



Infraestructuras y
**Soluciones de
Cloud client
computing** alineadas a
la estrategia de su empresa

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El uso de la tecnología está forzando a los deptos. de TI a cambiar su aproximación al usuario



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Movilidad / BYOD



Nuevos dispositivos



"Smart Users"



Libertad de elección

Seguridad y Control de IT

¿Por qué **virtualizar** el puesto?

Nuevos métodos de trabajo

BYOD, mejorando la experiencia de usuario y accediendo desde cualquier dispositivo

Optimización de recursos IT

Despliegues rápidos y optimizados

Mayor seguridad

Controle los datos, aplique directivas y cumpla LOPD

Gestión de costs y TCO

Monitoree y optimice los costes



¿qué significa realmente **virtualizar** el puesto?



Aplicaciones
Datos
Proceso

Ofrecer **aplicaciones, datos**, a cualquier dispositivo, en cualquier momento y desde cualquier lugar



Pero también...



Facilitar el **Acceso** a estudiantes



Optimizar las TI reduciendo el mantenimiento



Asegurar la **continuidad** del negocio



Securizar y cumplir con normativas

Soluciones a problemas reales

¿Qué ofrece
Dell cloud
client
computing?



Servicios

Consultoría



Implantación



Soporte



Canal



Clientes

Zero and thin clients



Laptops, tablets



Cloud desktop



Datacenter Networking – Storage – Servers

10-seat

100-seat



PowerEdge VRTX



Dell Wyse
Datacenter



Software de Virtualización



Wyse vWorkspace

Modelo VDI

VDI On-Site



Presentación de
escritorio o
aplicaciones



Escritorio compartido



vWorkspace as a
Service



Soluciones completas y pre-configuradas

> Más de 100K horas de ingeniería invertidas

5x

Faster time to value

12+

Reference architectures

34%

Decrease in power consumption

Data Center Components

DVS 10 seat



DVS\Appliance



DVS Enterprise VRTX



DVS Enterprise



Despliegue
Rápido

Mayor
Flexibilidad

Escalables desde 10 hasta 50000 puestos

Alineados con todas las estrategias



Solución Dell

Ágil

Arquitecturas abiertas y flexibles, pensadas para escalar

Eficiente

Modelos de referencia para simplificar el despliegue

Calidad

Componentes de máxima calidad, y soluciones completas de extremo a extremo

Soluciones abiertas, con la experiencia de Dell y su elección de Software



¿por qué Dell Wyse vWorkspace?



Menor coste
por puesto
virtual



Puestos
**Windows o
Linux**



Desde
**cualquier
cliente**



Gestión
centralizada
**basada en
roles**



Experiencia
local



Monitorización,
diagnósticos e
informes

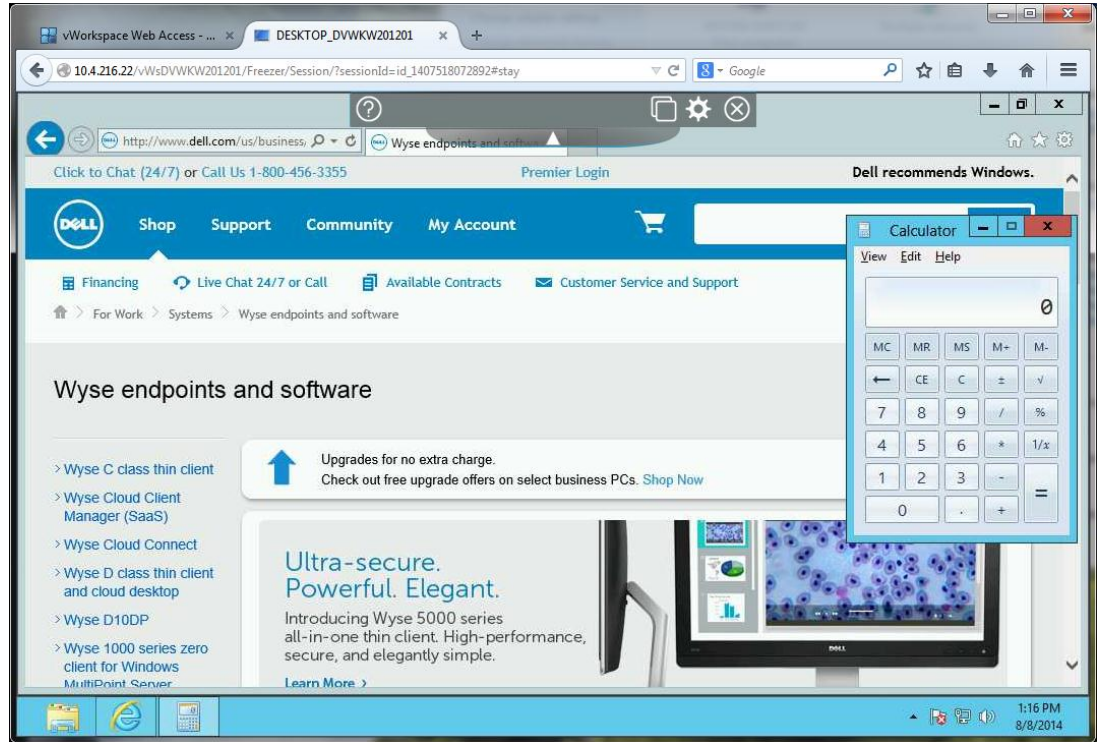
Basado en Microsoft &
Dell

Entrega de Escritorios y
Aplicaciones desde la
nube privada o pública
con Microsoft Azure

The Power to
Do More



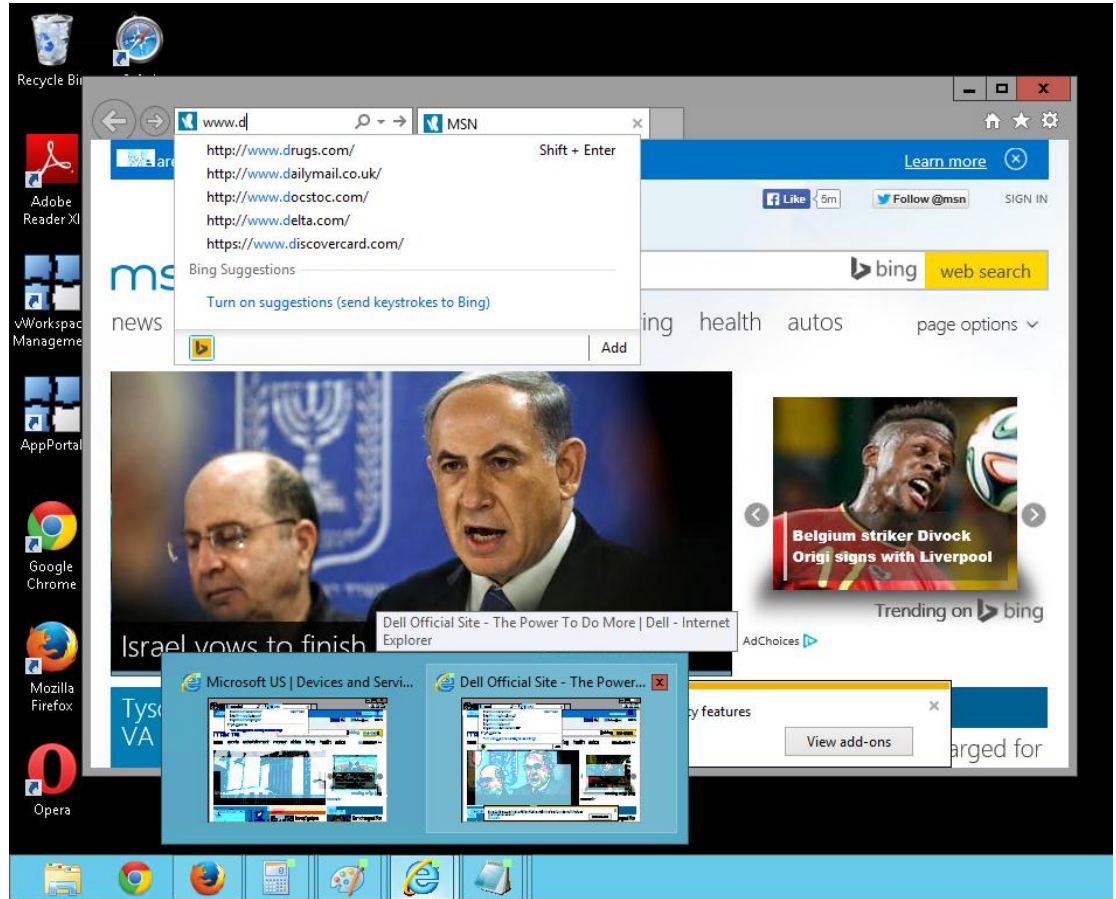
vWorkspace HTML5 Web Access – para escritorios (VDI, RDSH, Físico, Win/Linux)



Acceso Web amigable para móviles y tabletas



Experiencia de usuario local en sus aplicaciones remotas

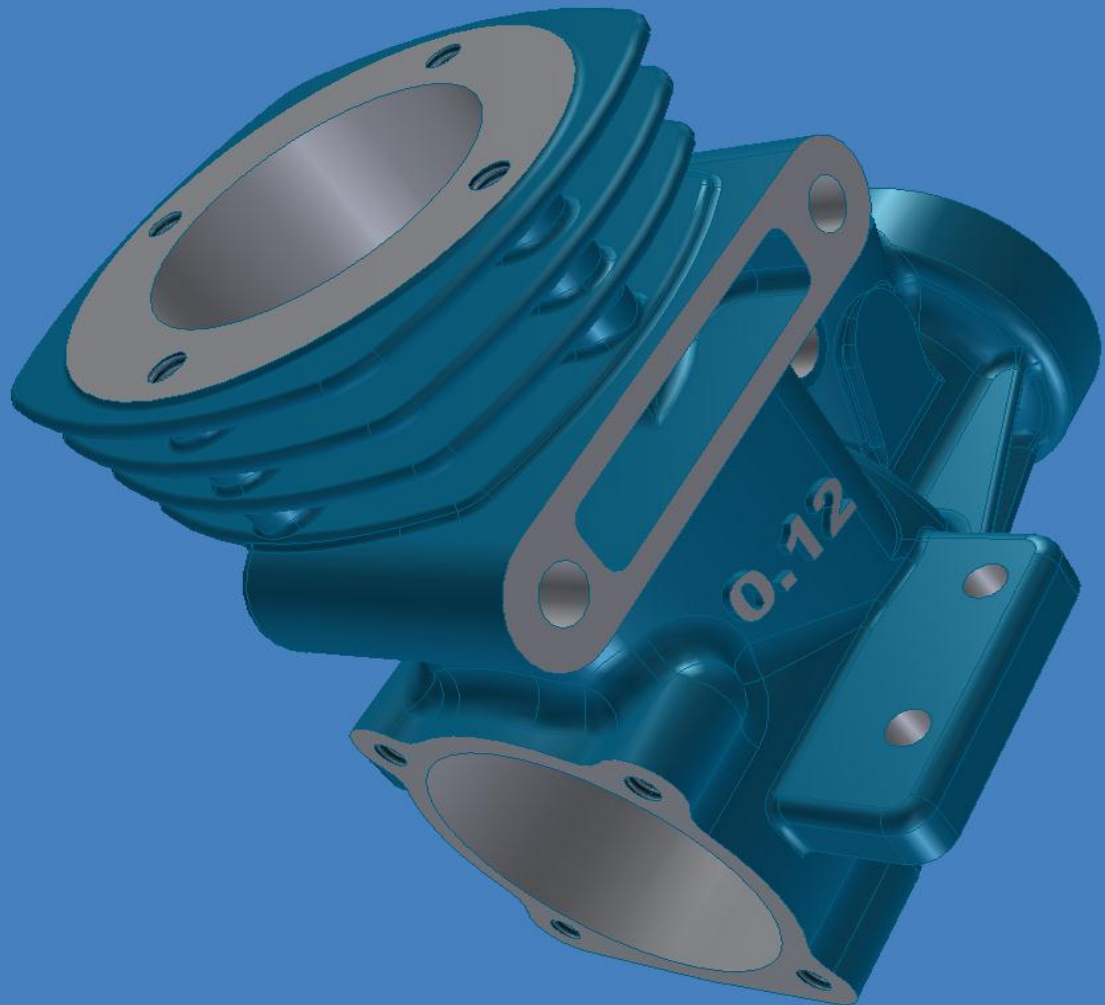


Aplicaciones 3D

- + Excelente experiencia de usuario aplicaciones 3D
- + Autodesk
- + Autocad
- + 3D Max
- + Google Earth
- + Skecthup
- + Aceleración GPU con Microsoft Hyper-V
- + NVIDIA K1/K2 GRID
- + ATI RADEON 7000/9000

Microsoft®
RemoteFX™

Enabled



Capacidades Enterprise Ready

Public Key
Infrastructure
PKI



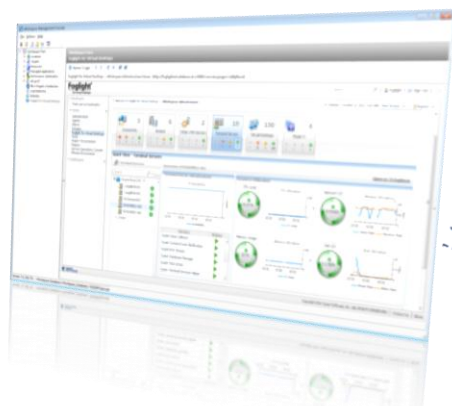
Inicio Sesión
Smart Card

DNI
Electrónico

Compatible
Directorio
Activo



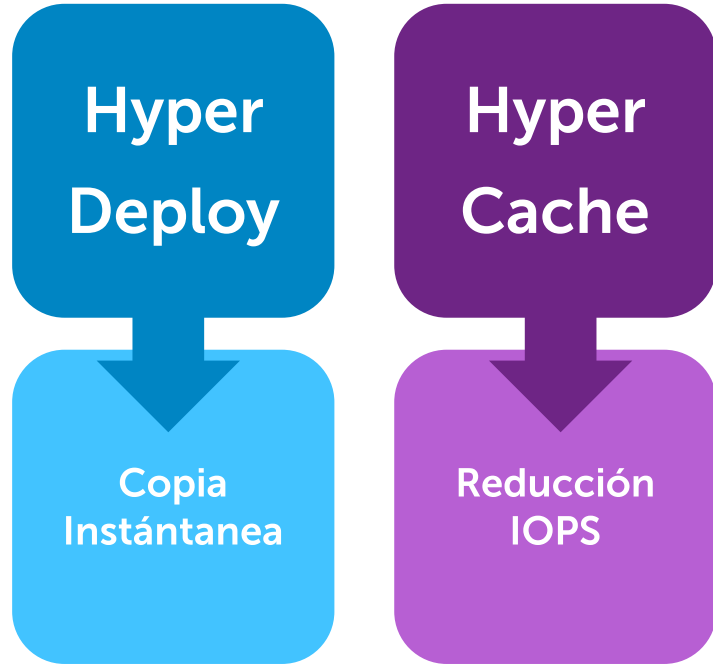
Solución abierta y completa



vWorkspace
Connection Broker



Potencia servidores Hyper-V



Beneficios

- + Aumenta rendimiento de Hyper-V
- + Cache Inteligente en memoria para Equipos Virtuales
- + Utilice ocho discos SAS en lugar de doce
- + Ahorros de 50GB-300GB de almacenamiento por servidor host
- + Replicación Instantánea de Equipos Virtuales
- + Despliega miles de Equipos Virtuales en menos de una hora
- + Para VDI y Terminal Server
- + No requiere cluster



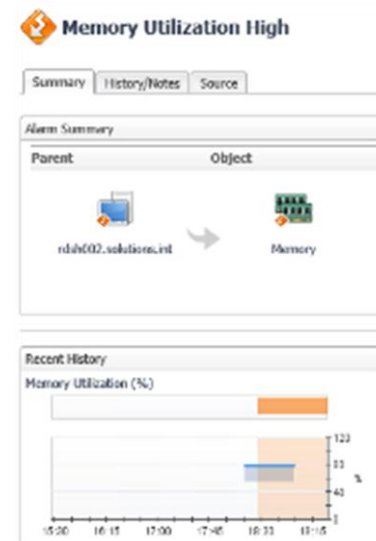
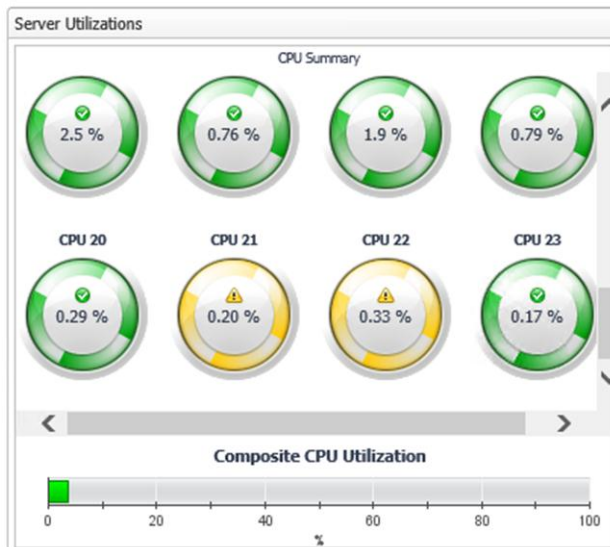
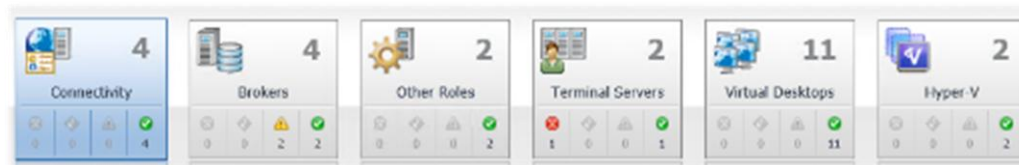
Super-fast VM Provisioning on Hyper-V 2012

Industry
benchmark:
**235 Win8
Enterprise VMs
in 11 minutes**

Monitorización avanzada



Monitoriza
vWorkspace
Hyper-V
VMware
Windows &
Linux



Resultados

probados ahorro
en costes

- + Utilice el presupuesto de renovación de PCs para implementar una solución de VDI que...
- + Utilice el presupuesto VDA Microsoft para otros fines
- + Reemplace PCs con Thin Clients de Dell Wyse
- + Utilice Microsoft Hyper-V Server 2012 gratuito
- + Aumente el rendimiento y capacidad de Hyper-V con los componentes Hyper-V Catalyst de vWorkspace
- + Almacenamiento local
- + Eficiencia energética
- + Eficiencia en IT

Costes
VDI



Cuentas fáciles

1 Servidor



RDVH Compute Host – PowerEdge R730
2 x Intel Xeon E5-2650V3 Processor (2.9Ghz)
256GB Memory (16 x 16GB DIMMs @ 1600Mhz)
(RDVH)
Microsoft Windows Server 2012 Hyper-V
2 x 300GB SAS 6Gbps 15k Disks (OS)- RAID 1
10 x 300GB SAS 6Gbps 15k Disks (VDI)- RAID 10

VDI
Windows 7
Windows 8

170

Usuarios VDI

RDSH
Windows 2008
Windows 2012

260

Usuarios RDSH



Cálculo para 170 puestos VDI por servidor appliance



RDS CALs € 12.750

W. Datacenter € 4.000

Brokering € 11.050

Hypervisor € 0



PE R730 € 11.000

€ 38.800

Dell Wyse T10



€ 200



€ 428

Por puesto

Entre 170



Hospital La Fe

- + 1000 escritorios desplegados en menos de 3 semanas
- + VDI Sencillo de gestionar sin complejas infraestructuras
- + Los tiempos de resolución de incidencias de usuarios se redujeron de horas a minutos
- + Los empleados de IT pueden dedicarse a nuevos proyectos
- + El hospital se inauguró en Enero 2012 con VDI como plataforma cliente
- + Servidores Dell

"El broker de conexiones VDI Dell vWorkspace y su consola de gestión única nos permite simplificar y automatizar la gestión de escritorios virtuales. Uno de los principales beneficios de esta solución es que nos permitió desplegar el proyecto VDI con más de 1000 escritorios virtuales en menos de tres semanas"

Marisa Correcher Palau

Directora de Sistemas de Información



Play video



Universitat Politécnica de Valencia

- + Proyecto de Virtualización de Aulas
- + Dell vWorkspace con VMware
- + Ubuntu Zero-Client LTSP
- + Reducción de los tiempos de preparación de las aulas entre cursos
- + Aumento de disponibilidad y rendimiento de los escritorios para los diferentes cursos



Universitat Illes Balears

- + Aulas Virtuales
- + Reutilización de PCs existentes como puestos de acceso cliente
- + Reutilización de infraestructura VMware existente
- + Monitorización con Foglight for Virtual Desktops para vWorkspace y VMware
- + Reducción de costes PCs de usuarios
- + Centralizar la gestión de PCs y aumentar la seguridad



Cloud client computing:
**Thin Client
Solution**



Thin Computing Paradigm

I want to...

...improve IT cost effectiveness

...enable simpler management of IT

...ensure security as I migrate to cloud

...migrate workloads to public cloud

...accelerate the delivery of IT services

...move disaster recovery to the cloud

...modernize my aging IT

Thin Client:

- Low Power Consumption
- Long Life Cycle
- Easy to deploy
- Easy to manage

= **Cost Reduction**

Dell Wyse cloud client hardware family

Thin clients

Flexible models include desktop | mobile | high performance

Based on Windows Embedded | Linux | Wyse ThinOS

Zero clients

Dedicated models for Citrix | VMware | Microsoft

Dell Wyse cloud clients

Most secure

Virus-immune
Dell Wyse ThinOS

- Zero attack surface
- Ultra-secure Windows Embedded Standard and Linux thin clients



Reduce risk

Easiest to manage

Automatic and cloud-based
endpoint management

- Self-managed clients
- Cloud Client Manager cloud-based fixed/mobile device management



**Empower IT,
embrace
BYOD**

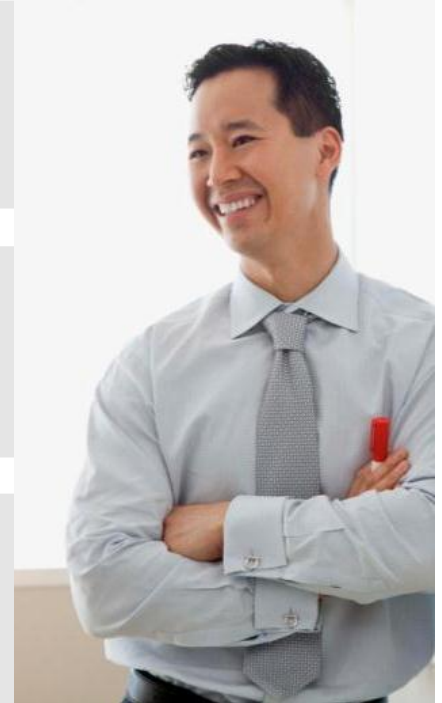
Price/performance

Broadest portfolio of
endpoints and software

- Endpoints designed for Citrix, Microsoft and VMware
- Dell award winning Monitor and print solutions



**Price per
performance
for any
budget**



*220+ patents; global thin client leader, units and revenue, per IDC for calendar 2012

Wyse clients and software - reduce cost, optimize benefits

Dell offers the most extensive selection of secure, easy-to-manage thin and zero clients with more choices in management and user-experience software



Most secure thin clients on the planet

Tailored zero clients for Citrix, Microsoft and VMware

More virtualization, management, user-experience and PC-as-thin-client software

Only Dell has over 200 patents awarded for innovation in thin and zero client design, operating system design, management software, and virtualization software

Meet the Wyse client family

High performance, secure, manageable and reliable thin / zero clients, delivering superior productivity for your workforce



7000 Series

High Performance clients

5000 Series

Mid-Range clients and All-in-ones

3000 Series

Entry level clients

1000 Series

Simple clients

Good, Better, Best Strategy

Good 3000 Series



Ex) Wyse 3290 Intel-based Thin Client

3000 Series means:

- Value-oriented
- No compromise

Better 5000 Series



Ex) Wyse 5213 All-in-One Thin Client

5000 Series means:

- Mid-range class
- Multi-core performance

Best 7000 Series



Ex) 7450-Z50Q Thin Client
7000 Series means:

- High-end class
- Most peripherals
- Highest performance and versatility

Thin Clients by firmware

Wyse zero clients.

Secure and purpose-built for Citrix, Microsoft and VMware.

		
1000 series E class A new level of affordable computing for classrooms. Designed to connect to and seamlessly support Windows MultiPoint Server 2011/12.	5000 & 7000 series P class Created for VMware Horizon View users, offers high performance PCoIP zero client workstations for 3D modelling and other demanding applications.	3000 & 5000 series Xenith family Built for Citrix XenDesktop and XenApp published desktops. Minimal delays, easy to manage, and extremely secure.
1000-E00 1002-E02	5020-P25 7020-P45	3002-Xenith 3 5000-Xenith Pro 2

Wyse enhanced Linux thin clients.

Versatile and multi-functional.

			
3000 series T class Offers an excellent web, Citrix, Microsoft, and VMware VDI user experience on a budget.	5000 series D class Versatile, compact and efficient. Dual and quad core thin clients capable of delivering 3D graphics and HD multimedia.	7000 series Z class Powerful dual and quad core thin clients made for the most demanding applications.	7000 series X class Mobile thin clients offering a rich integrated WiFi, Bluetooth™ option, and 3G card support.
3050-T50	5250-D50D 5450-D50Q	7250-Z50D 7050-Z50S 7450-Z50Q	7452-X50m



Windows Embedded Standard 7

Wyse ThinOS thin clients.

Optimized for maximum thin client security and performance.

		
3000 series T class Offers an excellent web, Citrix, Microsoft, and VMware VDI user experience on a budget.	5000 series D class Versatile, compact and efficient. Dual core thin client capable of delivering 3D graphics and HD multimedia.	5000 series all-in-one thin client Secure all-in-one, delivers an excellent virtual desktop experience, with extreme ease of use & management.
3010-T10 3012-T10D	5012-D10D 5012-D10DP	5212 - 5000 series all-in-one thin client 5213 - 5000 series all-in-one thin client with PCoIP







Wyse Windows Embedded Standard thin clients.

Scalable & highly flexible.

			
Intel-based 3000 series Compact, highly flexible thin client features a powerful dual core Intel-based processor.	5000 series D class Versatile, compact and efficient. Dual core thin client capable of delivering 3D graphics and HD multimedia.	7000 series Z class Powerful and expandable thin clients made for the most demanding rich media and graphics-intensive applications.	7000 series X class Mobile thin clients offering a rich integrated WiFi, Bluetooth™ option, and 3G card support.
3290	5290-D90D7 5490-D90Q7 5290-D90D8 5490-D90Q8	7290-Z90D7 7290-Z90D8 7295-Z90DE7 7490-Z90Q7 7490-Z90QQ7p 7490-Z90Q8	7492-X90m7



Wyse client portfolio - user segments

	Healthcare	Government	Education	Financial services	Retail	Industry
Business sector						
User types	<ul style="list-style-type: none"> - Doctors - Nurses - Clinical technicians 	<ul style="list-style-type: none"> - Secure environments - Training facilities 	<ul style="list-style-type: none"> - Computer labs - Mobile and commuter students 	<ul style="list-style-type: none"> - Customer service reps - Business continuity - Global scale 	<ul style="list-style-type: none"> - Point of sale - Manager's terminals - Public presentation 	<ul style="list-style-type: none"> - 3D graphic intensive - Manufacturing - Oil and gas - Entertainment
Drivers & benefits	<ul style="list-style-type: none"> - Fewer help-desk calls/more employee uptime - Improved regulatory compliance (Sarbanes-Oxley, state laws, HIPAA, etc.) - Heightened data security - Reliability and business continuity 		<ul style="list-style-type: none"> - Improved application access and performance - Standardized images, applications and support - Fewer logins through session portability - Better customer care - Enable an increasingly mobile workforce 			

Wyse Client family

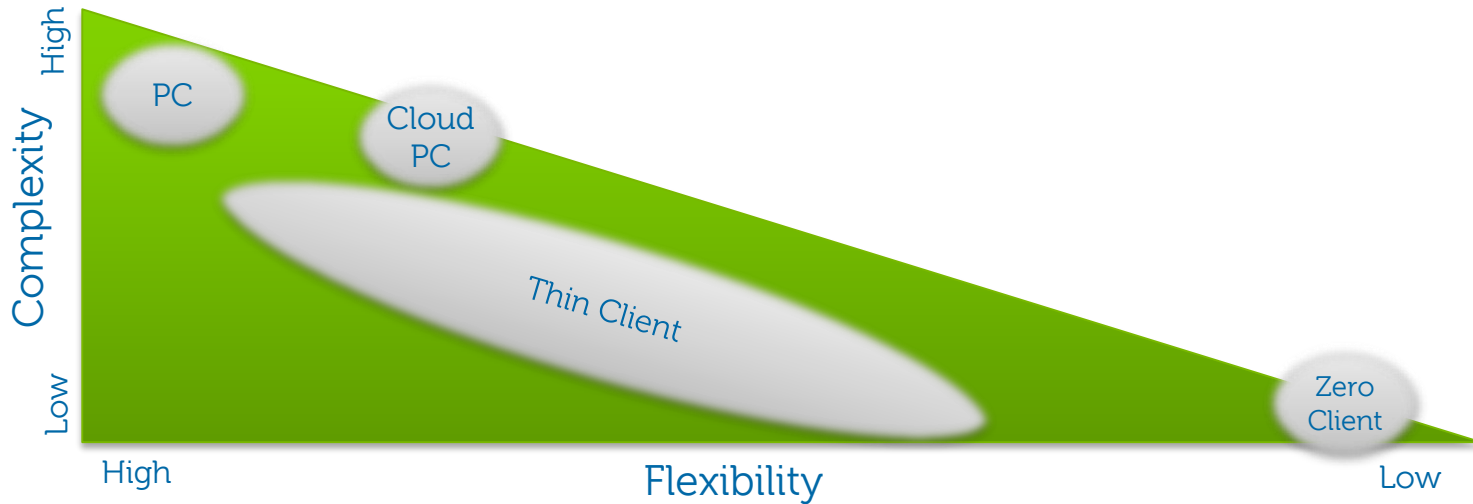
Broad selection to meet any worker type/application mix/performance/budget

Performance ↑

Flexibility →



Complexity vs. Flexibility



The Key to success is the simplification of the complexity and keeping the right level of flexibility at the same time.

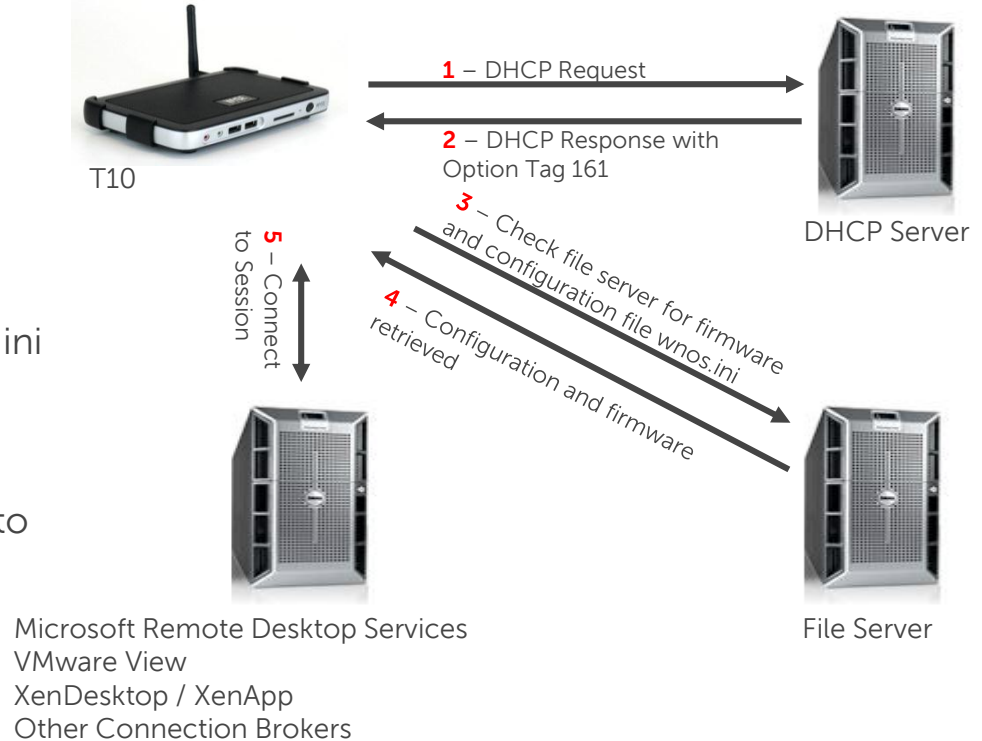
What level of Flexibility is really needed?

Typical Wyse ThinOS™ Configuration Hands-off Management

ThinOS configuration:

1. Set DHCP Option Tag 161 as string pointing to file server for firmware/configuration file **wnos.ini**
2. Place firmware and configuration file wnos.ini on the file server

ThinOS offers more flexibility as it can connect to a wider range of backend systems



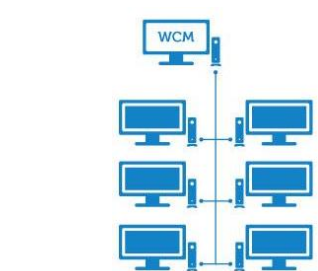
AUTO:

-Management
(WDM)

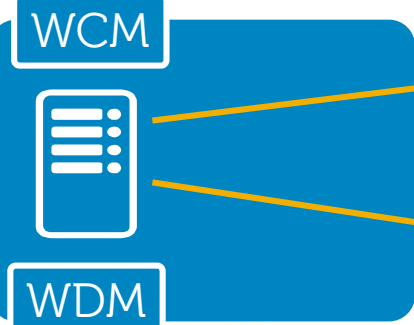
-Configuration
(WCM)



Wyse Configuration Manager VS Wyse Device Manager



- Apariencia
- Conectividad
- Clients Virtualización
- Periféricos, Idioma
- Modo Kiosko,...



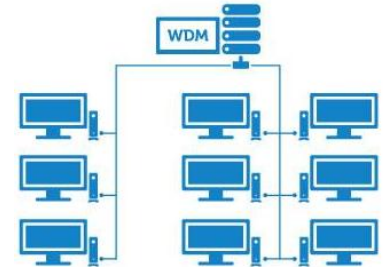
auto-configuración

AUTODESCUBRIMIENTO

auto-gestión



Wyse Thin Clients:
WES7, WES8, Linux
ThinOS



- Control Remoto
- Distribución Paquetes
- Despliegue y captura de Imágenes
- Instalaciones, Registro



Wyse Device Manager



Wyse Device Manager (WDM)

WDM software can manage all Dell Wyse thin and zero clients

Makes management of Dell Wyse clients easy

- Software Imaging / Updates / Configurations
- Asset tracking of devices
- Health monitoring of devices
- Policy management of device, and network settings
- Remote administration and shadowing of devices

Real-Time Commands

Asset Listing

Asset Details

The screenshot displays the Wyse Device Manager console. The top window shows a table of device assets with columns for Name, LAN MAC Address, Active IP Address, Platform, OS, Subnet, and Imaging Via P. Below this, a detailed view for a specific device is shown, including sections for Hardware Details, Bios and Drivers, and TPM BIOS Details.

Name	LAN MAC Address	Active IP Address	Platform	OS	Subnet	Imaging Via P
D10D-b23049	080064b23049	10.200.228.12	D10D	wTOS	10.200.228.255	No
LWT008064b11c08	080064b11c08	10.200.228.165	D50D	SUSE Linux	10.200.228.255	No
WES0080643a61E9	0800643a61E9	10.200.228.13	Z30D7	Windows Embedded...	10.200.228.255	Yes
WES008064b15E38	080064b15E38	10.200.228.9	Z30D8	Windows Embedded...	10.200.228.255	No
wT0080644a6936	0800644a6936	10.200.228.167	T10	wTOS	10.200.228.255	No
wT008064851674	080064851674	10.200.228.163	C10LE	wTOS	10.200.228.255	Yes
wT008064b1199e	080064b1199e	10.200.228.161	D10DP	wTOS FcCiP	10.200.228.255	No
wT008064b73354	080064b73354	10.200.228.16	D10DP	wTOS FcCiP	10.200.228.255	No
Z30D7-98E219	08006486E219	10.200.228.9	Z30D7	Windows Embedded...	10.200.228.255	No
Z30D8-4B69376	080064B69376	10.200.228.165	Z30D8	Windows Embedded...	10.200.228.255	No

Hardware Details	Value	Bios and Drivers	Value	TPM BIOS Details	Value
CPU:	AMD G-T48E Processor	AssetTag:	<Not Available>	TPM Active:	No
CPU Speed:	1400 Mhz	BIOS:	Rev: 3.0D	TPM Enabled:	No
Media Size:	4000 MB	NISTBIOS:	No	TPM Initiated:	No
RAM:	1576 MB	Platform:	D10D	Protection Status:	OS Drive Not Protected
Serial No.:	RHEDM500030	Video Adapter:	<Not Available>	Encryption Method:	No Encryption
Manufactured On:	1/1/1900	Sound Adapter:	<Not Available>	Encryption Status:	Fully Decrypted
Hardware Revis...:	<Not Available>	UEFI BIOS:	<Not Available>		
		UEFI Secure Boot:	Disabled		



WDM benefits and features

Benefits	Features
Security	<ul style="list-style-type: none">• HTTPS Based Imaging / Updates• Tiered Administration (AD integrated)
Deployment	<ul style="list-style-type: none">• Most advanced imaging technology• Bandwidth Throttling for Efficiency• Software Updates and Add-ons• OS Image Deployment Compression
Device Administration and Monitoring	<ul style="list-style-type: none">• Device Health Status / Reporting• Remote Shadowing / Control• Default Device Configuration
Scalability	<ul style="list-style-type: none">• Can manage tens of thousands of devices• Distributed Architecture, with multiple Remote Repository Support
Complete Asset Visibility	<ul style="list-style-type: none">• Automated Discovery• Detailed Hardware & Software Asset information• All Wyse devices are supported

Cloud Client Manager



Wyse Cloud Client Manager (CCM) software overview

Part of the umbrella Dell Mobility Manager solution

Multi-tenant cloud-based management service

- Mobile devices managed: iOS, Android, Cloud Connect, smartphones, tablets
- Thin clients managed: Wyse ThinOS and Xenith™

Thin client management features

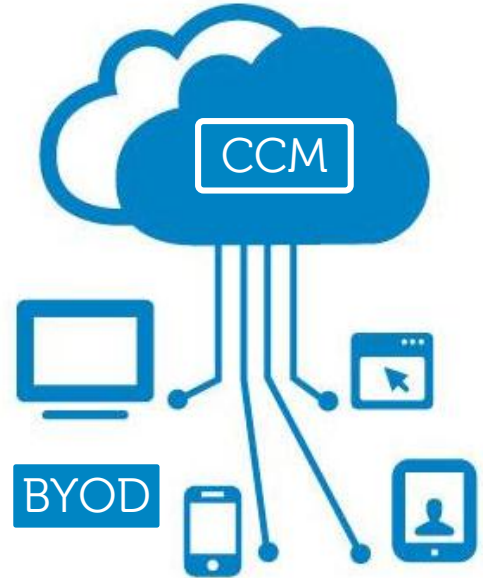
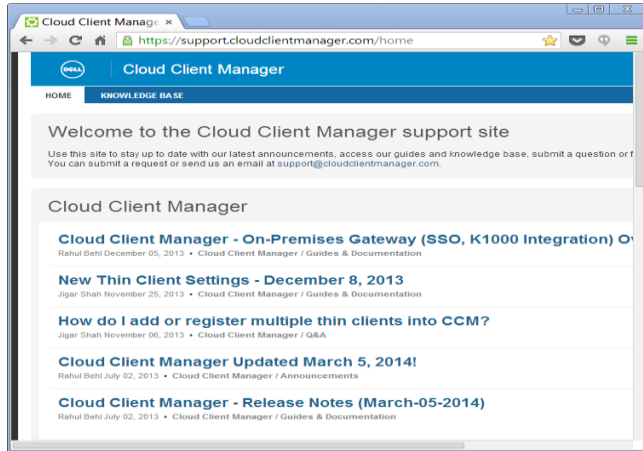
- Discovery and registration
- Inventory listing
- Asset details
- Real-time commands
- Configuration
- Firmware updates
- Group policy management

Pro: 45 day trial / paid per-seat

TC / firmware maintenance separate

Learn more

- cloudclientmanager.com/EditionsandFeatures.aspx
- support.cloudclientmanager.com



Comparison: CCM and WDM

	CCM	Wyse Device Manager
Architecture	Pure cloud	On-premises
Devices	Wyse ThinOS/Xenith™ Smartphones, Tablets	All Dell Wyse thin and zero clients
Free/Paid	Starter/Pro	Workgroup/Enterprise
Best suited for	<ul style="list-style-type: none">• Small and medium• Retail• At home• General/multi-use IT staff	<ul style="list-style-type: none">• Large deployments• Enterprises, Financial services• Dedicated and traditional IT staff
Management style	Policy-based	Full-featured
What do you recommend?	<ul style="list-style-type: none">• Briefly discuss both• Recommend based on above criteria• Let customer try and decide	

Wyse Configuration Manager

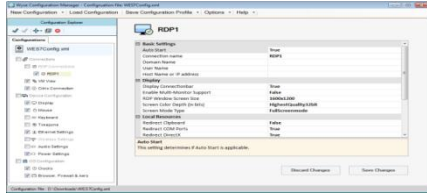


Dell Wyse Configuration Manager (WCM)

An easy to use tool for configuring Windows Embedded clients

Auto-configuration for Windows Embedded thin clients

- Create a XML configuration file: WCM GUI Application/Export from Thin Client
- Deploy it via a server when users login



WCM Application GUI



WCM Client on Dell Wyse thin client



Create/Update Configuration Files

OR



Capture Device Configuration to an XML File



FTP/web Server



Pulled by thin client automatically at each login



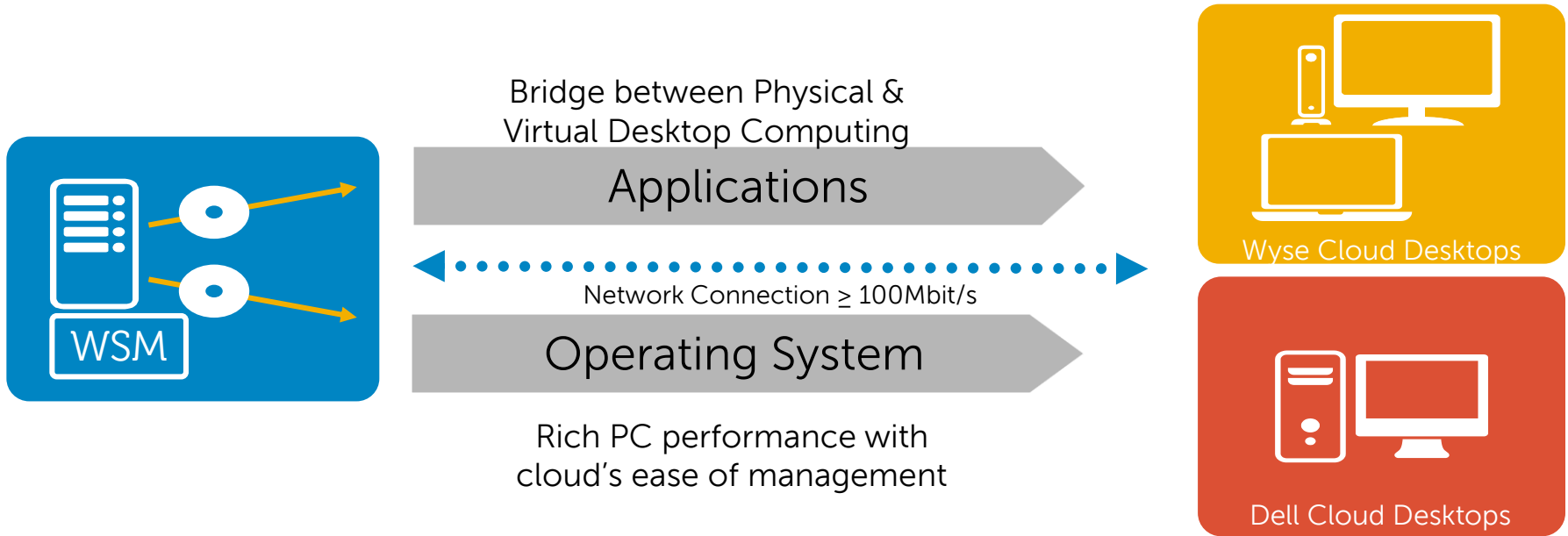
WCM Client on Dell Wyse thin client




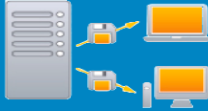

Wyse Streaming Manager



What is a Cloud Desktop?



At a glance: PC, WSM & VDI

	 <p>PC</p>	 <p>WSM</p>	 <p>VDI</p>
Management Control Point	On the PC	Centralized in Data Center	Centralized in Data Center
Client Management	Full PC Management	Zero Management	Thin Client Management
User Data Storage	On the PC	In Data Center	In Data Center
Desktop Resides	On the PC	In Data Center	In Data Center
Desktop executes	On the PC	On the Client	On the Server in Data Center
Protocol Dependency	None	None (Standard UDP/TCP)	ICA/RDP/PCoIP

What are the benefits ?

Lower IT Costs (CAPEX & OPEX)

- Centrally manage desktops (OS & apps) from headquarters
- Never manage an individual desktop
- 100 percent desktop security & superior compliance
- Deploy Windows 7/8 in hours instead of days
- Re-use existing desktops
- Smaller data center server footprint

Increase User Productivity

- Windows 7/8 PC with rich performance and all peripherals & Applications supported
- Branch survivability on WAN failure
- Theft, hardware failure ... recover in minutes vs. hours

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