



## Case Study

# Innovative “Mini-Mills” Steelmaker Discovers an Easy Fix for Inconsistent Video Views on VDI

“If you need real-time video, you need the Teradici accelerator. Beyond our video requirements, the Hardware Accelerator lets us keep our desktops looking current – we don’t have to dumb-down the interface for VDI sessions.”

JONATHAN MARTIN  
SYSTEM ADMINISTRATOR  
NUCOR CORPORATION



Headquartered in North Carolina, Nucor Corporation is the largest steel producer in the United States and North America’s largest recycler of metal and iron. The “mini-mill” steelmaker turns scrap metal into steel using innovative electric arc furnaces, with capacity to produce 25 million tons per year.

### AT A GLANCE

#### Situation

- Metals and mining
- Charlotte, North Carolina (HQ); 40 mills, of which 23 are scrap-based
- 90 independently operated business units

#### Challenges

- Trimming IT and operational costs
- Performance issues for virtualized desktops
- Inability to address video use case requirements

#### Solution

- Upgraded Zero Clients (Teradici® Tera2 technology)
- Teradici PCoIP® Hardware Accelerators (one in each of the three VDI servers)

#### Results

- **Simplicity:** Easy solution to deploy and support (one IT person on-site)
- **Performance:** Seamless video playback on zero clients; excellent interactive response for all desktop GUI tasks
- **Scalability:** Led to success of VDI pilot, and broad-scale deployment of zero clients; choice of devices for mobile users (with anywhere access to desktops)
- **Cost reductions:** Adoption of low-cost, reliable virtualized endpoints throughout the business



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**Each Nucor business unit has to overcome Fortune 500 scale challenges with a small business budget and team.** In recent years, the company’s 200 operating facilities have been tasked with cost-cutting initiatives, and routinely achieve unconventional results with unconventional thinking and innovation. Jonathan Martin, the system administrator at the North Decatur, Alabama mill, was doing his part by taking over the desktop virtualization pilot project. He discovered some major obstacles for broadly deploying lower-cost, more reliable zero clients:

- A small pilot deployment of VMware View and zero clients was showing very poor performance for video.
- Video use cases were extremely broad, ranging from online training for production teams to management video conferences, site surveillance, and mission-critical real-time monitoring of the mill’s furnaces.
- Team members wanted the ability to view video in one window while other applications were running on the same endpoint.

When he researched the video problem, Martin was repeatedly told that it was not possible to fix the video problem on VDI endpoints in a VMware Horizon View environment. Unwilling to give up on virtual desktops, Martin took his questions to the VMworld 2013 conference.

**A visit to the Teradici booth gave Martin the answer he needed.** “Teradici was demonstrating their PCoIP Hardware Accelerator,” said Martin. “When I saw video before the card was added compared to after installing it, I was really impressed. In fact, I ordered the product before I left VMworld.”

Back at Nucor’s mill in North Decatur, Martin made some other minor changes in preparation for a renewed pilot test. The blade servers were upgraded and more memory added, and new zero clients with integrated Teradici PCoIP Tera2 technology were deployed.

“With the addition of a Teradici PCoIP Hardware Accelerator in each of our VDI servers, the results were phenomenal,” said Martin. “Video was instantly smooth – no more choppiness. We were able to achieve outstanding results even when we increased the workload on the endpoint. Instead of just running a video and nothing else, we were able to run a video on one monitor and open other windows and tasks on a second monitor – video playback was perfect, without any skips.”

**With the video obstacles removed, Nucor has fully embraced VDI and zero clients.** To date, approximately 200 new endpoints have been installed for office workers and on the production floor. “With the Hardware Accelerator Cards, we’ve been able to make VDI our new standard. Zero clients are everywhere, being used for everything from office applications to production control and real-time video monitoring of the inside of the blast furnace,” explained Martin. “A lot of areas are hot and dusty; PCs don’t live very long under these conditions. The cheaper zero clients are very stable, with no moving parts, and last much longer here.”

#### Products used

PCoIP Hardware Accelerator

PCoIP Zero Clients

#### Virtualization platform

VMware Horizon View

3 Blade Servers (one accelerator per server)



The VDI initiative stemmed from Nucor's aggressive focus on exceptional bottom line results, but they also give IT a desktop solution that saves a lot of time and improves confidence in security. "Updates are much faster now, which makes my job easier, and since there is no data residing on the endpoints, we eliminate the worry of data compromises."

While change isn't always easy for the end users, many at Nucor have shared positive feedback about the new virtual desktop solution. "Mobile users really like the VDI deployment – they can move from one area to another, or even work from home. They are always logging into the same desktop session. And with the PCoIP Hardware Accelerator, we don't have to worry about video performance. We couldn't move forward with VDI without the ability to offload the server CPUs – now users can move apps from screen to screen, open and close numerous windows, and stream video simultaneously. With this solution we are able to satisfy the users' expectations and allow them to get their jobs done more efficiently."

Today, Nucor teams in other parts of the U.S. are talking to Martin about the success in North Decatur. Having experienced the same issues with video in View sessions, they know they have a solution now. Martin summarized, "Video is mission critical for our company. We rely on cameras to monitor production. You can't have a real-time camera system on a View desktop without the Teradici PCoIP Hardware Accelerator. You would experience delays and skipped frames – not acceptable for us. If you need real-time video, you need the Teradici accelerator."

"Besides video, the Hardware Accelerator lets us keep our desktops looking current – we don't have to dumb-down the interface for VDI sessions. The Hardware Accelerator takes the strain off the servers, and so the performance can be dedicated to the interface and the applications. It improves the look and feel of the whole system, not just video."

