

# Performance Assurance with eG Innovations

How to deliver  
user productivity,  
and reduce IT cost  
& complexity



# About eG Innovations



**eG Innovations** is the only enterprise-class performance management solution that provides **virtualization-aware** correlation and complete visibility across every layer and every tier of dynamic & complex cloud, virtual, and physical IT environments to reliably deliver mission-critical **business services**.

**Worldwide Locations**

USA, UK, Netherlands, Singapore, India

**Customers**

Over 350 enterprise customers worldwide  
Over 700 managed clients worldwide (via MSPs)

**Year Founded**

2001

**Certifications**



**Sample Awards & Recognition**



# Customer Success



# A Familiar Scenario

I cannot login to my desktop

My desktop is not working...

My applications launch very slowly...



# A Familiar Scenario

**Who gets the first call?**

**Who is blamed?**

**It's always you -  
the Citrix Administrator**



# A Familiar Scenario





# eG Enterprise

Citrix Performance Assurance

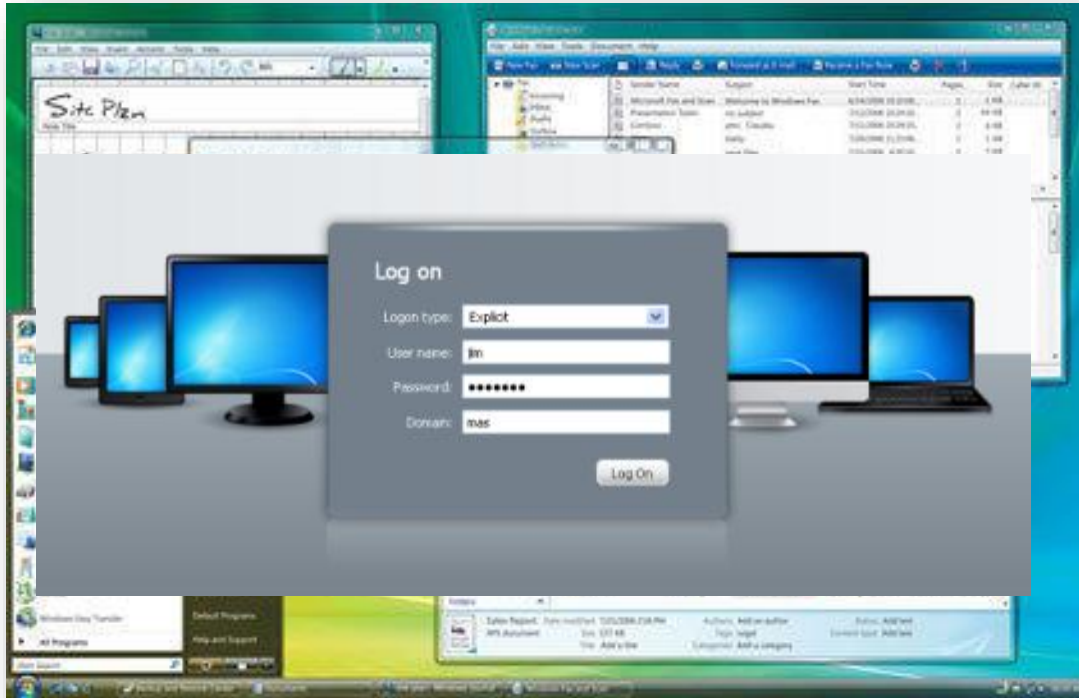
Made



# The User Perspective



User

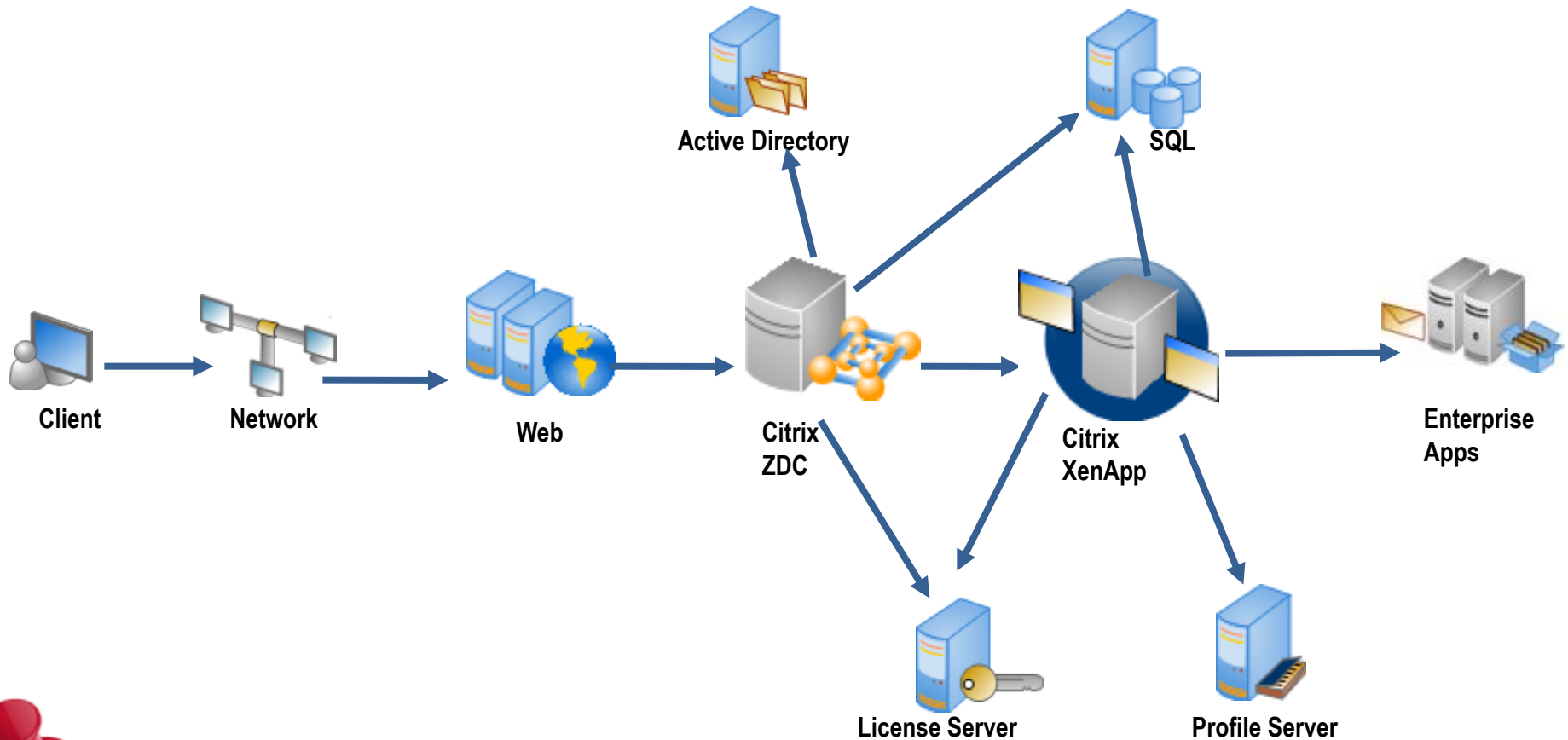


User  
Perspective

*"I start my device,  
log on, and  
expect the same  
experience I had  
with my physical  
desktop  
environment."*

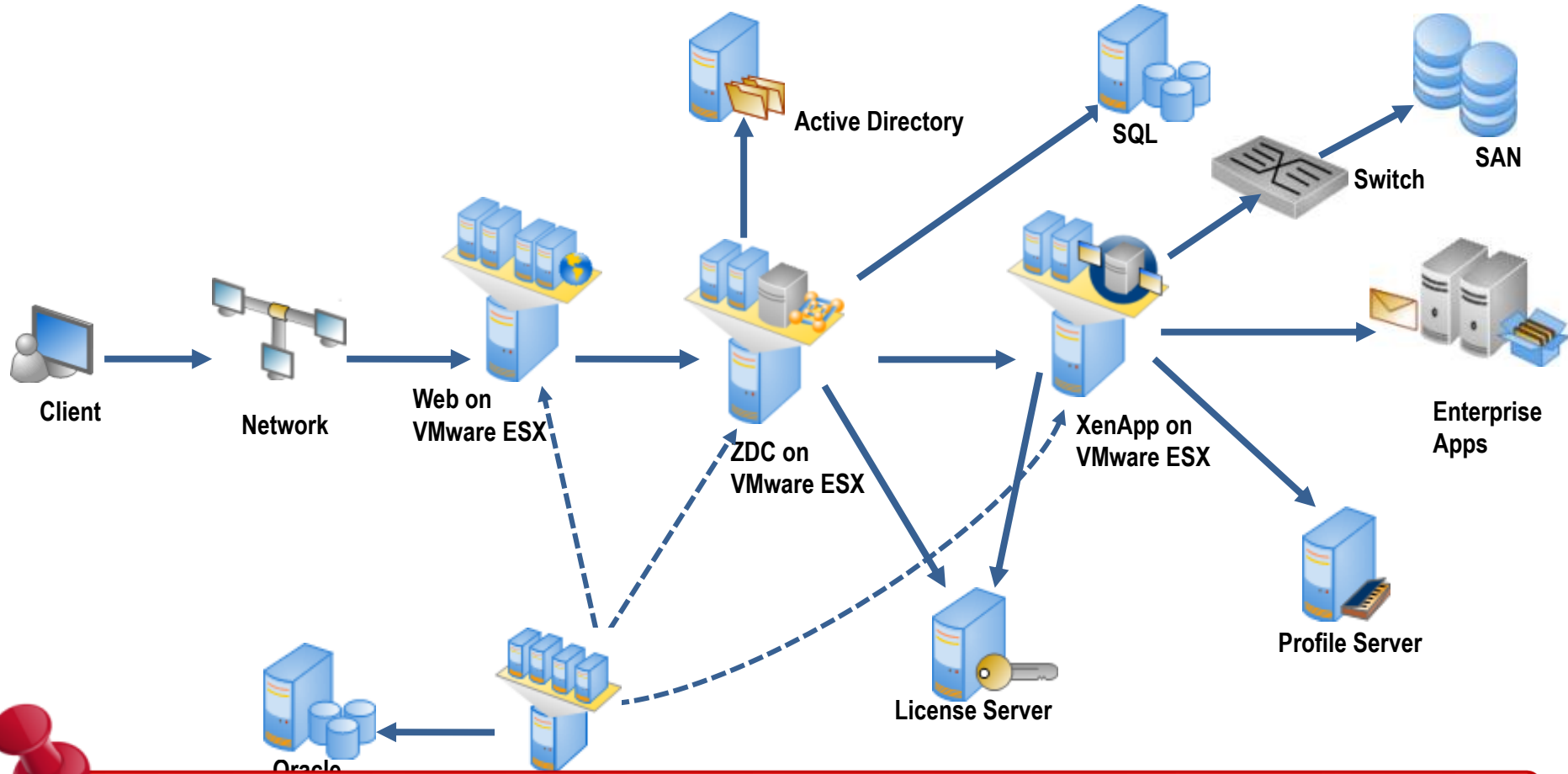


# XenApp on Physical Servers



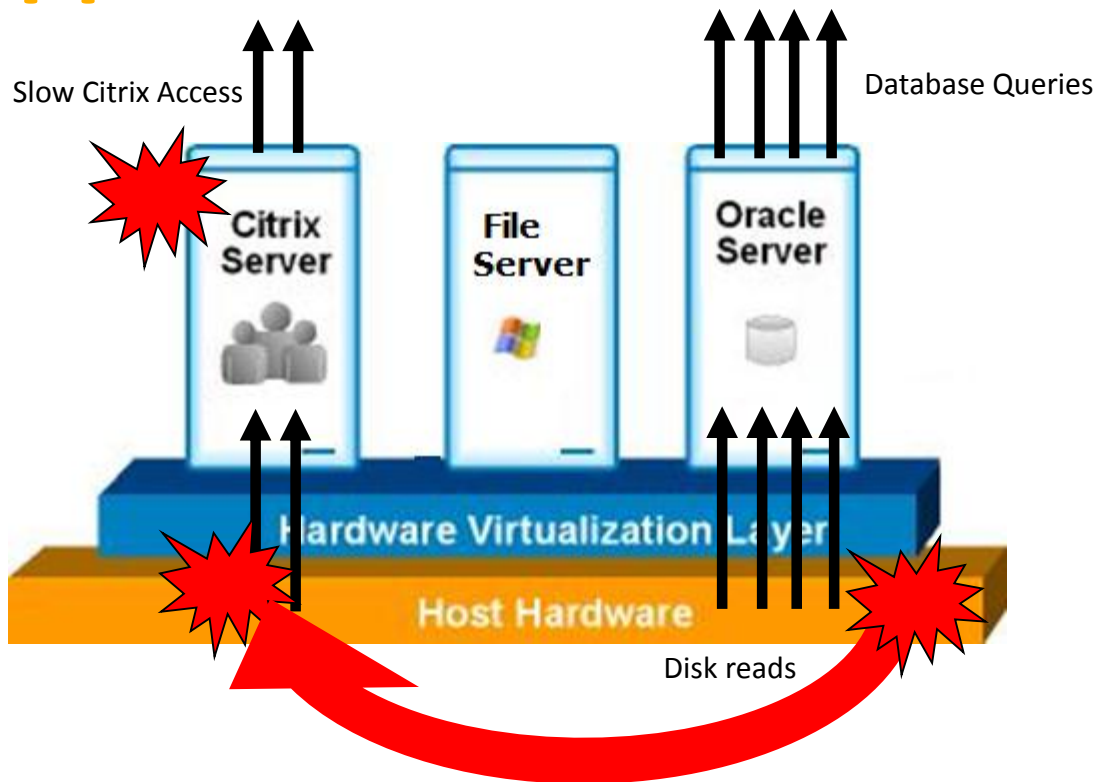
Because of the inter-application dependencies, a problem in one tier (e.g. profile server) can impact all the other tiers.

# XenApp Virtual Infrastructures



**Virtualization adds additional infrastructure tiers, possible failure points!**

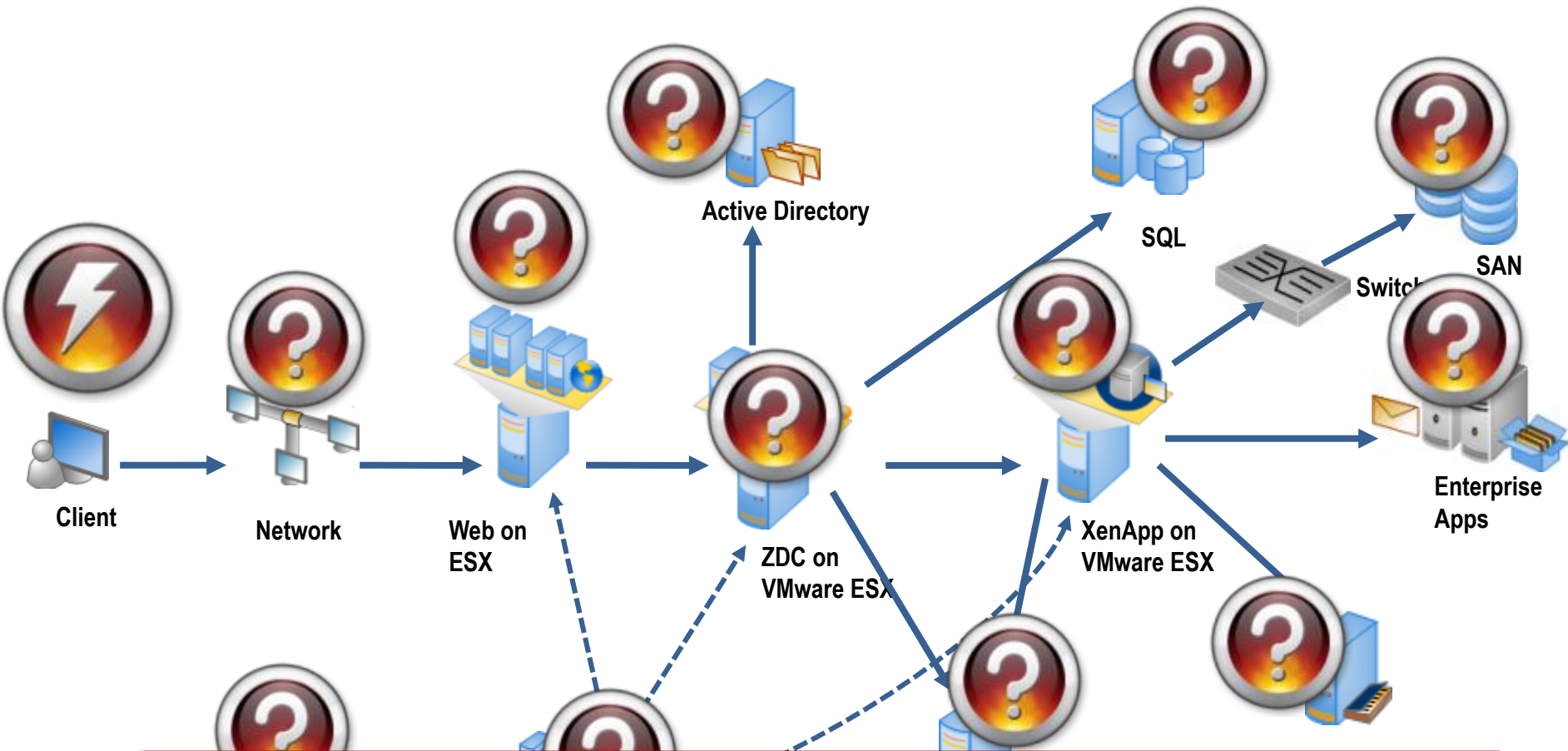
# XenApp Virtual Infrastructures



**Excessive disk reads by the Oracle Database slows down Citrix accesses**

**Citrix XenApp slowness can be caused by other VMs or the virtualization platform itself.**

# Where is the Root-Cause?



**What is the root cause of the service problem?  
Network? VMware? AD? SQL? Storage? Profile Server?**

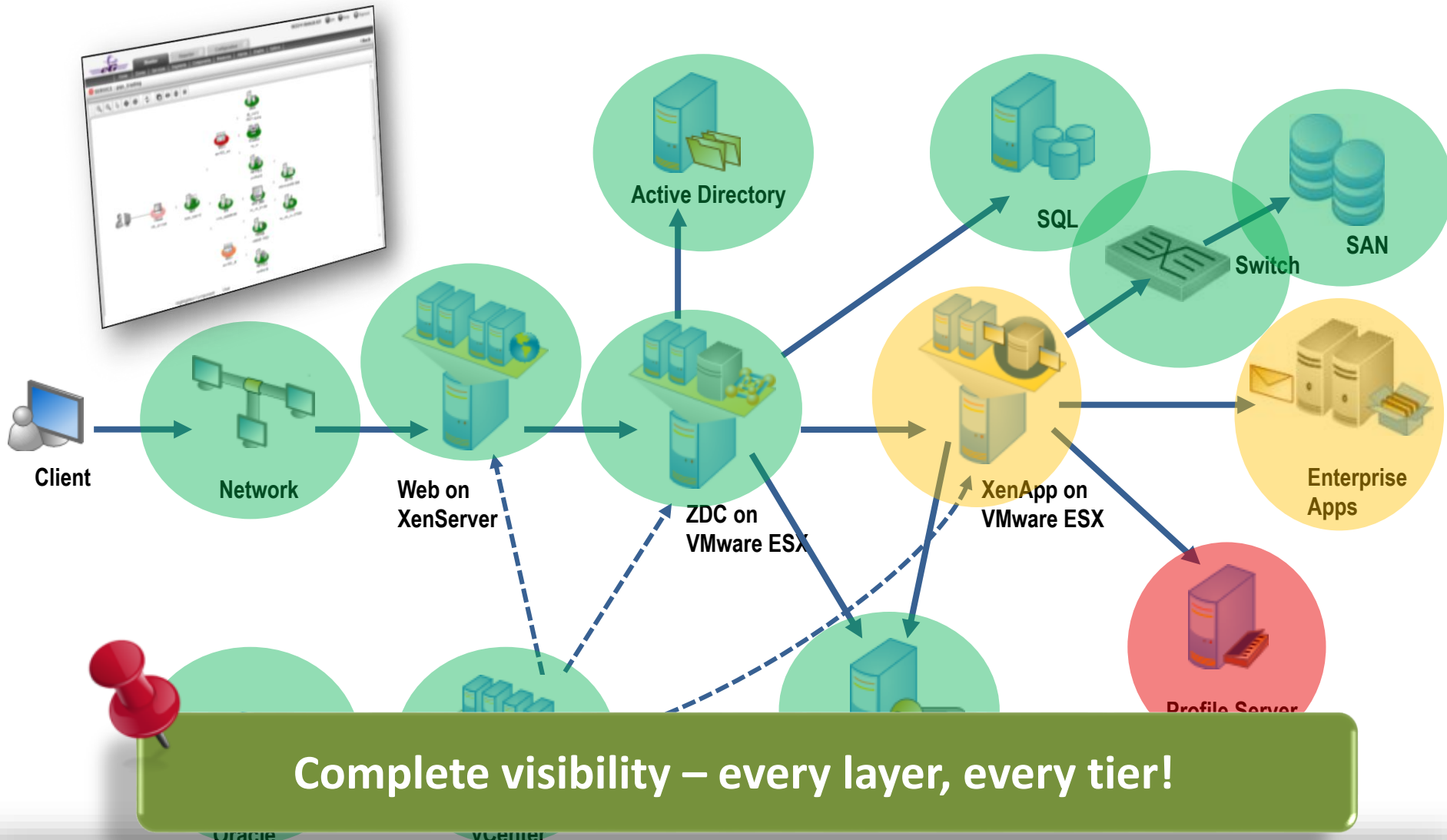
Oracle

vCenter

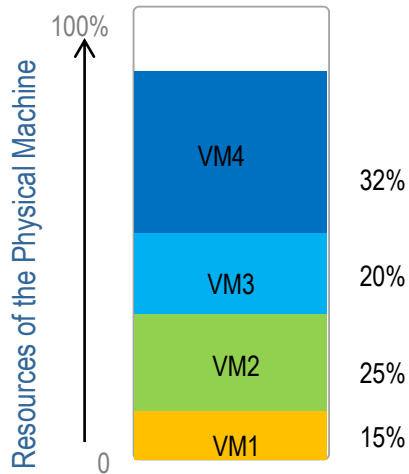
# What Citrix EdgeSight Shows

- EdgeSight is focused on the Citrix tiers
- Provides deep visibility into HDX channels, endpoints and hosted apps
- eG Enterprise complements EdgeSight, providing visibility to the non-Citrix tiers that impact desktop service delivery

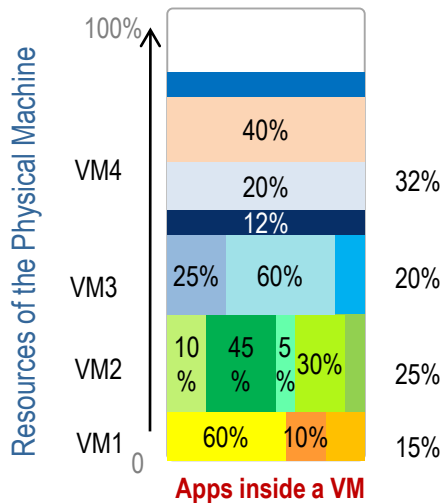
# How eG Enterprise Adds Value



# In-N-Out Monitoring of Virtualization



- **The Outside view** shows the portion of physical resources used by each VM (CPU, disk, memory)
- Provided by the virtualization hypervisor
- Useful for capacity planning and identifying certain VM issues
- Does NOT show why a VM is consuming resources



- **The Inside view** shows the portion of resources allocated to a VM that are used by each application and each user of the VM
- Provided by the guest OS (for Windows: WMI)
- Useful for user load balancing, identifying guest OS issues, misbehaving applications, and unauthorized user activities
- Does show why a VM is consuming resources, accelerates fix



# Deep Dive into User Desktops

MEASURES FOR Desktop chn\sandy\_on\_trd3\_127 COMPONENT LAYERS

**System - Guest** 11/02/11 07:39:04

	Virtual CPU utilization (%)	System usage of virtual CPU (%)	Run queue in VM (Number)	Blocked processes in VM (Number)	Swap memory in VM (MB)	Free memory in VM (MB)	Scan rate in VM (Pages/Sec)
Processor_0	73.7	4.8782				-	-
Processor_1	78.9	4.3205				-	-
Summary	76.3				0703	226.6797	5.8298

**DiskActivity - Guest** 11/02/11 07:39:10

	Percent virtual disk busy (%)	Percent reads from virtual disk (%)	Percent writes to virtual disk (%)	Virtual disk read time (Secs)	Virtual disk write time (Secs)	Avg queue for virtual disk (Number)	Current queue for virtual disk (Number)
Disk0_C:_E:	50	0	50	0	35.8059	44.458	0
LogicalDisk_C:	0	0	0	0	0	0	0
LogicalDisk_E:	0	0	0	0	0	0	0

**DiskSpace - Guest** 11/02/11 07:41:37

	Total capacity (MB)	Used space (MB)	Free space (MB)	Percent usage (%)
C	8192	6524	1668	79.6387
Total	8192	6524	1668	79.6387

**Terminal to Desktop Connection** 11/02/11 07:41:56

Number of sessions (Number)	:	1	Average delay (Secs)	:	0.0013
Minimum delay (Secs)	:	0	Packet loss (%)	:	0

**CPU usage inside a virtual desktop is high**





# Deep Dive into User Desktops

Detailed Diagnosis | Measure Graph | Summary Graph | Trend Graph | Fix History | Fix Feedback | Back

Component: esx103\_dt | Measured By: esx103\_dt  
Test: System - Guest | Measurement: Virtual CPU utilization  
Description: chn\sandy\_on\_trd3\_127:Processor\_0  
Timeline: 1 hour | From: 11/02/11 | To: 11/02/11 | Submit

Lists the

**The top CPU process is Windows Media Player. The user is watching a movie 😊**

PID	%CPU	ARGS
73.7	73.7	wmplayer
1.01	1.01	smc
1.01	1.01	svchost
3116	0.5	ccsvchst
2996	0.5	java
11/02/11 07:33:53		
1344	73.7	wmplayer
3116	1	ccsvchst
1556	0.5	ccsvchst
3524	0.5	ccsvchst
3420	0.5	ping

Accelerate problem resolution by understanding why a VM is consuming resources.



# eG Enterprise

**Helps You Get More Out of  
Your Citrix Investments**



# Plan Based on Usage Reports

- Top users, Top applications

Session details for - * Users									
User	Login time	Server	Duration of access	Active memory	Cpu ready	Data transmitted	Data received	Disk reads	Disk writes
			(Mins)	(MB)	(%)	(Mbps)	(Mbps)	(Reads/sec)	(Writes/Sec)
				Avg	Avg	Avg	Avg	Avg	Avg
namcaadm\egreen021	11/17/2011 08:56 AM	<a href="#">calidcuxvs737</a>	249	<u>233.64</u>	<u>0.03</u>	<u>0.2</u>	<u>0.03</u>	<u>0</u>	<u>0</u>
namcaadm\mnazeer001	11/16/2011 13:17 PM	<a href="#">calidcuxvs738</a>	1430	<u>384.55</u>	<u>0.16</u>	<u>0.61</u>	<u>1.29</u>	<u>1.45</u>	<u>0.21</u>
namcaadm\gjayapal001	11/17/2011 05:48 AM	<a href="#">calidcuxvs739</a>	438	<u>526.19</u>	<u>0.29</u>	<u>1.08</u>	<u>0.33</u>	<u>0</u>	<u>0.55</u>
namcaadm\arajaram001	11/17/2011 13:14 PM	<a href="#">calidcuxvs736</a>	5	<u>389.12</u>	<u>0.13</u>	<u>0.23</u>	<u>3.6</u>	<u>0</u>	<u>0</u>
namcaadm\spalanicka001	11/17/2011 13:24 PM	<a href="#">calidcuxvs734</a>	5	<u>419.84</u>	<u>0.63</u>	<u>0.77</u>	<u>5.41</u>	<u>0</u>	<u>0</u>
namcaadm\arajaram001	11/17/2011 13:28 PM	<a href="#">calidcuxvs736</a>	5	<u>399.36</u>	<u>0.11</u>	<u>0.17</u>	<u>0.02</u>	<u>0</u>	<u>0</u>
namcaadm\vannadurai001	11/17/2011 13:28 PM	<a href="#">calidcuxvs736</a>	5	<u>491.52</u>	<u>0.06</u>	<u>0.09</u>	<u>0</u>	<u>0</u>	<u>0</u>
namcaadm\akumar163	11/17/2011 06:54 AM	<a href="#">calidcuxvs739</a>	545	<u>555.4</u>	<u>0.7</u>	<u>0.68</u>	<u>0.2</u>	<u>0.03</u>	<u>0.1</u>
namcaadm\pperiwal006	11/17/2011 15:48 PM	<a href="#">calidcuxvs739</a>	10	<u>471.04</u>	<u>0.22</u>	<u>7.95</u>	<u>10.32</u>	<u>0</u>	<u>0</u>
namcaadm\nkumar041	11/17/2011 06:14 AM	<a href="#">calidcuxvs739</a>	585	<u>483.2</u>	<u>0.18</u>	<u>1.38</u>	<u>1.31</u>	<u>3.82</u>	<u>0.08</u>
namcaadm\khegde001	11/17/2011 06:13 AM	<a href="#">calidcuxvs737</a>	586	<u>600.34</u>	<u>0.59</u>	<u>0.96</u>	<u>0.35</u>	<u>0</u>	<u>0.5</u>
namcaadm\anarjee005	11/17/2011 06:09 AM	<a href="#">calidcuxvs737</a>	590	<u>577.05</u>	<u>0.35</u>	<u>0.68</u>	<u>0.17</u>	<u>0</u>	<u>0.48</u>

Know usage patterns and trends for effective capacity planning.

# Get More Out of Your Investment

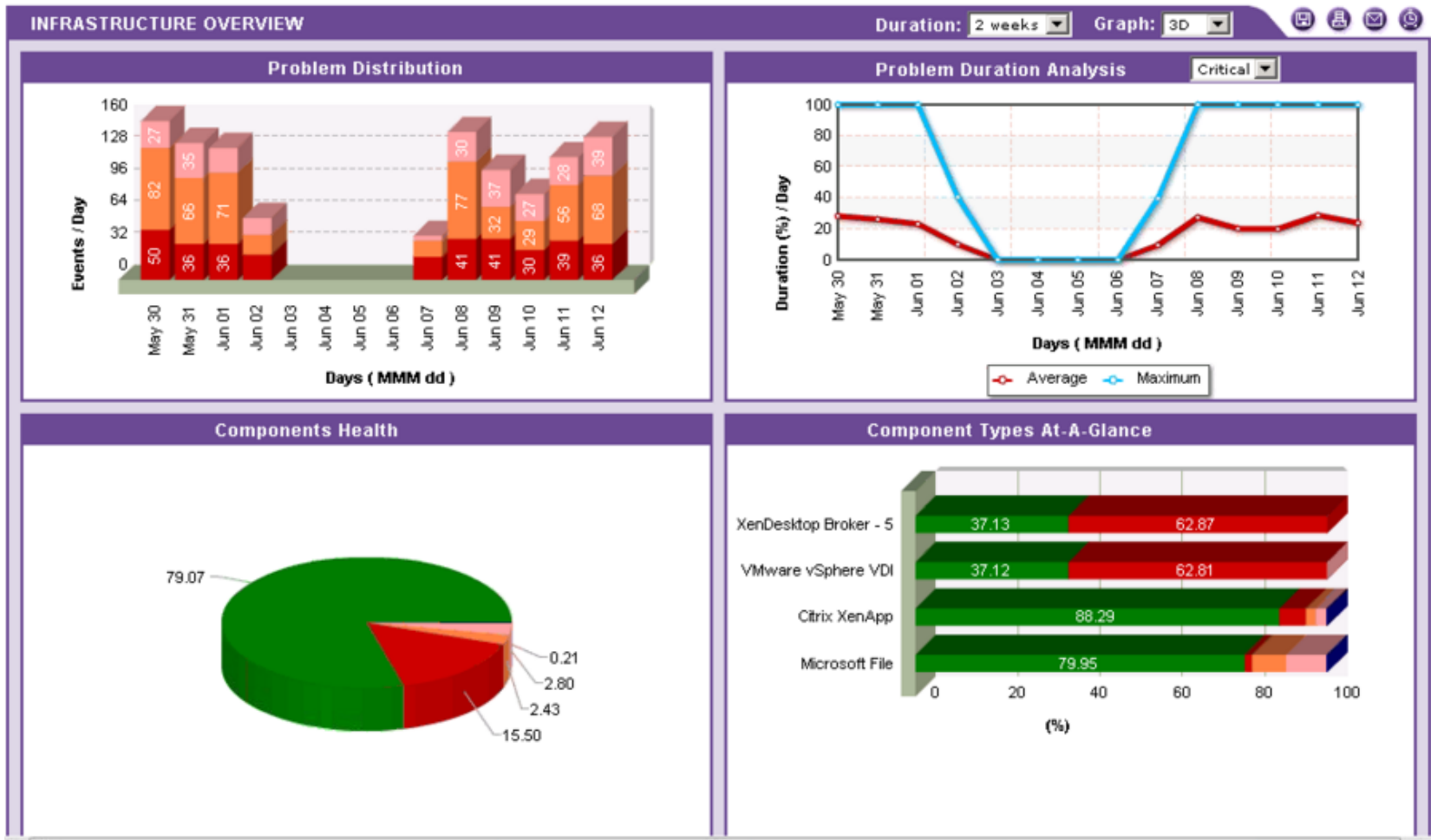
- Track user sessions on each server

Summary for Zone - --Default--	
Sessions completed (Number)	527
Average duration(Mins)	231.23
Maximum duration(Mins)	4318.92
Top 10 longest sessions	↑
Top 10 users by duration of usage	↑
Unique users	<u>73</u>

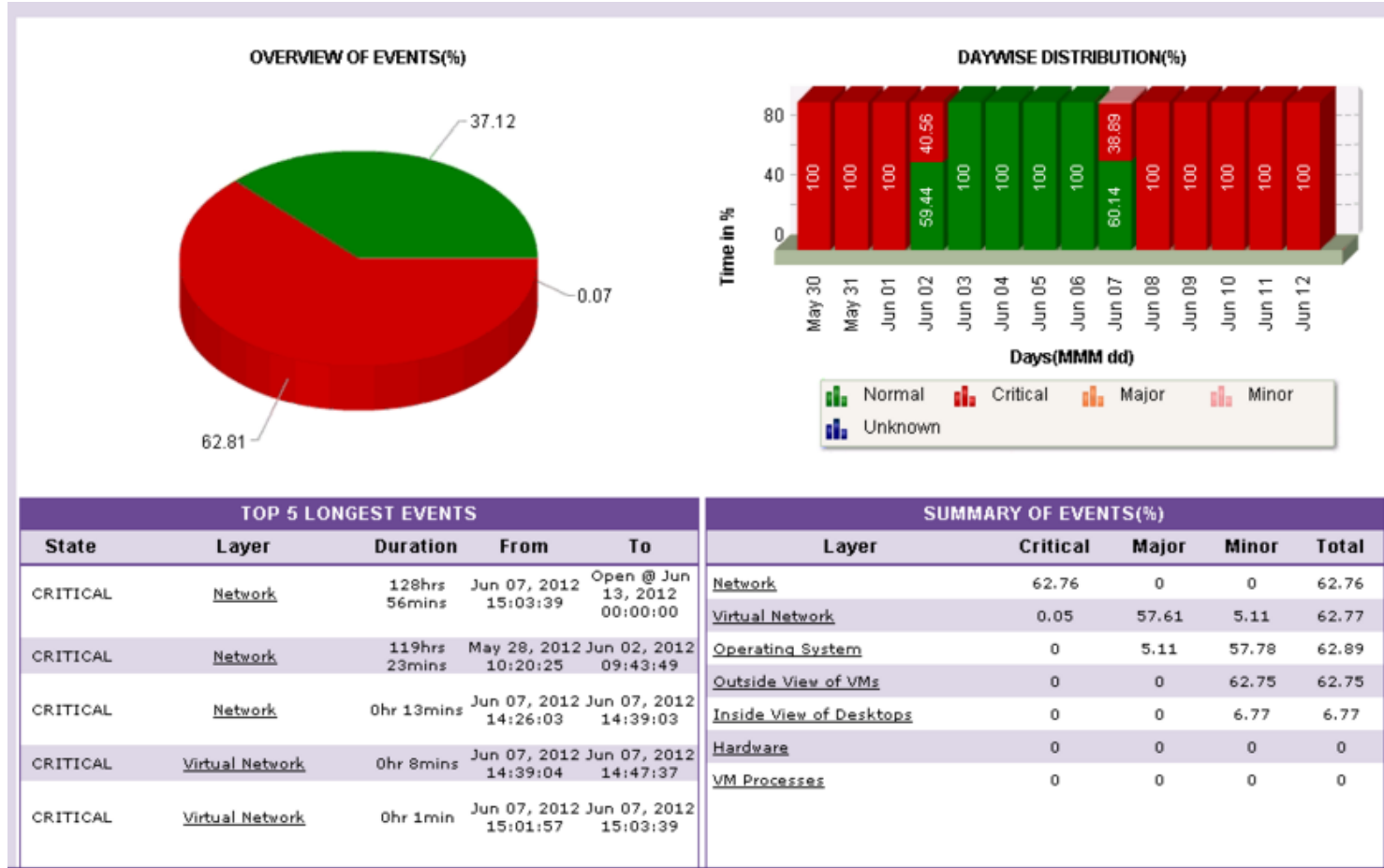
Session Details For Zone - --Default--: vSphere/VDI(i)								
Server	Unique users	Current sessions	Session duration		No of sessions completed	Top 10 longest sessions	Top 10 users by duration of usage	
			(Number)	(Mins)				
			Avg	Max				
calidcuxvs734			6.25	3.95	205	↑	↑	
calidcuxvs735					108	↑	↑	
calidcuxvs736			6.37	15.46	170	↑	↑	
calidcuxvs737			390.7	1443.85	12	↑	↑	
calidcuxvs738	<u>16</u>	1	1	756.25	4318.92	16	↑	↑
calidcuxvs739	<u>17</u>	1	1	221.73	584.94	16	↑	↑

A few of the servers are handling most of the sessions

# Executive Reports - Infrastructure



# Executive Reports - Server



# Help Admins easily assess the User Latency

Descriptor	Number of user sessions (Number)	Avg network latency (Secs)	Min network latency (Secs)	Packet loss (%)
<input checked="" type="checkbox"/> lawlorp	1	0.0135	0.0126	0
<input checked="" type="checkbox"/> wickhamc	1	0.0131	0.0124	0
<input checked="" type="checkbox"/> keanegx	1	0.0128	0.0119	0
<input checked="" type="checkbox"/> olearyn	1	0.0128	0.0122	0
<input checked="" type="checkbox"/> jaworskaax	1	0.0101	0.0099	0
<input checked="" type="checkbox"/> keatye	1	0.0099	0.0098	0
<input checked="" type="checkbox"/> landerspax	1	0.0099	0.0097	0
<input checked="" type="checkbox"/> bolandcp	1	0.0058	0.0053	0
<input checked="" type="checkbox"/> davisg	1	0.0057	0.0053	0
<input checked="" type="checkbox"/> ocallaghanmx	1	0.0023	0.0022	0
<input checked="" type="checkbox"/> picketta	1	0.0023	0.0022	0
<input checked="" type="checkbox"/> keoghs	1	0.0018	0.0017	0
<input checked="" type="checkbox"/> Mongeys	1	0.0017	0.0017	0
<input checked="" type="checkbox"/> odwyerma	1	0.0017	0.0016	0
<input checked="" type="checkbox"/> siadekpx	1	0.0017	0.0017	0
<input checked="" type="checkbox"/> culhaneb	1	0.0016	0.0016	0
<input checked="" type="checkbox"/> duffymt	1	0.0016	0.0015	0

Real time comparison of user ICMP delays

# Help Admins easily access User Profiles

Descriptor	Is user profile exceeding quota? (Boolean)	Current profile size (MB)	Number of files in user's profile (Number)	Large files in user's profile (Number)
✗ farrellr	■ Yes	■ 194.0893	■ 7276	■ 1
✓ bradypa	■ No	■ 32.6658	■ 7522	■ 2
✓ mongeyjn	■ No	■ 19.9148	■ 7945	■ 0
✓ ohalloranr	■ No	■ 19.245	■ 3967	■ 0
✓ munroa	■ No	■ 18.3099	■ 5318	■ 0
✓ mcmasteram	■ No	■ 17.3697	■ 427	■ 0
✓ chawkec	■ No	■ 16.4119	■ 10945	■ 0
✓ martinj	■ No	■ 15.1459	■ 7652	■ 0
✓ mulligane	■ No	■ 14.7332	■ 6280	■ 0
✓ cumminsp	■ No	■ 12.7917		
✓ olearypj	■ No	■ 12.2855		
✓ coogantt	■ No	■ 11.6322		
✓ keatingja	■ No	■ 11.1711		
✓ whelanja	■ No	■ 10.7344		
✓ norryax	■ No	■ 9.8849		

User Profile: Current profile size (MB)			
Component	Min	Max	Avg
dojctxapp9917:1494 {kellyjf}	1074.64	1074.74	1074.67
dojctxapp9918:1494 {farrellr}	194.06	195.93	194.46
dojctxapp9906:1494 {sullivap}	161.33	161.34	161.34
dojctxapp9917:1494 {kellyd}	114.09	114.09	114.09
dojctxapp9933:1494 {reillya}	58.22	58.22	58.22
dojctxapp9917:1494 {riced}	52.84	53.25	53.1
dojctxapp9917:1494 {bradyk}	51.57	51.57	51.57
dojctxapp9996:1494 {nolanjm}	46.2	46.2	46.2
dojctxapp9906:1494 {toolana}	46.08	46.11	46.11
dojctxapp9917:1494 {kieltyb}	33.92	44.21	43.15





# eG Enterprise

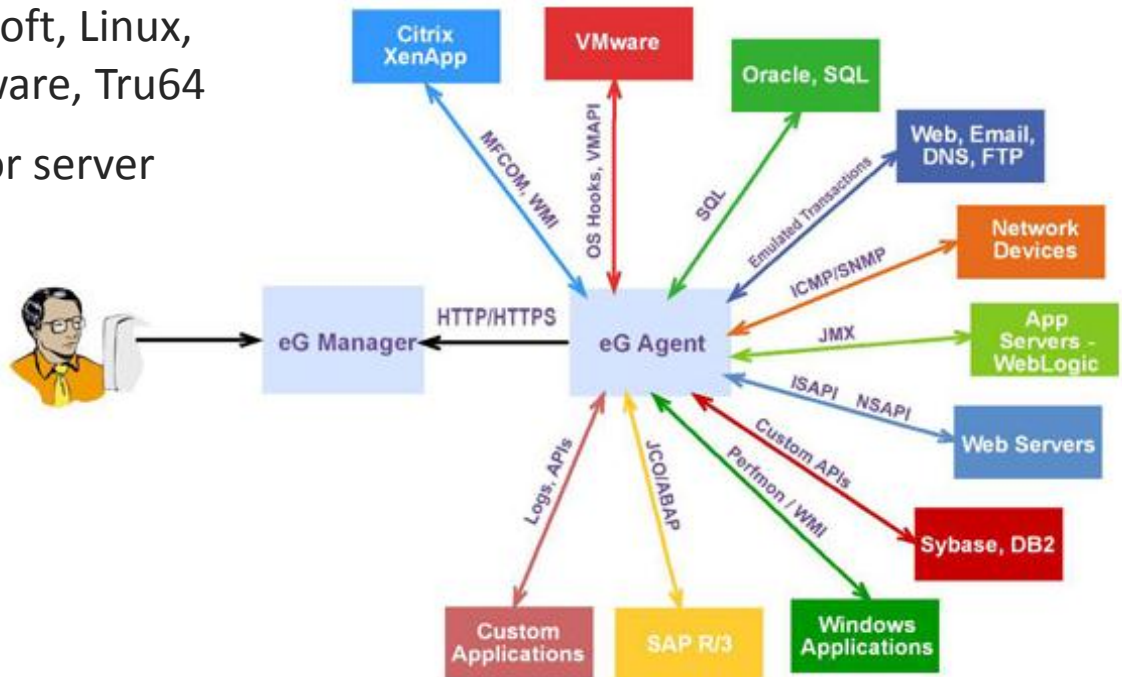
**Ensures ROI for  
Desktop Transformation**



# Single Agent Architecture

Delivers maximum flexibility, ease of deployment and rapid ROI

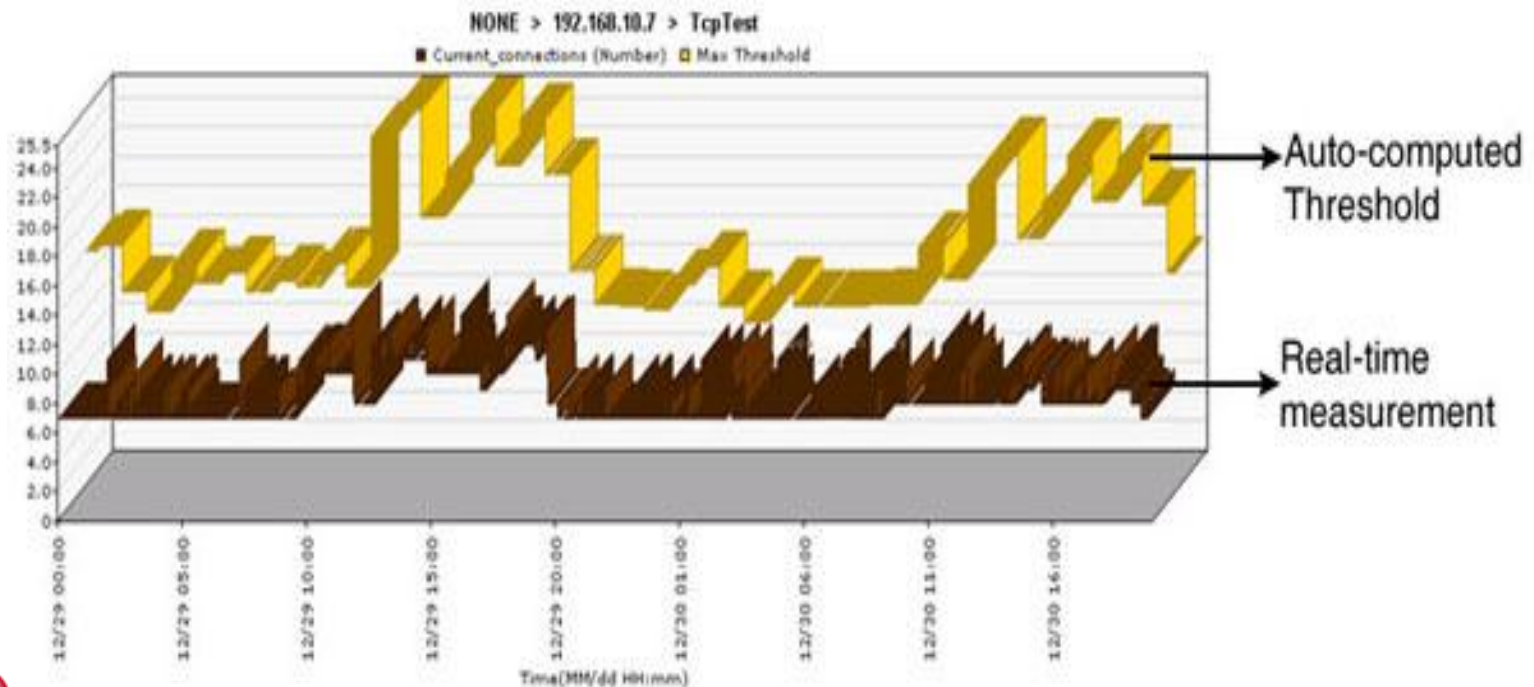
- A single agent license for Microsoft, Linux, Sun Solaris, HPUX, IBM AIX, VMware, Tru64
- A single price, regardless of OS or server configuration - 2, 4, 8 CPUs
- A single agent for monitoring any application
- Auto-upgradeable
- Agentless monitoring option
- 100% web-based – HTTP/HTTPS





# Auto-Baseline Key Metrics

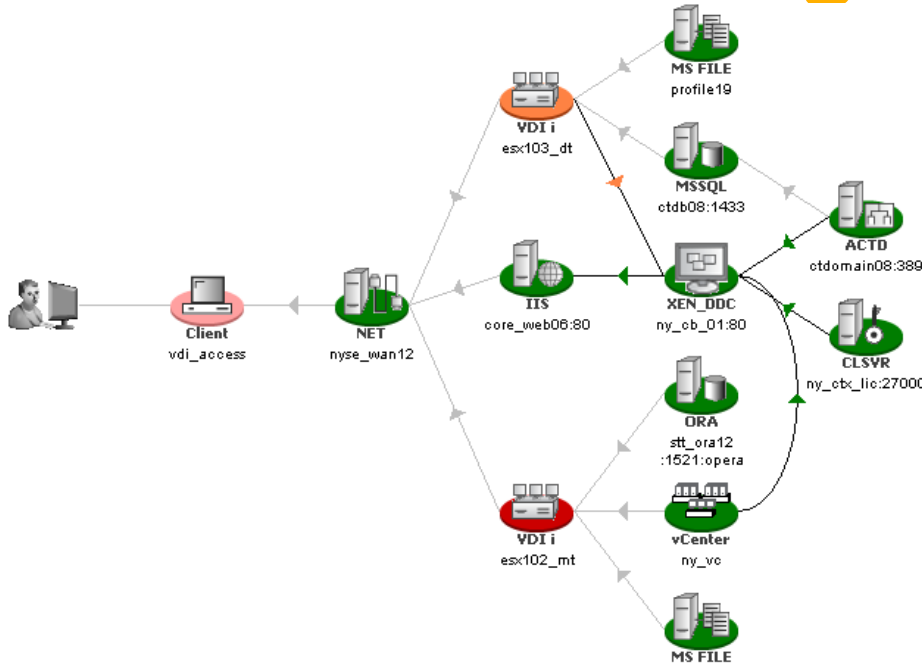
- Auto-compute time-of-day baselines
- Alert administrators when metrics violate baselines



Preemptive detection & alerting lets administrators see and fix problems before users notice

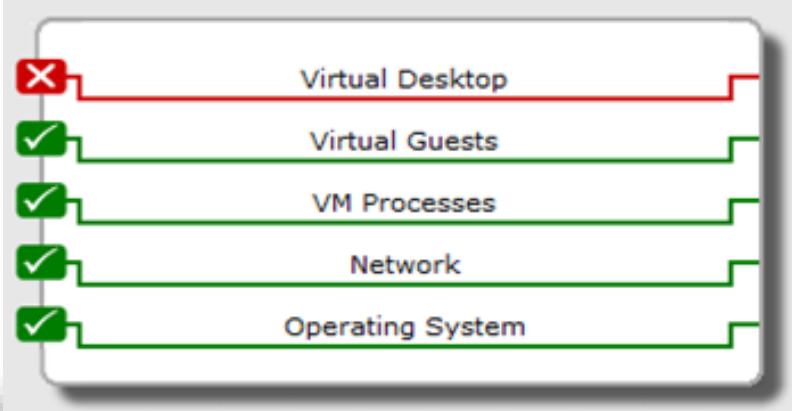


# Virtualization-Aware Automatic Root-Cause Diagnosis



Automatic End-to-End Correlation

Automatic Top-to-Bottom Correlation



# Resources, Q & A

- Citrix Ready – [www.citrixready.com](http://www.citrixready.com)
- eG Innovations – [www.eginnovations.com](http://www.eginnovations.com)

## *eG Innovations Resources*

- XenApp Monitor – [www.eginnovations.com/xenapp](http://www.eginnovations.com/xenapp)
- XenDesktop Monitor – [www.eginnovations.com/xen](http://www.eginnovations.com/xen)
- Product Trial – [www.eginnovations.com/trial](http://www.eginnovations.com/trial)

