



Voice of the Engineer Series

Selling a complete 5000 Seat Horizon VDI Solution

Mike Brennan, Product Manager, Virtual Client Computing and Graphics
Dave Werling, Cisco Partner Alliance Executive for VMware
Todd Gambill, DC Business Development Manager for VCC
17 July 2019



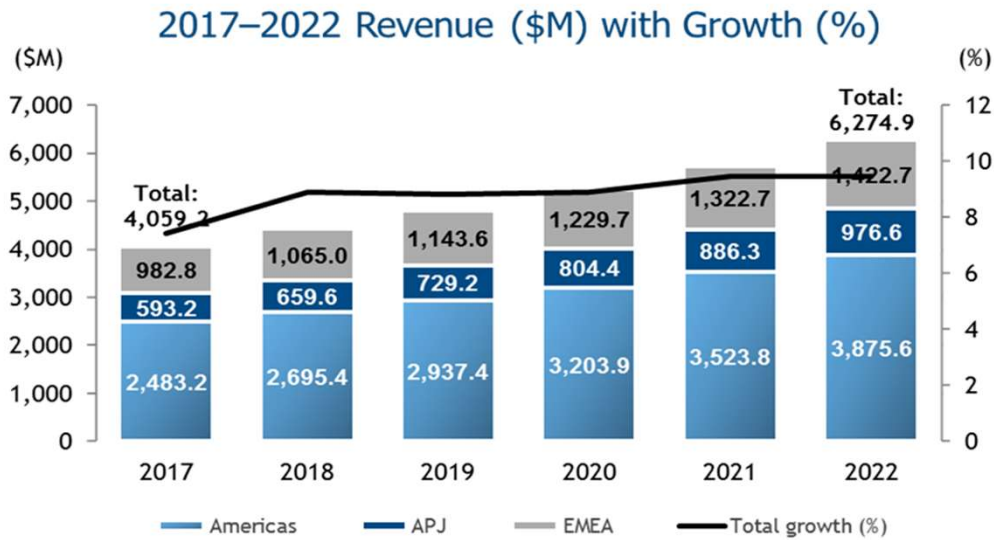
What we will cover

- VDI Market Opportunity
- VDI Architectures
- VDI Platforms
- VDI User Requirements
- VDI Sizing Tools (Demo)
- Ordering Horizon Licenses (Demo)
- VDI Resources to make you more valuable
- VDI Horizon Solution IDs
- Create your 5K Seat Estimate (Demo)
- Sample benchmark performance
- Q & A

What is the
market
opportunity for
VDI?



Worldwide Virtual Client Computing Software Forecast, 2018-2022



Selected Segment Growth Rate

- ▲ Americas CAGR 9.3%
- ▲ APJ CAGR 10.5%
- ▲ EMEA CAGR 7.7%

Total Market CAGR 9.1%




Virtual Client Computing Solution Trends



Market

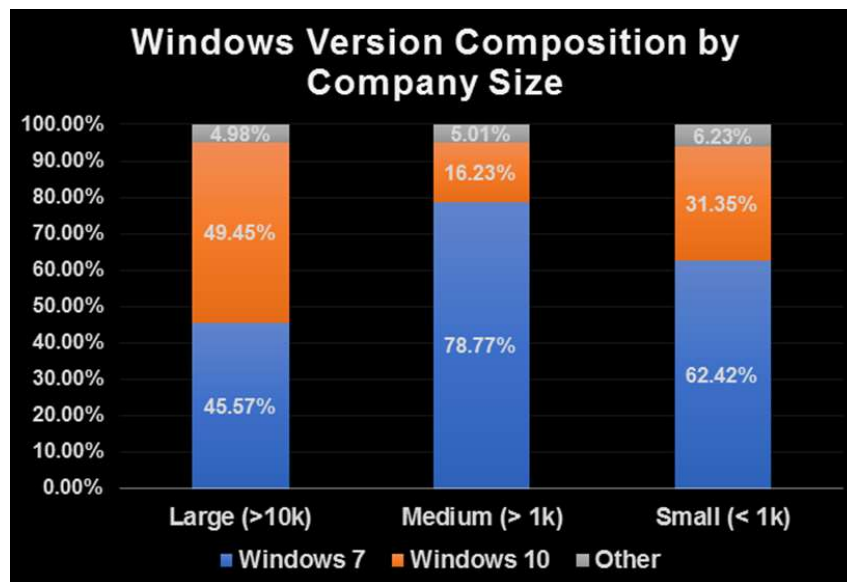
- WW virtual client computing software sales expected to reach \$5.2B & drive \$2.6B in infrastructure in 2020
- High graphic demands on OS & Apps is driving demand for GPU
- Drive to virtualizing professional apps is delivering results
- Forced Migration to Windows 10

 Customers looking to simplify with cloud & Hyperconverged

Cisco Sales

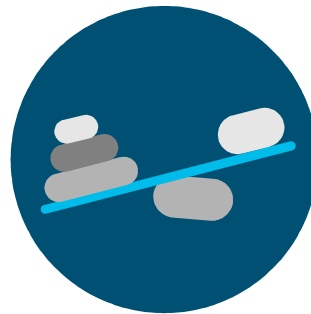
- Active refresh and expand program for aging VDI base is creating a compelling event to upgrade
- We continue momentum with GP Win 10 graphics acceleration
- Windows 7 End of Support is huge opportunity
- Deal sizes for VDI are very large
- VCC is key workload on HX and UCS at #1 or #2

Windows 7 Migration Completion Rates

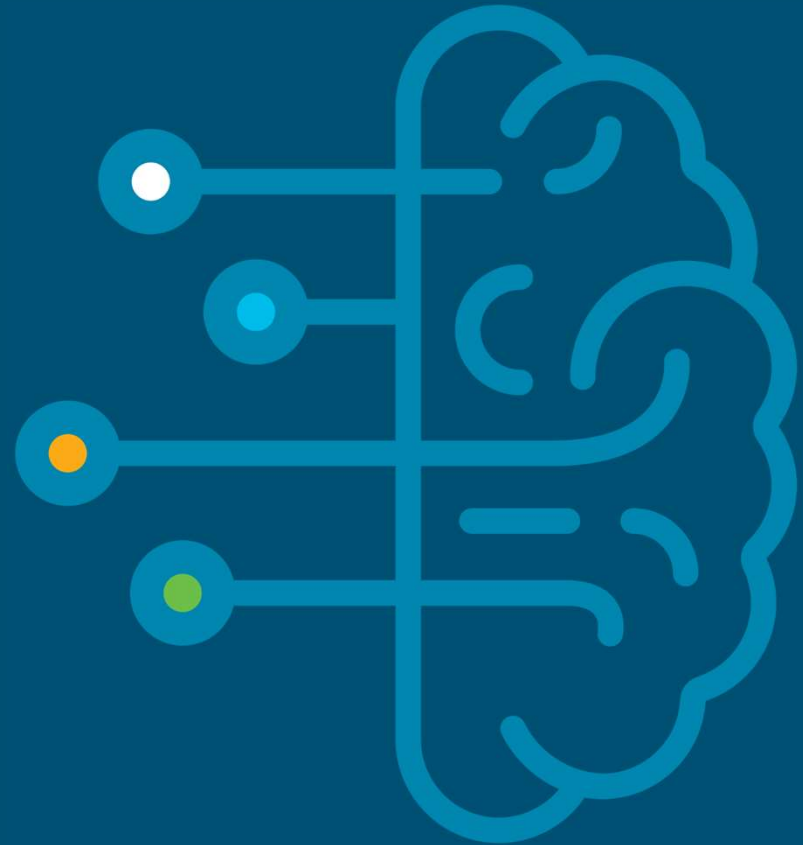


- <https://www.lakesidesoftware.com/blog/windows-7-windows-10-migration-who%E2%80%99s-migrated-and-what%E2%80%99s-holding-businesses-back> September, 2018
- About 50% of Large >10k organizations will still need to migrate to Win 10.
- Over 80% of medium sized organizations > 1K users will still need to migrate to Win 10.
- Similar data also provided by ComputerWorld from February, 2019

Key Drivers for Virtual Client Computing



VCC Architectures



Lets get down to basics on what we are talking about



What does “VDI” mean exactly



Microsoft Window 10 Virtual Machines

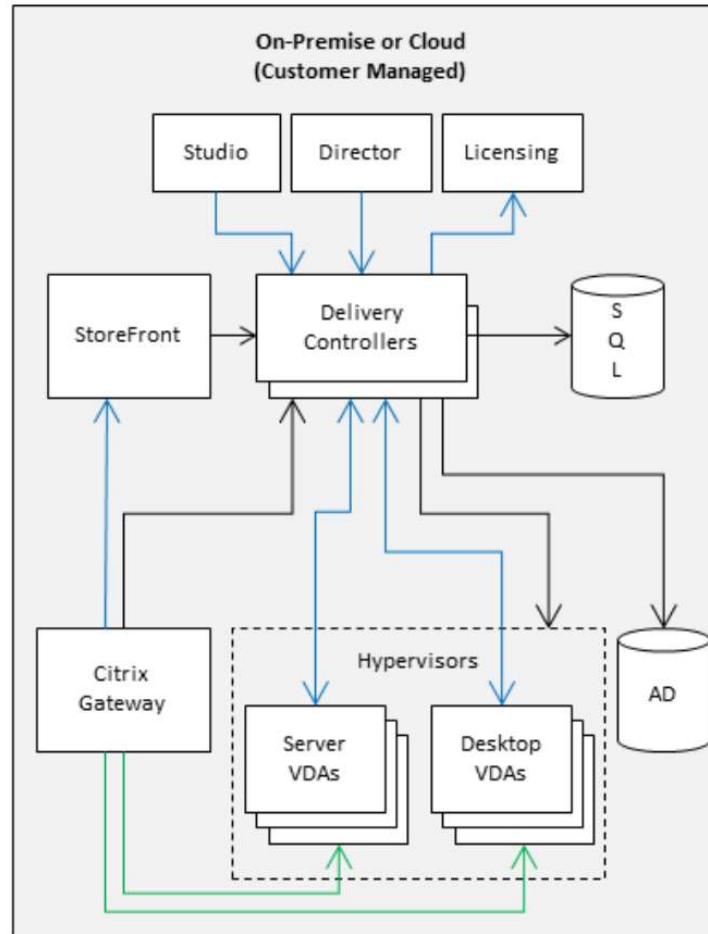


Microsoft Server Hosted Desktop Sessions (RDSH)



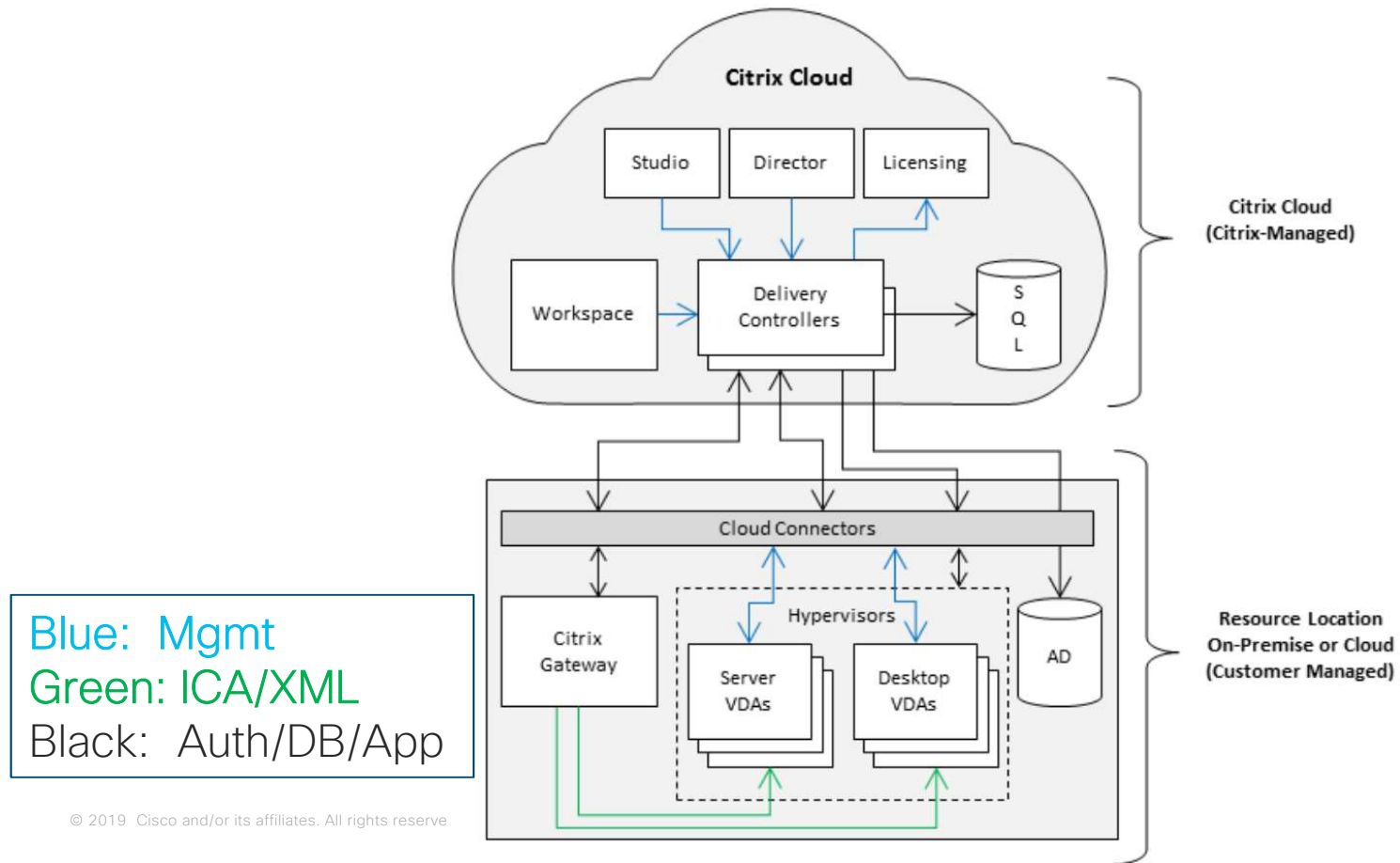
Microsoft Server Hosted Published Applications

Citrix Virtual Apps and Desktops Architecture

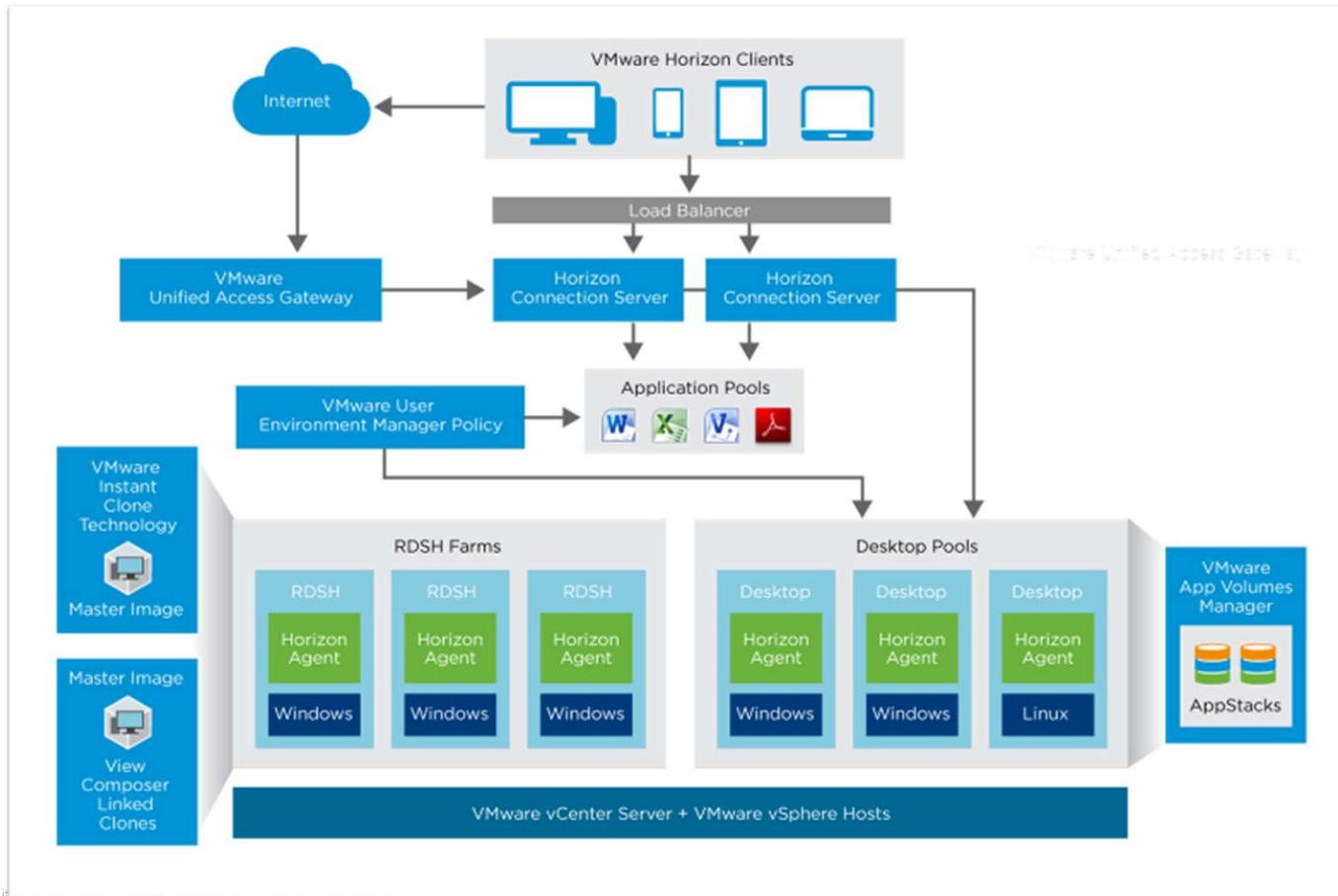


Blue: Mgmt
Green: ICA/XML
Black: Auth/DB/App

Citrix Virtual Apps and Desktops Architecture



VMware Horizon Architecture



VCC Platforms



Cisco Virtual Client Computing Platform Choice

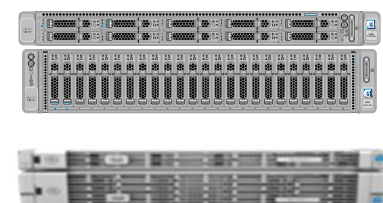
Cisco Unified Computing System Cisco HyperFlex



Component



Converged Infrastructure



HyperConverged



UCS and HX M5 Blade & Rack Server Details

Highest Performance UCS 5th Gen Platforms designed for Intensive Enterprise Workloads



B480 M5

M5 differentiators:

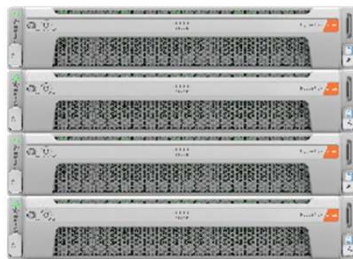
- Quad Intel® Xeon® Processor Scalable Family processors (up to 28 cores)
- Up to 4 SFF + 2 x M.2/SD
 - SATA/SAS HDD/SSD, PCIe NVMe
- Quad GPU support



B200 M5

M5 differentiators:

- Dual Intel® Xeon® Processor Scalable Family processors (up to 28 cores)
- Up to 2 SFF + 2 M.2/SD (SATA/SAS HDD/SSD, PCIe NVMe)
- Dual GPU support



HX240c M5

M5 differentiators:

- Dual Intel® Xeon® Processor Scalable Family processors (up to 28 cores)
- Centralized mgmt for RAID for all drives
- Up to 6 PCI GPU*
- Up to 10 NVMe drive bays
- 10G LOM
- M.2 support



C480 M5

M5 differentiators:

- Quad Intel® Xeon® Processor Scalable Family processors (up to 28 cores)
- Up to 24 front facing drives (24 can support NVMe*)
- Up to 8 top accessible drives (8 can support NVMe**)
- Up to 6 PCIe GPUs
- Up to 12 PCIe slots
- M.2 support



C220 M5

M5 differentiators:

- Dual Intel® Xeon® Processor Scalable Family processors (up to 28 cores)
- Up to 10 SFF drive bays
- Up to 10 NVMe drive bays
- Dual PCI GPU*
- M.2 support



C240 M5

M5 differentiators:


- Dual Intel® Xeon® Processor Scalable Family processors (up to 28 cores)
- Centralized mgmt for RAID for all drives
- Up to 6 PCI GPU*
- Up to 10 NVMe drive bays
- 10G LOM
- M.2 support

*using HHSW GPU


VCC User Requirements




Key performance requirements for Virtual Desktops




User requirements




CPU and memory performance



Monitors



Display resolution



Software requirements

User requirements

A circular icon with a blue background, featuring a white gear and a white silhouette of a person's head and shoulders.

User role

A circular icon with a blue background, featuring a white square and a white circle.

Concurrent applications open

A circular icon with a green background, featuring a white eye with a blue pupil and four white lines extending from the corners.

Complexity of graphic application


A circular icon with a dark blue background, featuring a white circle with four white silhouettes of people inside.

Collaboration requirements

A circular icon with a light blue background, featuring a white clock face with a blue hand and two blue arrows forming a circle.


Working hours

User roles




Task Worker

- CRM Users, ERP Users, Payables, Receivables, Medical Records
- Users primarily work in a single application



Knowledge Workers

- Full MS Office Suite, High Res Web Sites, Online Videos
- Multiple applications open and active



Power User

- Full MS Office Suite, High Res Websites, Presentation designers with animation, High Res graphics apps
- Multiple high performance apps open and active

CPU and memory performance



CPU selection criteria

- Total frequency in MHz/CPU and server
- Core count
- Planned user count


Memory selection criteria

- Balance
- Frequency

Display resolution and monitors




Maximum display resolution supported



Display resolution expected by user type



Number of monitors per user supported



Number of monitors expected by user type

Software requirements

A circular icon with a dark blue background. Inside, there are three white gears of different sizes arranged in a cluster.

Application minimum requirements

A circular icon with a dark blue background. Inside, there is a white network diagram with nodes and connecting lines.

Application support for virtualization

A circular icon with a dark blue background. Inside, there is a white server rack icon with three orange indicator lights.

Application hardware qualification

A circular icon with a dark blue background. Inside, there are two white stylized human figures, one slightly behind the other.

Application delivery partners


A circular icon with a dark blue background. Inside, there is a white icon of a person sitting at a computer with a laptop and a monitor.

Application support model


VCC Sizing Tools



Key Elements for Sizing




Virtual CPUs (vCPUs) per Desktop/Server




Number of Monitors per Desktop



Virtual Memory per Desktop







Total User Counts









GPU Requirements



Home

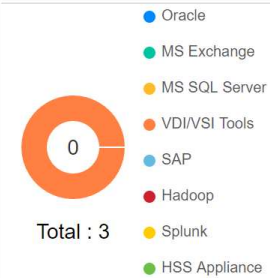
- Oracle Create Configuration  ▾
- MS Exchange Create Configuration  ▾
- MS SQL Server Create Configuration  ▾
- VDI/VS I Tools Create Configuration  ▾

Configuration Name	Type	Description	Info	Build
Voice of the Engineer		1000 Seat Horizon...		
VCC PM Demo Configuration	VDI Estimator	Demo Configuration		
Test 2	VDI Estimator			
more...				

- SAP Create Configuration  ▾

My Projects

Last Modified



Type : VDI/VS I Tools
 Name : Voice of the Engi...
 Date : 5/13/2019, 3:34:06 PM

Whats New

1. **SAP HANA sizing**
 - a. Support for SAP HANA S/4H or SoH and SAP HANA Datamart, BWoH or BW/4H deployments.
 - b. Scale-up and Scale-out architectures.
 - c. Provision to size as TDI.
 - d. Supports C880 M5 and C880 M4 servers
2. **Exchange sizing**
 - a. Now available in improved, interactive and user friendly UI.
3. **VDI/VS I Tools**

<https://www.cisco.com/c/en/us/partners/tools/ucs-sizer-enterprise-apps.html>

HyperFlex Sizing Tool

The screenshot displays the HyperFlex Sizing Tool interface. At the top, the Cisco logo and 'HyperFlex Sizer 9.0.2 / HXDP 4.0' are visible. Navigation links include 'Sizing Calculator', 'HX Tools', 'Getting started', and 'What's New?'. Below the navigation bar, there are tabs for 'Active', 'Favorite', 'Archive', and 'Shared with me'. The main content area is titled 'Scenarios' and features a search bar and an 'Add Scenario' button. A scenario card for 'VoE-Demo' is shown with the following details:

0	0	0
Workloads	Clusters	Nodes
Account : Oke Doke Chips		
Version : 9.0.2 / HXDP 4.0		
Share Settings : Not Shared		
	View Scenario >	





Red arrows point to the 'Add Scenario' button and the 'View Scenario >' link.

<https://hyperflexsizer.cloudapps.cisco.com/ui/index.html#/scenario>

Ordering Horizon Licenses



Advantage+

	Program Consolidation	<ul style="list-style-type: none">• Single registration program (ADVANTAGE+)• Applies on transactional and ELA for our partners
	Auto-Validation	<ul style="list-style-type: none">• First in Wins! Net-New opportunity based on customer & product• Simplified registration form and submission process• Allows for submission earlier in the sales cycle
	Registration Opportunity Management	<ul style="list-style-type: none">• Registration valid for recurring 90-day cycles• Sales stage and status updates simplifies extension process
	Benefits	<ul style="list-style-type: none">• Significant ADVANTAGE+ discount increases on advanced products• Predictable benefits across opportunity types – discounts & rebates• Protection on registered deals

Program Discounting

		Transactional & ELA	
		Minimum deal size = \$10K *Airwatch, Mobile WO STD & ADV only, minimum = \$1K	
Eligible	Solution Providers: Premier and Enterprise	Discount by Product 10% to 30%	10% Protection Up to 7% Rebate
	Corporate Resellers		
	OEM Partners	N/A	
	Solution Provider: Professional	Not eligible for Financial Benefits – Safeguard Benefit Only	
		Solution Rewards	
		5% Rebate By Competency Required +2% Solution Reward Premier Bonus	

VMware Discounting by Product

- Based on Strategic Focus



Cisco Sales Desk for VMware Sales

- **Virtual Sales (Lisbon & RTP)**
 - Identify vSphere, Horizon, & vSAN opportunities
 - Register opportunities with VMware to lock-in Cisco's lowest pricing
 - Interlock with Cisco AM's to help facilitate addition of VMware software to order
 - SME for VMware products

North America

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EMEAR

Nuno Tome

ntome@cisco.com

+351 21 454 1172



Total Deal Size:

- vSphere adds ~30%
- Horizon adds ~24%

VMware Deal Registration

Approved
Denied

Win %
37%
27%

10% better win rate when
deal is registered and
approved by VMware

- Based on 3 months of data
- Deals not noted in SFDC as won or lost are not included in %

Horizon Licenses in Cisco Commerce Workspace

Cisco Commerce Estimates | Michael Brennan

Search All...

Home | **Catalog** | **Estimates** | Deals & Quotes | Orders | Services & Subscriptions | Software

I want to ...

- View Estimate Information
- Link to Opportunity
- Set Install/Service Location
- See Recommended Global Sales Kits
- Calculate Payment Options

Security Subscriptions | AS-Fixed | Learning Credits

Demo

ESTIMATE NAME: Horizon License Ordering (AP92091328WP) | Global Price List US Availability (USD)

ESTIMATE ID: AP92091328WP | CREATED BY: Michael Brennan | CREATED ON: 13-May-2019

Set preferences for this estimate

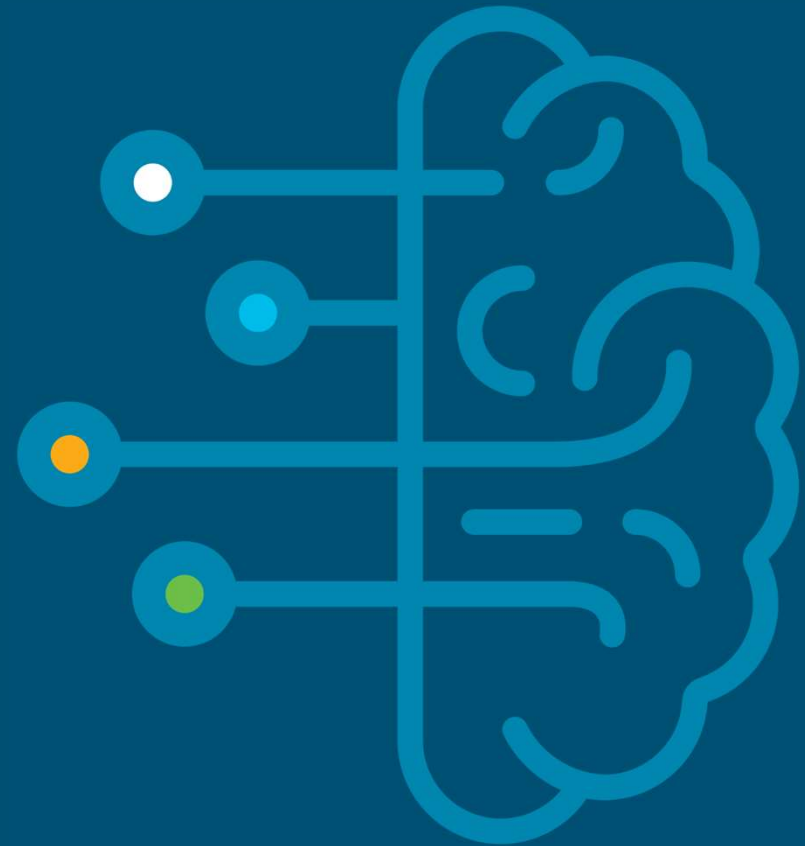
Search by Sku, Program ID, Description and Product Family | 1 | Add | Find Products & Solutions | Actions

The product discounts are cascaded to subscription SKUs, but they may be eligible for lower discounts. To apply proper discount to subscriptions, please click "More" → "Apply Discounts"

	Hardware, Software and Services	Estimated Lead Time	Unit List Price (USD)	Qty	Unit Net Price (USD)	Discount (%)	Extended Net Price (USD)
<input type="checkbox"/>	1.0 VMW-HZ-LIC= CP more VMware Horizon 7 License Invalid as of 13-May-2019 04:13:48 PDT	7 days	0.00	1	0.00	0.00	0.00

Select Options | Validate | Add Note | More Actions | Add Subtotal

VCC Resources and Programs





Cisco and NVIDIA's Migration Acceleration Program: A Great VDI User Experience Is More Affordable Than Ever!

1 Year
Free

NVIDIA GRID with 3 Year Support Contract

More affordable option with a 3 year server amortization

Requirements

- Fully loaded UCS or HX reference server with Tesla M10, P6 or T4 GPUs
- 32, 64 or 96 GRID Virtual PC licenses
- 3 year Subscription (includes SUMs)

2
Years
Free

NVIDIA GRID with 5 Year Support Contract

Most cost-effective option with a 5 year server amortization

Requirements

- Fully loaded UCS or HX reference server with M10, P6 or T4 GPUs
- 32, 64 or 96 GRID Virtual PC licenses
- 5 year Subscription (includes SUMs)



Choose From new Solution Bundles That Support Your Needs



Enhanced experience blade form factor for VDI using NVIDIA P6

Includes 2 x NVIDIA P6 GPUs with GRID licenses for 32 users



Single purpose, lowest cost solution for VDI using NVIDIA M10

Includes 2 x NVIDIA M10 GPUs with GRID licenses for 64 users



Multi-workload, cost-effective solution for VDI NVIDIA T4

Includes 4 x NVIDIA T4 GPUs with GRID licenses for 64 users



Highest Density rack multi-workload solution for VDI using NVIDIA T4

Includes 6 x NVIDIA T4 GPUs with GRID licenses for 96 users.



Highest Density blade multi-workload solution for VDI using NVIDIA T4

Includes 6 x NVIDIA T4 GPUs with GRID licenses for 96 users.



Available Solution IDs

Solution ID Name	External Description
M10-C240M5-64vPC-3YR-Win10-Promo	Base Experience -Rack Form Factor; 2xM10, C240 M5, 64 vPC 3Yr
M10-C240M5-64vPC-5YR-Win10-Promo	Base Experience -Rack Form Factor; 2xM10, C240 M5, 64 vPC 5Yr
P62-B200M5-32vPC-3YR-Win10-Promo	Enhanced Experience - Blade Form Factor 2xP6, B200 M5, 32 vPC 3Yr
P62-B200M5-32vPC-5YR-Win10-Promo	Enhanced Experience - Blade Form Factor 2xP6, B200 M5, 32 vPC 5Yr
T44-C240M5-64vPC-3YR-Win10-Promo	Enhanced Experience - Rack Form Factor 4xT4, C240 M5 64 vPC 3Yr
T44-C240M5-64vPC-5YR-Win10-Promo	Enhanced Experience - Rack Form Factor 4xT4, C240 M5 64 vPC 5Yr
T46-C240M5-96vPC-3YR-Win10-Promo	High Density Enhanced Experience - Rack Form Factor 6xT4, C240 M5 96 vPC 3Yr
T46-C240M5-96vPC-5YR-Win10-Promo	High Density Enhanced Experience - Rack Form Factor 6xT4, C240 M5 96 vPC 5Yr
T44-HX-C240M5-ComputeOnly-64vPC-3YR-Win10-Promo	Enhanced Experience - Rack Form Factor 4xT4, HX240c M5 64 vPC 3Yr
T44-HX-C240M5-ComputeOnly-64vPC-5YR-Win10-Promo	Enhanced Experience - Rack Form Factor 4xT4, HX240c M5 64 vPC 5Yr

User can search for by the first three letters of the solution. Examples:

P62 Idea is 2 x P6 cards. Search would produce the 3YR and 5YR solution IDs:

T44 4 x T4 same

T46 6 x T4

M10 2 x M10s same

Caveats:

- 2018 Cannot be combined with Smartplay bundles
- Program expires 1/17/2020

NVIDIA DATA CENTER GPUS

Empowering the Modern Digital Workplace



Now Orderable!

	1 x NVIDIA P6	1 x NVIDIA M10	1 x NVIDIA T4
Density	16 users	32 users	16 users
Form Factor	MXM (blade)	PCIe 3.0 dual slot	PCIe 3.0 single slot
Power	90W	225W	70W
CODECs	H.264	H.264	VP9, H.265
System Memory Support	> 1TB	< 1TB	> 1TB
Use Case	Blade form factor knowledge workers	Lowest TCO for knowledge workers	Universal GPU for virtual workstations, knowledge workers, rendering, inferencing, training

Resources to make you more valuable



Virtual Client Computing Design Navigator

<http://cisco.com/go/vdi-cvd>



Cisco Virtual Client Computing Home Page

<http://cisco.com/go/vdi>



Cisco/Citrix Home Page

<http://cisco.com/go/vdi/citrix>



Cisco/VMware Home Page

<http://cisco.com/go/vdi/vmware>



Contact Us



Have Feedback?

Start Over

Platform

- FlashStack (Pure)
- FlexPod (NetApp)
- HyperFlex
- Other
- VSAN
- VersaStack (IBM)

Hypervisor

- Citrix Hypervisor
- Microsoft Hyper-V
- VMware vSphere

Desktop Broker

- Citrix Desktops/Apps
- VMware Horizon

Sizing

- 2000 to 4999
- 500 to 1999
- 5000 or more
- Fewer than 500

Graphics

- GRID GPU

Search...

To specify multiple criteria, separate with comma (,)

Search

Results (60)

Graphics	N/A
Platform	HyperFlex HXDP 3.5
Hypervisor	VMware vSphere 6.5
Compute	Cisco HyperFlex HXAF220c-M5SX
Desktop Broker	VMware Horizon 7.6
Sizing	4400

[View Document](#)

Graphics	N/A
Platform	3D Visualization with Citrix and NVIDIA
Hypervisor	Citrix XenServer 7.5
Compute	Cisco UCS B200 M5 and UCS C240 M5 + GRID GPU
Desktop Broker	Citrix XenDesktop 7.15
Sizing	N/A

[View Document](#)

Graphics	N/A
----------	-----

Alright, I found what I was looking for, how do I order it?



FlexPod Datacenter with VMware Horizon View 7.3 and VMware vSphere 6.5 Update 1 with Cisco UCS Manager 3.2 for 5000 Seats

Cisco Validated Design for a 5000 Seat Virtual Desktop Infrastructure Built on Cisco UCS B200 M5 and Cisco UCS Manager 3.2 with NetApp AFF A-Series on VMware Horizon View 7.3 and VMware vSphere ESXi 6.5 Update 1 Hypervisor Platform

Last Updated: January 2, 2018



VCC 5000 Seat Solution ID



Cisco Validated Design for 5000 Horizon Users



Design Objective

- 5000 Seat Mixed Workload – 1500 Instant Clones, 1500 Full Clones, 2000 RDSH Sessions
- VMware Horizon 7 on ESXi 6.5
- Windows 10 Virtual Desktops
- Server 2016 RDSH Virtual Servers



Compute Layer

- Cisco 5108A Blade Chassis with Cisco 2304 IOMs
- Cisco UCS B200 M5 Blade Servers with Intel Xeon 6140 CPUs and 768GB RAM
- Cisco VIC 1340



Storage Layer

- NetApp AFF 300 Dual Controller Storage Array
- DS2424 24SSD Disk Shelf

Solution Hardware, Software & Firmware Version Detail



- *Cisco Unified Computing System (UCS) – B-Series blades*
- *Cisco UCS 6300 Series Fabric Interconnects (FI) – unified access to storage and LAN networks*
- *Cisco MDS 9100 Series 16GB Fibre Channel SAN Switches – connectivity between the NetApp AFF A300 Storage system and the UCS Domain*
- *Cisco Nexus 9300 series switches – connectivity to users, other LAN networks and Cisco UCS domains*
- *FlexPod AFF A300 (1 disk shelf DS224C) Storage provides storage layer for RDSH Server Sessions and VMware Horizon View VDI virtual machines*

Cisco Confidential

- Cisco UCS 5108 Blade Chassis (4)
- Infrastructure Hosts: Cisco UCS B200 M4 Blade Servers (2)
- Workload Hosts: Cisco UCS B200 M5 Blade Servers (25)
- Cisco VIC 1340 Converged Network Adapter (1 per blade)
- Cisco UCSM Fabric Interconnect 6332 -16 UP (2)
- Cisco Nexus 9372PX Ethernet Switch (2)
- Cisco MDS 9148S Fibre Channel Storage Switch (2)
- NetApp AFF A300 Storage Array (65 TB Usable Capacity)

- Cisco UCS Firmware Release 3.2(1d)
- NetApp AFF A300 storage system - OS Code 9.1
- VMware ESXi 6.5 Update 1
- Microsoft Windows Server 2016
- Microsoft Windows 10 64-bit
- Microsoft Office 2016
- VMware Horizon View 7.3 RDS Hosted Automatic Instant Pooled Server Sessions
- VMware Horizon View 7.3 Instant Clones Virtual Desktops
- VMware Horizon View 7.3 View Composer Full Clones Virtual Desktops
- Login VSI workload Tool 4.1.25.6 (Workload Tool, Knowledge Worker WL)

Using Solution ID in Cisco Commerce Workspace

The screenshot displays the Cisco Commerce Workspace interface for an estimate. The top navigation bar includes the Cisco logo, 'Cisco Commerce Estimates', a search bar, and the user name 'Michael Brennan'. The main navigation tabs are 'Catalog', 'Estimates' (active), 'Deals & Quotes', 'Orders', 'Services & Subscriptions', and 'Software'. On the left, a sidebar titled 'I want to ...' lists actions like 'View Estimate Information', 'Link to Opportunity', 'Set Install/Service Location', and 'See Recommended Global Sales Kits'. The main content area shows estimate details for 'Estimate_YY92125667EN (YY92125667EN)' with a 'Global Price List US Availability (USD)'. Below this, there are fields for 'ESTIMATE ID', 'CREATED BY', and 'CREATED ON'. A section titled 'Set preferences for this estimate' includes a search input and a 'Find Products & Solutions' button, which is highlighted with a red box and a red arrow. Below the search area is a table header for 'Hardware, Software and Services' with columns for 'Estimated Lead Time', 'Unit List Price (USD)', 'Qty', 'Unit Net Price (USD)', 'Discount (%)', and 'Extended Net Price (USD)'. The table currently shows 'No records found'. At the bottom, an 'Estimate Total' summary table shows 'All Prices Shown in USD' and lists 'Average Product Discount', 'Average Service Discount', and 'Average Subscription Discount' as 0.00%, along with 'Product Total', 'Service Total', 'Subscription Total', and 'Total Price' all at 0.00.

ESTIMATE NAME	Estimate_YY92125667EN (YY92125667EN)	Global Price List US Availability (USD)			
ESTIMATE ID	YY92125667EN	CREATED BY	mikbrenn	CREATED ON	14-May-2019

Search by Sku , Program ID , Description and Product Family 1 Add **Find Products & Solutions** Actions

Hardware, Software and Services	Estimated Lead Time	Unit List Price (USD)	Qty	Unit Net Price (USD)	Discount (%)	Extended Net Price (USD)
No records found						

Estimate Total		All Prices Shown in USD	
Average Product Discount	0.00%	Product Total	0.00
Average Service Discount	0.00%	Service Total	0.00
Average Subscription Discount	0.00%	Subscription Total	0.00
Total Price			0.00

Create a new estimate, click Find Products & Solutions

Viewing Solution ID in Cisco Commerce Workspace

[Open a Case](#) | [Training](#) | [CCW Support Community](#) | [Cisco Feature Navigator](#)

Find Products & Solutions

[← Back to \[Page Accessed From\]](#)

Search and Add | **Lead Time Search**

Search by ⓘ

Product Description or SKU Product Family Solution

Global Price List US Availability (USD) ⓘ

Search By Solution Identifier

| [View All Solutions](#)

- 1) Click the “Solutions” radio button
- 2) Click “View All Solutions”

Cisco Commerce Workspace URL:
<https://apps.cisco.com/Commerce/guest>

Selecting Solution ID in Cisco Commerce Workspace

Find Products & Solutions

Search and Add **Lead Time Search**

Search by ⓘ

Product Description or SKU Product Family Solution

Global Price List US Availability (USD) ⓘ

Search By Solution Identifier

Enter Solution Identifier/Name

Main Category	Sub Category	Solution ID *
1 Data Center Solutions	SmartStack	6 FlexPodDC-Horizon7-5K B200-M5 VDI Performance Build
Digital Capabilities	Software Defined Storage	<input type="radio"/> Pro Graphics Heavy 6128 C240M5 with 2xP40 w6 Quadro 8Q vDWS Licenses 3 Year
GSP	SwiftStack Scale-out Storage Solutions	<input type="radio"/> Pro Graphics Light 6136 C240M5 with 4xT4 w32 Quadro 2Q vDWS Licenses 3 Year
Healthcare	UCSO	<input type="radio"/> Pro Graphics Light User 6128 B200 M5 with 2xP6 12 2Q vDWS High Rack Density
IT Solutions	Use case specific Solutions	<input type="radio"/> Pro Graphics Med 6134 C240M5 with 4xT4 w16 Quadro 4Q vDWS Licenses 3 Year
Industry Solutions	VSAN	<input type="radio"/> Pro Graphics Med User 6128 B200 M5 with 2xP6 6 4Q
Security Solutions	Versastack	
Service Provider	2 Virtual Client Computing	

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Solution ID in Cisco Commerce Workspace

SKU	Estimated Lead Time ⓘ	Unit List Price (USD)	Qty	Add Solution
Miscellaneous				Add Category
N9K-C93180YC-FX	14 days	27,500.00	2	
Nexus 9300 with 48p 10/25G SFP+, 6p 100G QSFP, MACsec, UP				
QSFP-H40G-CU1M=	14 days	250.00	4	
40GBASE-CR4 Passive Copper Cable, 1m				
QSFP-H40G-CU3M=	21 days	250.00	4	
40GBASE-CR4 Passive Copper Cable, 3m				
UCS-SP-5108-AC3	14 days	21,575.00	4	
UCS SP Select 5108 AC2 Chassis w/2304 IO, 4x SFP cable 3m				
UCS-SP-B200M5-CA1	--	0.00	2	
SP B200 M5 w/2x5118,6x16GB mem,VIC1340 + CWOM				
UCS-SP-B200M5-CA4	--	0.00	25	
SP B200 M5 w/2x6140,6x32GB mem,VIC1340 + CWOM				
UCS-SP-FI633216-2X	--	0.00	1	
UCS SP Select 2 x 6332-16UP FI				
VMW-HZ-LIC=	7 days	0.00	50	
VMware Horizon 7 License				
				Add Solution

Selected Items

Item	Qty
SP B200 M5 w/2x6140,6x32GB mem,VIC1340 + CWOM Solution : FlexPodDC-Horizon7-5K B200-M5 VDI Performance Build Remove	<input type="text"/>
UCS-SP-FI633216-2X UCS SP Select 2 x 6332-16UP FI Solution : FlexPodDC-Horizon7-5K B200-M5 VDI Performance Build Remove	1
VMW-HZ-LIC= VMware Horizon 7 License Solution : FlexPodDC-Horizon7-5K B200-M5 VDI Performance Build Remove	50

Clicking "Add" adds selected items to your estimate&takes you to Items page

[Cancel](#) [Add](#)

- 1) Click "Add Solution"
- 2) Then click Add to add the items to your estimate

Estimate from Solution ID in Cisco Commerce Workspace

ESTIMATE NAME Estimate_YY92125667EN (YY92125667EN) Global Price List US Availability (USD)

ESTIMATE ID YY92125667EN **CREATED BY** Michael Brennan **CREATED ON** 14-May-2019

Set preferences for this estimate ▼

Search by Sku , Program ID , Description and Product Family 1 ▼

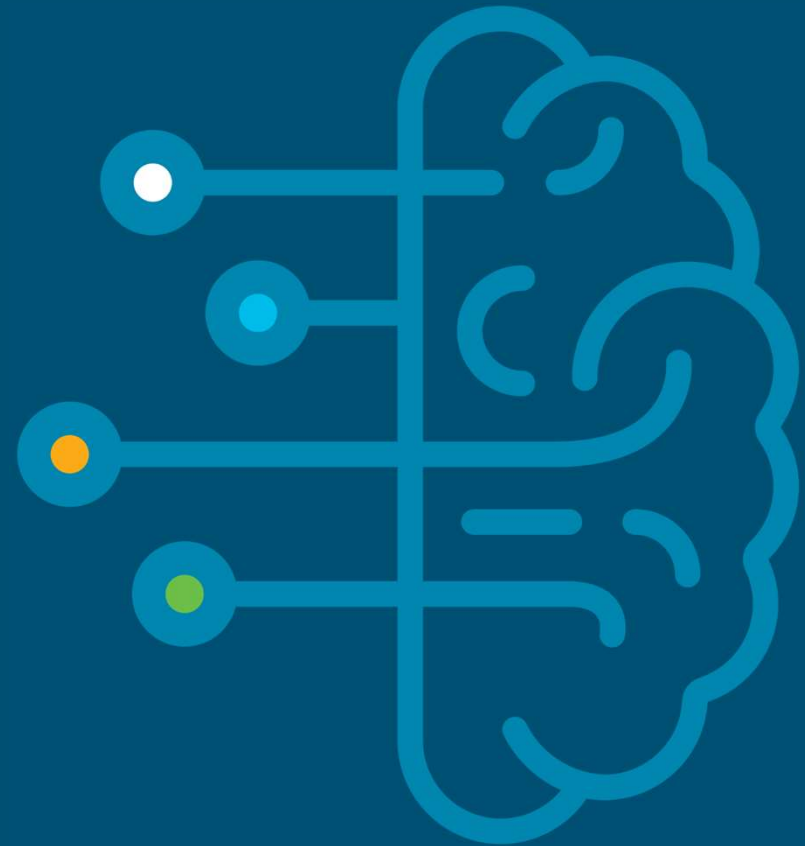
The product discounts are cascaded to subscription SKUs, but they may be eligible for lower discounts. To apply proper discount to subscriptions, please click "More" → "Apply Discounts"

▼

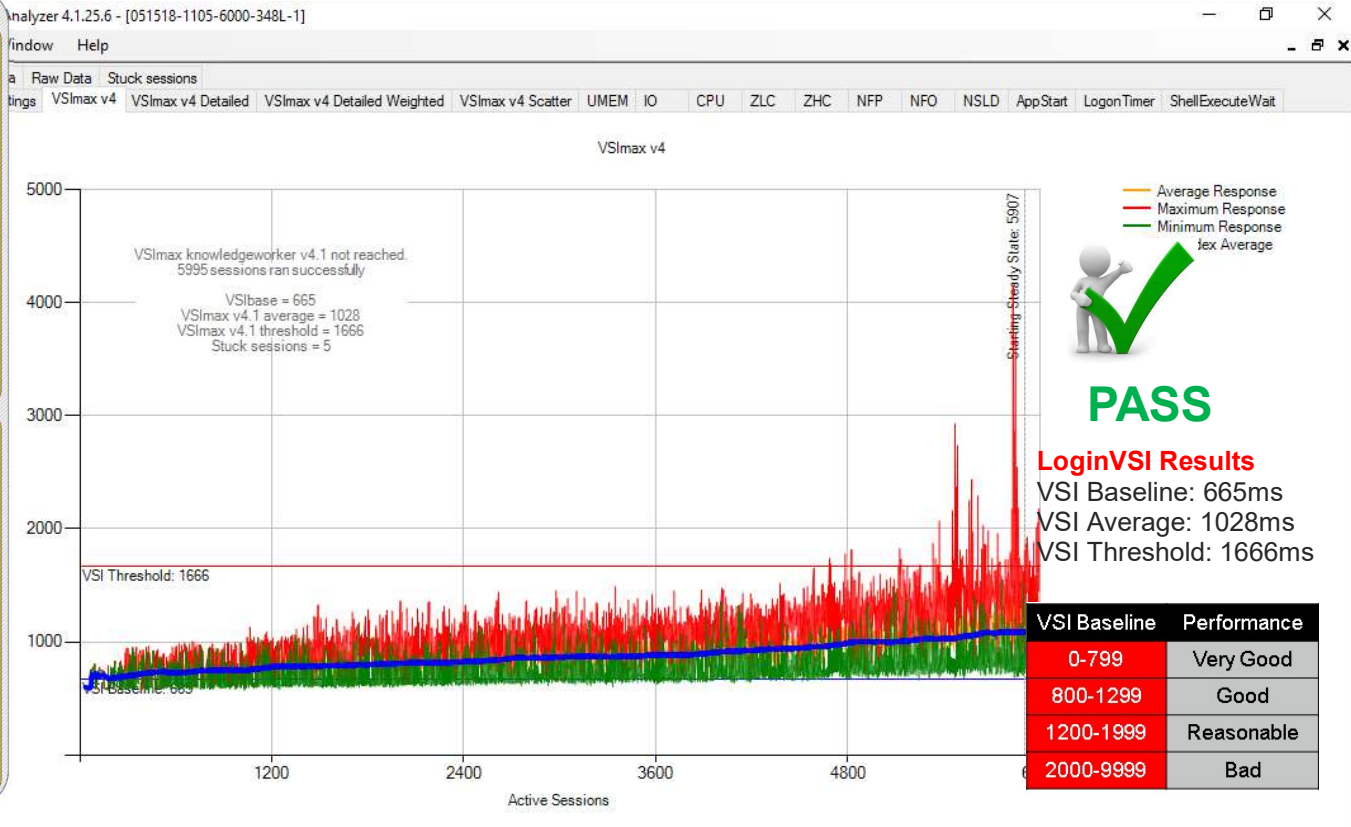
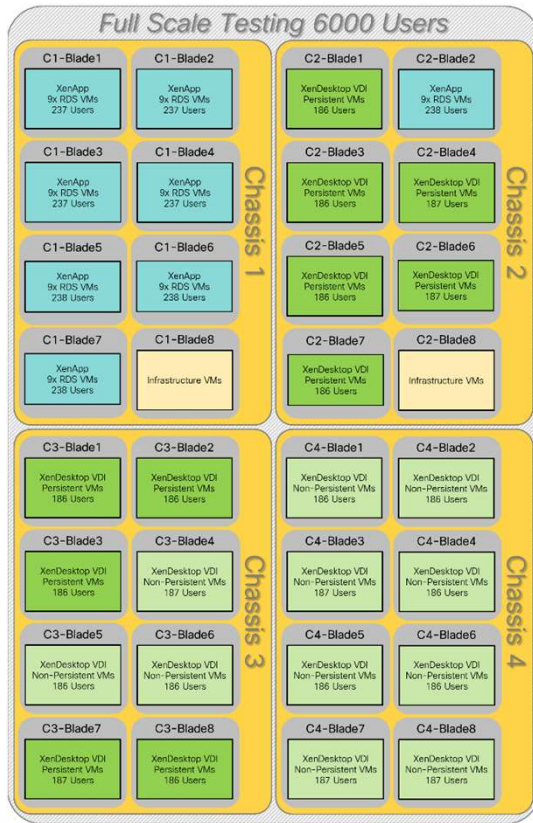
	Hardware, Software and Services	Estimated Lead Time	Unit List Price (USD)	Qty	Unit Net Price (USD)	Discount (%)	Extended Net Price (USD)
<input type="checkbox"/>	2.0 QSFP-H40G-CU1M= RF T3 more <input type="button" value="more"/> 40GBASE-CR4 Passive Copper Cable, 1m Solution : FlexPodDC-Horizon7-5K B200-M5 VDI Performance Build Valid as of 14-May-2019 09:23:45 PDT <input type="button" value="Validate"/> <input type="button" value="Add Note"/> <input type="button" value="More Actions"/> ▼	14 days	250.00	4 Split	250.00	0.00	1,000.00
<input type="checkbox"/>	2.0 QSFP-H40G-CU3M= RF T3 more <input type="button" value="more"/> 40GBASE-CR4 Passive Copper Cable, 3m Solution : FlexPodDC-Horizon7-5K B200-M5 VDI Performance Build	21 days	250.00	4 Split	250.00	0.00	1,000.00

Demo

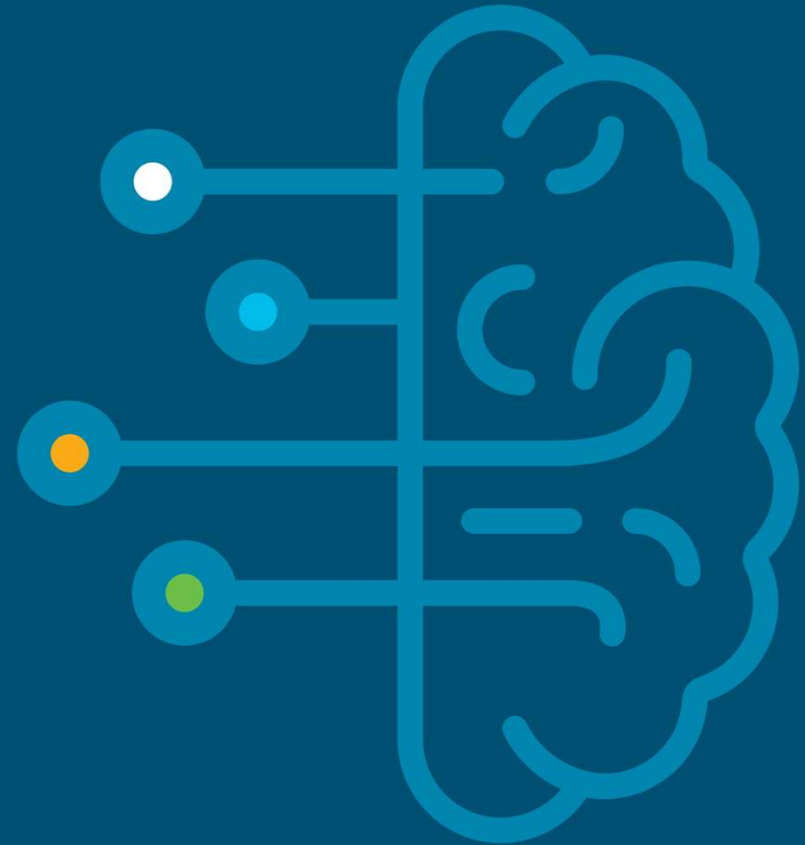
VCC 5000 Seat Benchmark Results



Testing & Validation: Full Scale Testing 6000 Mixed Users



Key takeaways



Keep these things in mind

Know your architectures, user requirements, hardware and software

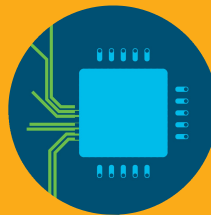


Key Tools to Help with VDI Projects:

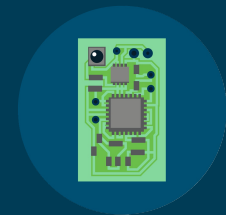
- UCS VDI Sizing Tool
- HyperFlex Sizing Tool
- VCC Design Navigator
- Cisco Citrix and VMware Home Pages



CPU selection is critical
Do not oversubscribe
memory
Use Cisco sales tools



Leverage CVDs for design/
scaling guidance
Follow Cisco guidelines for
networking and QoS



Q & A



