



Cherokee County
School District

Cherokee County School District:

Why Microsoft plus 1E is the best way
to get to Windows 10

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Cherokee County School District

“Microsoft’s Windows as a service is a great thing, but I do think they have some things to iron out. This is one of the reasons we invested in WSS”

Matt Roper

Cherokee County School District

Located about 30 minutes north of Atlanta, The Cherokee County School System (CCSD) is the eighth largest in Georgia, encompassing 42 schools and centers, with 6,000 staff serving 42,000 students.

The IT team currently manages approximately 40,000 PCs – all of which run Windows software. That’s a lot of endpoints to keep track of and update.

As you can imagine, there are a few issues that can arise with managing that many computers in one system, particularly during a Windows 10 upgrade. Let’s take a look at a few of them and learn how Cherokee County School District came out on top utilizing 1E.



42
Schools and
Centers



6,000
Staff Serving

42,000
Students





While being paperless sounds good (on paper), it also presents a challenge: what if something gets lost digitally?

As in any large organization, there can be any number of important tasks taking place on the local network at once - Including registrations and test submissions. It's one thing to be enthusiastic early adopters, but having a strong grasp on the latest technology before deployment is key. In an effort to enhance the students' and educators' learning and teaching process, limiting disruptions is the only way to ensure efficiency.

One of the most important things to determine success for the CCSD IT team was the necessity of having a good network connection 100% of the time.

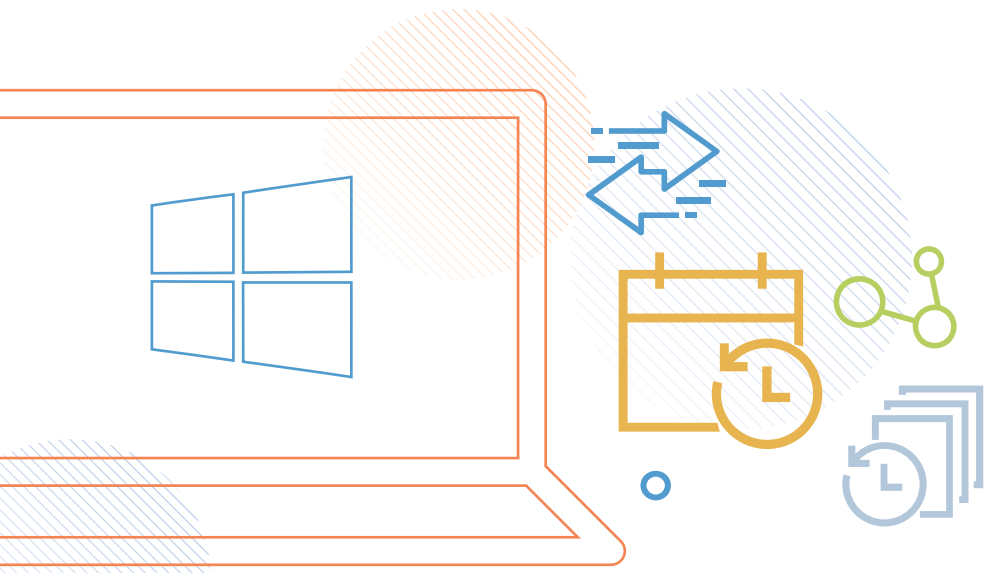
If they were to install an update only to experience interruptions, the process would be too intrusive to complete.

Not only was a connection important, but working around testing schedules was a factor, too.

All of the students' assignments are delivered online including registrations of test scores.

As CCSD moves into the digital age - becoming virtually paperless - banking on a strong network connection is vital.

Any vulnerability could spell disaster.



The Importance of Windows 10

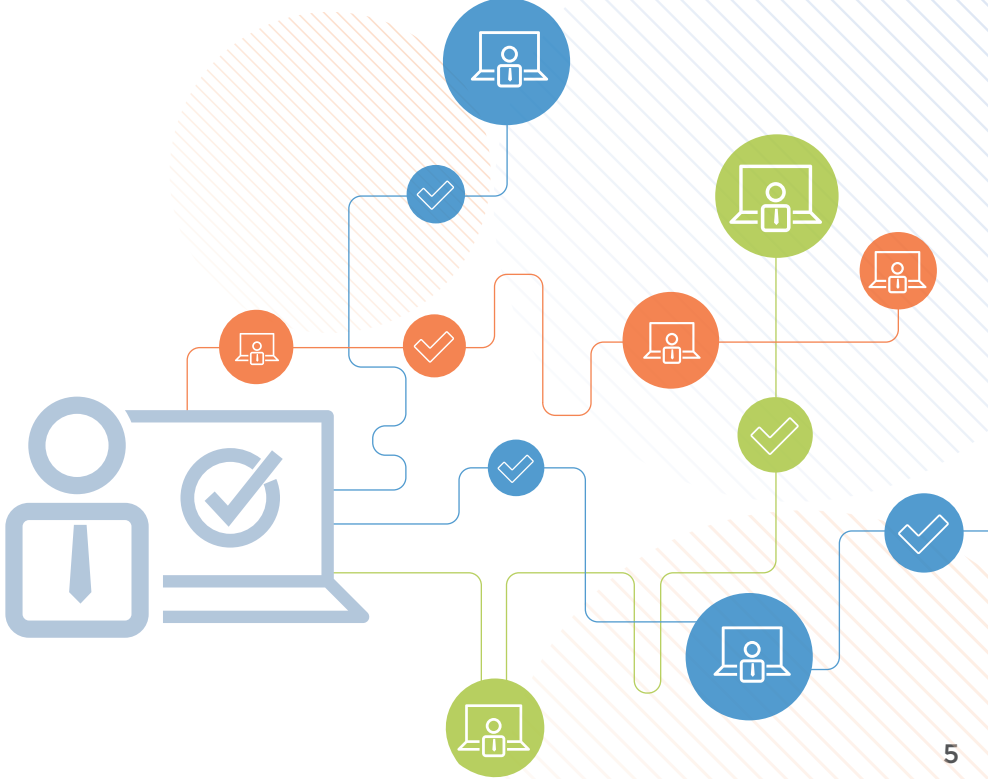
CCSD partner with MS on many pilot programs to test new functionality ahead of release. A good example was the introduction of new 3D tools with the Windows 10 1709 “Fall Creators Update.” In particular, CCSD were very interested in using Paint 3D.

In addition, the IT team liked Windows 10 and Windows as a service, seeing the opportunity for greater security and improved user experience for the thousands of teachers and staff that relied on Windows for their work, communication and creativity.

Why choose 1E?

To reduce the amount of effort required to manage distribution servers across all their locations, the Cherokee County School System (CCSD) went looking for an answer in peer-to-peer (P2P) content distribution. They chose 1E’s Nomad, part of its Windows Servicing Suite (WSS), because of the speed and efficiency offered. But why not go directly to the source (Microsoft)?

One of the limitations of the Microsoft (MS) option of P2P was frequent disruptions in downloading. Once the process would begin, a connection could be lost forcing the download to start all over again from the beginning. This added up to a lot of delays getting updates completed. “We definitely wanted to take advantage of P2P and MS didn’t have a great solution,” explains CCSD’s Matt Roper. “Their new version is still in beta, too.”



“We experimented with Windows 10 in our labs. It took over a day to upgrade from Windows 7: we had to figure out how in the world we were going to be able to scale this up to 40,000 devices if we could barely do it with 32.”

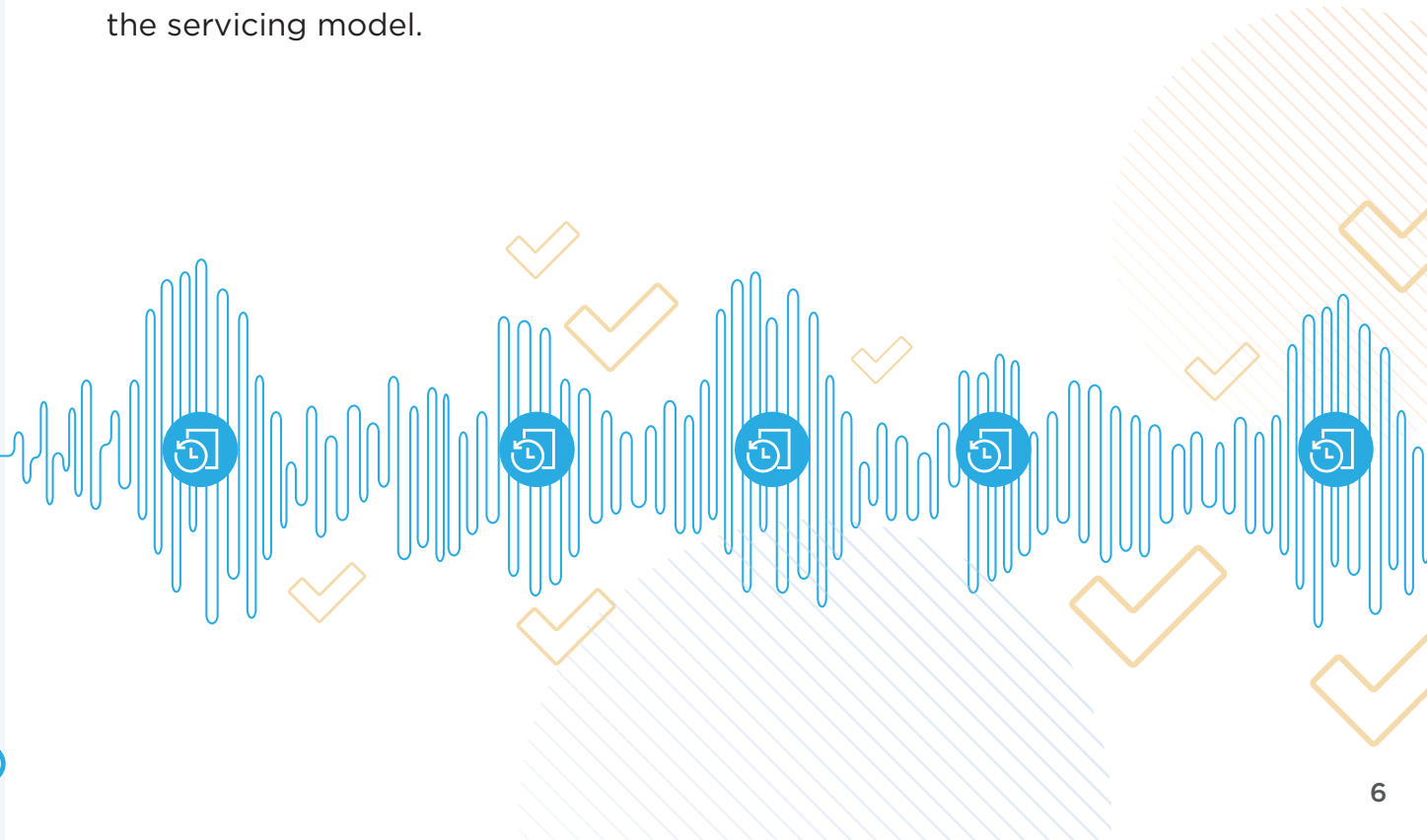
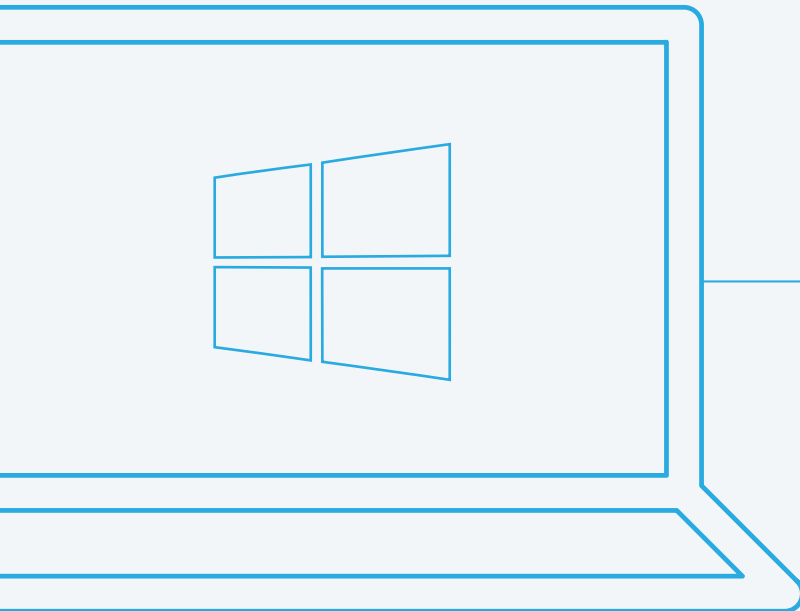
Matt Roper

Facilitator of Technology Support Services, Cherokee County School District

Validating 1E

Cherokee weren't just concerned about their Windows 10 migration, they were also concerned about the impact of the subsequent Windows 10 Servicing Model, with its aggressive update schedule. Before initiating their Windows 10 transition, CCSD put this to the test themselves. They upgraded their small computer lab from Windows 7 to Windows 10 using manual processes and Config Manager.

It took 36 hours for 32 machines to finish. Now apply that scenario to 40,000 devices, it would not be feasible to continue with this time-consuming performance. In addition to the lengthy migration, they would still be looking at regular, potentially disruptive updates through the servicing model.



Why caching options matter

There are three different types of caching options: BranchCache, Peer Cache, and Delivery Optimization. Here's why you need to know about all three.

BranchCache

Most likely, you're familiar with at least one caching option, BranchCache. It's been around since the early 2000s, but with the large installation images needed for Windows 10, increasing numbers of organizations are investigating peer-to-peer options to reduce the load on their infrastructure.

While many organizations may choose BranchCache as their P2P solution, they most likely do so because it is included in the Windows 7 OS. However, to get the full capabilities of BranchCache, your entire infrastructure has to be running the latest server version (2012). This creates a huge gap in compatibility.

It's not until you start peeling back the layers that you fully understand how limiting BranchCache is. For example, there's no intelligent way to determine

which peer is the best to get content from, so you can't ensure the best experience for your users. For a major OS migration, BranchCache isn't your best option.

Peer Cache

Peer Cache was an incomplete solution, so Peer Cache has been added to address some of its limitations. Unfortunately, Peer Cache introduces new challenges and additional complexity. Peer Cache is an option that is available only to Configuration Manager users. It's also a different technology than BranchCache, so there isn't a harmonious co-existence between the two.

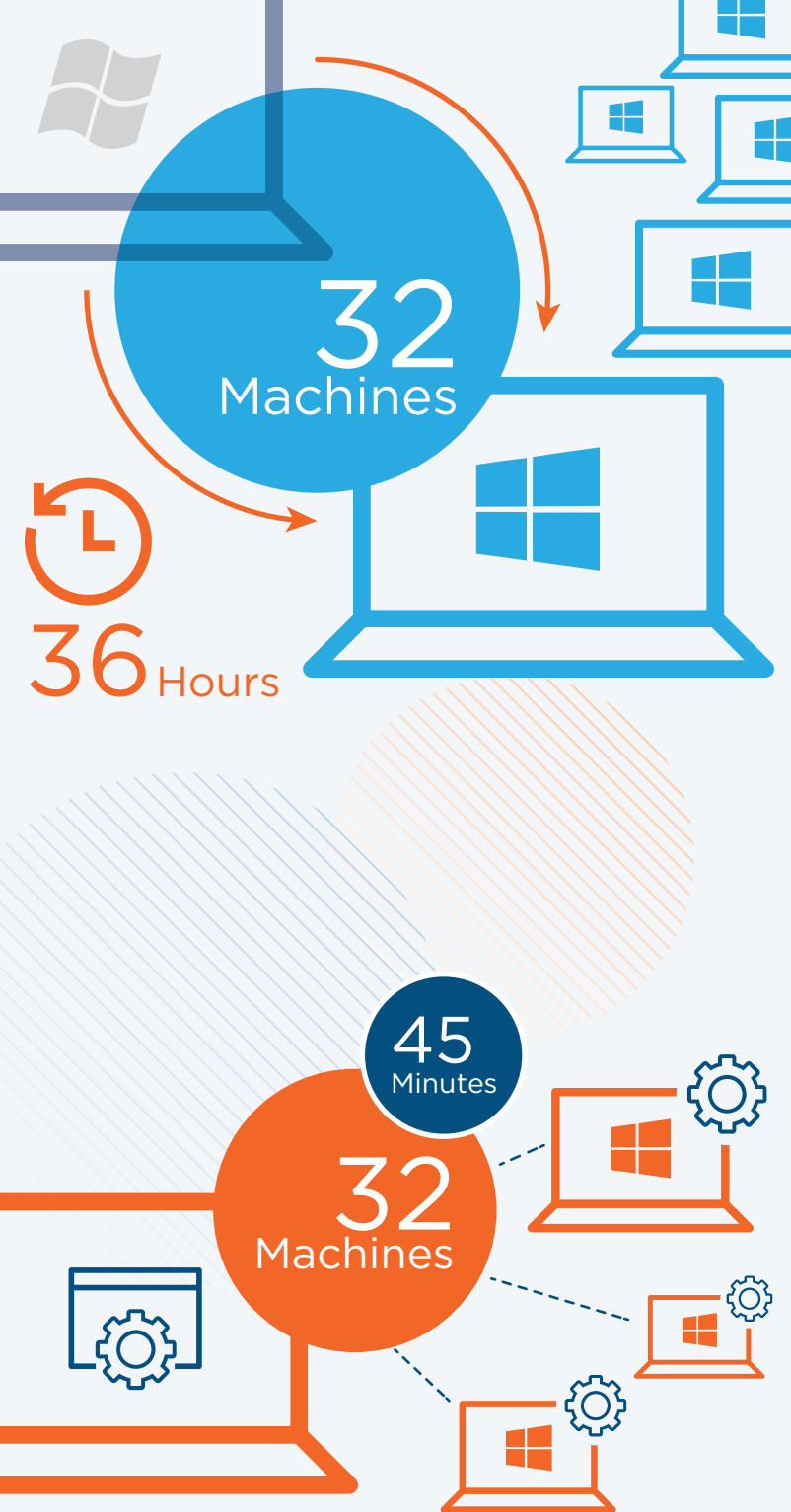
Peer Cache has almost zero capabilities for large organizations like CCSD. As already highlighted, they didn't want interruptions in downloads: with Peer Cache, if any of the peers go offline,

they're off. There is no resiliency within it which forces you to babysit the issue until the peers come back on line.

Delivery Optimization

The third caching option is called Delivery Optimization, which comes with Windows 10. Microsoft has slowly been introducing this new caching technology, but it can only be used in very specific scenarios and it's not clear when it will be used for more general distribution.

“We wanted a proven, fully responsive technology,” says Matt Roper (CCSD). “If a peer goes offline, WSS quickly identifies another and picks up where it left off. It also comes with pre-caching features, minimizing network performance impact.”



WSS just works

CCSD put 1E's WSS to the test themselves. As already stated, they had previously upgraded their small computer lab from Windows 7 to Windows 10 using manual processes and Config Manager. This has taken 36 hours for 32 machines to finish.

The difference when using 1E was highly significant. "1E's solution took two hours to upgrade in the lab, as opposed to 36 hours," explains Roper. "It was a major improvement."

A secure Windows 10

"Security is very important at CCSD," says Roper. "School districts have a lot of very personal information on premise, so we definitely want to make sure endpoints are patched, and that we're on a fully secure Windows 10."

Besides ensuring CCSD could manage Windows 10 without disruption, 1E's WSS also enabled CCSD to automate its upgrade to UEFI across multiple hardware platforms, accessing vital Windows 10 security features.

"We obviously want to take advantage of UEFI, primarily because of the security advantages," says Roper. "It's a definite benefit, and 1E had a great tool to do that with."

Read more

CCSD's Matt Roper recently wrote an article for IT Pro, *Planning a Windows 10 Migration in 2018? Four Keys to Success*, where he discusses 1E's impact on CCSD's Windows 10 journey, and offers further advice for other organizations planning theirs. [You can read the feature in full here.](#)

ABOUT 1E

1E is re-defining endpoint management. We believe that you win or lose at the endpoint: there is no room for compromise. Our solutions help keep every endpoint secure and current with the latest software and applications. That's every device in every location, fully automated, and in real-time. We also deliver instant endpoint detection and remediation at massive scale, minimizing risk for your business and impact on your network. Over 1,700 customers around the world, including Dell, ING, Nestlé, BNP Paribas and Ford Motor Company, rely on 1E to gain unprecedented insight and control over their IT estates.

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