



Illustrative image. The utility's mission-critical systems support treatment plants, distribution networks, metering, and field operations.

UT-01 • UTILITIES

Regional water utility modernizes VDI and cuts golden images by 75%

Z7 Solutions™ upgraded Horizon VDI for a regional water utility, moved more than 50 apps to Turbo for about 200 users and sped up full backups 2 to 3 times. Golden images to patch and test fell from about 16 to 4.

CLIENT

Regional Water Utility Authority
Utilities

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At a glance

PROFILE	DETAIL
CLIENT	Regional Water Utility Authority
SECTOR	Utilities
ENGAGEMENT	VDI modernization, managed infrastructure, Turbo-based application delivery, and co-managed IT
SERVICES	VDI modernization • Application delivery modernization • Managed infrastructure • Onsite help desk • Co-managed IT • vCTO and vCISO advisory

THE CLIENT

A regional water and wastewater utility authority that operates critical infrastructure for a county-level service area in the Southeastern United States. Its systems support treatment plants, distribution networks, metering, and field operations. The IT environment includes VMware Horizon VDI on dual-site Dell EMC VxRail clusters, Carbon Black endpoint security, Dell EMC NetWorker with Data Domain backups, and a growing set of applications used by engineering, operations, and back office staff. Z7 did project-based work for the utility first, then took it on under a formal managed services agreement.

HEADLINE RESULTS

75%

Fewer golden images to patch and test, from about 16 to 4

2to3x

Approximate full backup speedup after NetWorker and Data Domain tuning

50+

Applications delivered through Turbo to about 200 users

16weeks

Extra engineering effort absorbed by Z7 at no additional cost

02

The challenge

The virtual desktop environment had grown organically to the point where incremental fixes were no longer enough, and the utility had to keep critical water systems online throughout any modernization.

- VMware Horizon was still on version 7 across two sites with Cloud Pod Architecture, and master images and application volumes were inconsistent.
- Long login times were becoming a persistent user complaint, and performance was inconsistent, especially for CAD and virtual workstation use cases.
- Many separate golden images and application packages were hard to maintain, and application documentation was incomplete or missing, with poorly understood dependencies.
- Dell EMC VxRail, NetWorker, and Data Domain needed a health check and tuning so backup windows and IOPS patterns did not interfere with business hours.
- The internal IT team was fully committed to daily operations and had no spare capacity for a full VDI and application modernization.
- The utility wanted targeted expertise in a co-managed model, not a complete replacement of its internal staff.



Illustrative image. The internal IT team was fully committed to daily operations, with no spare capacity for a full VDI and application modernization.

03

What we did

01 Upgrade Horizon and tune VxRail

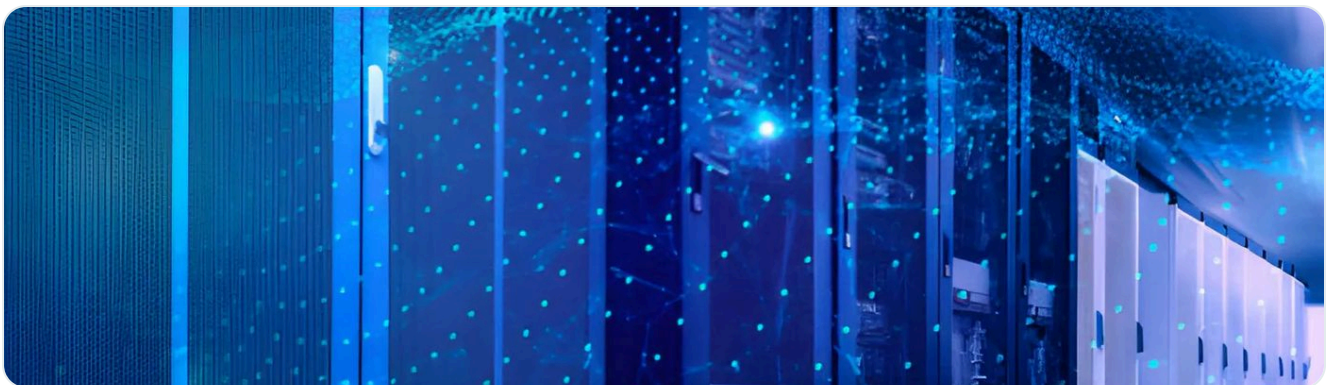
Z7 upgraded VMware Horizon from version 7 to version 8 for two clusters using Cloud Pod Architecture and ran a comprehensive Horizon and vSphere health analysis. The team tuned the VxRail clusters for CAD and virtual workstation workloads and improved application volumes behavior to reduce profile and launch issues.

02 Rationalize master images

Z7 updated legacy master images for Horizon 8, built a new Windows 11 master image as the future workstation baseline, and consolidated about 16 golden images into 4 core images for standard and GPU-backed workloads. Login, profile, and application tuning targeted login delays and session instability, especially for CAD and graphics-intensive workloads.

03 Add managed infrastructure and help desk

Under a managed services SOW, Z7 placed a full-time onsite Help Desk Specialist at the main facility, Monday through Friday, and provided remote coverage for VxRail, vSphere, and Horizon VDI. Assisted coverage spanned Carbon Black, NetWorker with CyberSense and Cyber Recovery, and Data Domain, with VMware and Dell escalation and a 24/7 emergency engagement option. A dedicated senior consultant, principal solutions architect, and account executive were assigned to the account.



Z7 began by upgrading Horizon from version 7 to version 8 and tuning the Dell EMC VxRail clusters underneath it.

03

What we did, continued

04 Modernize app delivery with Turbo

Z7 partnered with Turbo to deploy the Turbo SaaS portal and Turbo Studio, built base images aligned to the standard and GPU VDI images, and packaged and tested more than 50 applications, including CAD suites, DWG viewers, Foxit, Office, Track-It!, and Laserfiche. The team reverse-engineered undocumented dependencies with users and vendors and wrote more than 20 automation and deployment scripts for repeatable builds.

05 Stabilize profiles with DEM and FSLogix

A hybrid profile design used DEM for application-specific settings and user configuration and FSLogix for profile containers, backed by new GPO structures for DEM and VDI infrastructure. Printer persistence, Num Lock behavior, and application data paths were profiled and adjusted for stability.

06 Advise as vCTO and vCISO

Throughout the engagement, Z7 guided VDI architecture and capacity planning, security posture around VDI, backups, and identity, and the future direction for cloud, backup, and app delivery services. That advisory aligned day-to-day technical decisions with risk, budget, and regulatory expectations for a critical infrastructure operator.



Illustrative image. Result: more than 40 onsite engineering days, paired with 24/7 capable remote support, kept critical operations stable during the project.

04

Results

The utility moved from a fragile, complex VDI environment to a modern Horizon 8 platform on tuned Dell EMC VxRail that is more stable, easier to maintain, and ready to support its critical mission.

75%

Fewer golden images to patch and test, from about 16 to 4

2to3x

Approximate full backup speedup after NetWorker and Data Domain tuning

50+

Applications delivered through Turbo to about 200 users

16weeks

Extra engineering effort absorbed by Z7 at no additional cost

- Golden images consolidated from about 16 to 4 core images for standard and GPU workloads, a 75 percent reduction that lowers the risk of configuration drift and simplifies the rollout of security and feature updates.
- Full backup speeds improved approximately 2 to 3 times after NetWorker and Data Domain tuning, shortening backup windows and lowering risk during maintenance and recovery.
- More than 50 applications packaged and validated in Turbo now reach about 200 users from a single managed SaaS layer, and more than 20 automation scripts allow consistent rebuilds.
- Login times and session stability improved through combined image, storage, profile, and application tuning, with CAD users on optimized GPU-aware images.
- More than 40 onsite engineering days, alongside dozens of remote working sessions, a full-time onsite help desk resource, and 24/7 capable remote coverage kept operations stable while modernization proceeded.
- Z7 absorbed about 16 weeks of extra effort from scope changes, missing documentation, and environmental blockers with no change orders or extra invoices, roughly four months of senior engineering time at no additional cost.

05

Technology

VMware Horizon 8

VMware Cloud Pod Architecture

VMware vSphere

App Volumes

Dell EMC VxRail

Carbon Black

Dell EMC NetWorker

CyberSense

Cyber Recovery

Data Domain

Turbo SaaS portal

Turbo Studio

DEM

FSLogix

Windows 11

Foxit

Track-It!

Laserfiche

06 • NEXT STEP

Put the same team on your environment

Tell us what you are running and what has to change. The engineers behind this work will map the first steps with you.

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