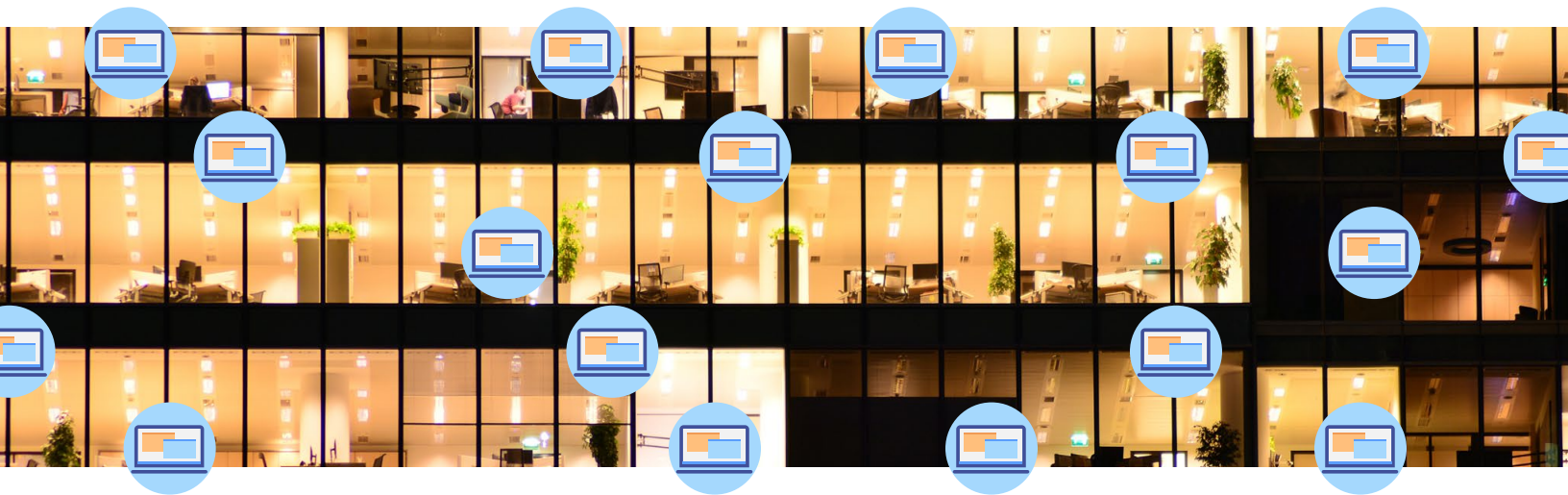
Conclusion

Organizations are facing many new challenges due to an increase in remote and hybrid work. Deploying new laptops to your remote workforce is just one of them. Traditional IT operations may be able to handle those challenges, but newer operations, such as those using automation, can reduce IT involvement, help employees get up and running faster (day one productivity), and eliminate hassles that stem from traditional processes.

We compared the time it took to order and provision Dell laptops using Factory Provisioning for Workspace ONE to the time it took to complete a traditional provisioning process. Dell provisioning services rely on Dell to provision laptops and ship them directly to the user.

Using the times we saw in our testing, deploying 1,000 laptops with Dell provisioning services could save 48 hours of IT admin time and put laptops in the hands of your employees up to six business days sooner (barring external delays that may slow the shipping process). That time savings could scale for larger deployments.

Factory Provisioning for Workspace ONE required less IT involvement, and thus less time and effort, than the traditional method.



1. Fox, Justin, "Work From Home Is Becoming a Permanent Part of How Jobs Are Done," accessed August 11, 2022, <https://www.bloomberg.com/news/articles/2022-01-18/work-from-home-is-becoming-a-permanent-part-of-how-jobs-are-done>.
2. VMware, "Drop Ship Provisioning: Workspace ONE Operational Tutorial," accessed August 11, 2022, <https://techzone.vmware.com/drop-ship-provisioning-workspace-one-operational-tutorial#overview>.
3. Dell Technologies, "Service Description - Dell Configuration Services," accessed August 11, 2022, https://i.dell.com/sites/csdocuments/Legal_Docs/en/us/dell-configuration-services-sd-us.pdf.
4. On January 24, 2022, we used the shipping rates calculator on www.fedex.com to determine the cost of sending 5.0 lb. packages from the Principled Technologies office in Durham, North Carolina. We selected the FedEx Standard Overnight service.

Read the science behind this report at <https://facts.pt/8Qrj9KZ> ▶



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This project was commissioned by Dell and VMware.