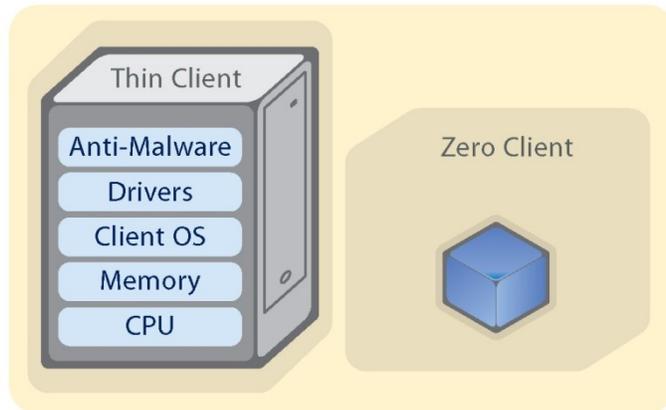


Thin vs. Zero

Benefit Brief



True zero clients have...

- No client operating system
- No endpoint management
- No CPU, memory or storage
- No moving parts
- Purpose built for virtualization

Sometimes what seems like a small difference can make a very big difference.

Many vendors offer thin clients as VDI endpoints, usually repurposed from past generations of hardware designed for terminal services. While thin clients claim to be simpler than traditional desktop PCs they add the headache of supporting yet another client OS, such as Windows XPe or some proprietary Linux variant.

And thin clients carry along the baggage of a PC-based architecture of local drivers, storage, management software stacks, introducing many potential break/fix points and security holes, forcing IT to continue travelling to user's desks for troubleshooting and repairs. In fact they carry with them so much of this PC baggage, having grown increasingly "chubby" to run demanding and heavily patched VDI protocols, that they wipe out almost all of the TCO advantages VDI has to offer.

On the other hand, a zero client like the Pano Device is basically an extension of the desktop virtual machine, connecting the display and input devices to the desktop running on the ESX server. It has no CPU, no OS, no storage, no memory, no security holes, no moving parts — and most importantly no endpoint management. This is why the TCO calculations for zero clients are far better than for a thin client — no matter how thin it is.

The Pano Device is the only true zero client on the market, making it the easiest endpoint client to buy, deploy, use, and manage, and delivering the best TCO. In this case — zero is far better than thin.

Excerpt from Nina Plastics Case Study

"I had read about complications with other solutions that involved thin clients," said Patel. "Since the Pano Device is a zero client, we just plugged it in and it worked right out of the box. With the Pano Manager and the VMware management features, the solution didn't need a lot of configuration and it took around 10 minutes to get up and running. The Pano Logic concept was very simple, so we quickly saw how Pano Devices could replace our additional desktops."

— Kunal Patel, IT Director, Nina Plastics

For the full case study, please visit www.panologic.com/ninaplastics

How Much Does Zero Save?

Aside from the clear technical and productivity merits of true zero clients, how much do they save? Customers often mistakenly think that the cost of the thin client hardware is all they need to pay. But looking at all of the components needed for a 100 seat VDI deployment based on Wyse thin clients and VMware View the per seat cost comes to \$ 1,280 – far more than most business PCs:

Thin Client VDI Seat Component	Each	Total
Wyse R00L Thin Client- 2GB Flash, 1GB RAM, 1.5Ghz CPU	\$ 549	\$ 54,900
Wyse Device Manager Enterprise 4.7 Standard seat license	\$ 49	\$ 4,900
Wyse Streaming Manager Appliance, (R90LE) one per 25 clients	\$ 825	\$ 3,300
Wyse Streaming Manager software license per thin client	\$ 200	\$ 20,000
Wyse TCX Suite 4.0 protocol extension bundle	\$ 75	\$ 7,500
VMware View 4 Enterprise (vSphere, vCenter, View Manager, etc.)	\$ 150	\$ 15,000
Windows XP VECD licenses per year, non-SA client	\$ 110	\$ 11,000
Server Hardware w/2 CPUs, 36GB RAM, eight 146GB 10K SAS drives	\$ 5,700	\$ 11,400
Total Cost for 100 Thin Client VDI Seats (at list price)		\$ 128,000
Cost per Thin Client VDI Seat		\$ 1,280

By comparison, a Pano System zero client VDI seat along with VMware vSphere 4 server licenses is much simpler and comes to only \$ 625 per seat, a **savings of \$ 655 per seat**, enough savings just in the initial hardware and software purchase to buy **more than double** the number of seats than with thin clients:

Zero Client Pano System VDI Seat Component	Each	Total
Pano System, complete with Pano Device and Pano Manager	\$ 319	\$ 31,900
vSphere 4 Standard Edition server CPU licenses	\$ 795	\$ 3,180
vCenter 4 Standard Edition unlimited hosts license	\$ 4,995	\$ 4,995
<i>or with VMware View 4 Enterprise per DVM licenses</i>	<i>\$ 150</i>	<i>\$ 15,000</i>
Windows XP VECD licenses per year, non-SA client	\$ 110	\$ 11,000
Server Hardware w/2 CPUs, 36GB RAM, eight 146GB 10K SAS drives	\$ 5,700	\$ 11,400
Total Cost for 100Pano Zero Client VDI Seats (at list price)		\$ 62,475
Cost per Pano Zero Client VDI Seat		\$ 625
<i>Cost per Pano Zero Client VDI Seat based on VMware View</i>		<i>\$ 693</i>

Looking at these purchase costs makes it clear that choosing thin clients for your VDI deployment can effectively cut in half your deployment resources while selecting zero clients can more than double the number of VDI seats you can fit into the same budget.

More Information

To learn more please download the “Zero Clients vs. Thin Clients - Comparing VDI Endpoint Choices” whitepaper at www.panologic.com/whitepaper/zerovstthin. You can also calculate the savings in capital outlays and operating expenses from zero client VDI with the TCO Calculator at www.panologic.com/tco