

PERFORM DAY



DCRUM & SaaS Roadmap

Michael Allen



DC RUM Roadmap Update...

12.2

Triage Packet-Level Analysis
App Availability Analytics
Web 2.0 Mobile and Web for DCRUM with dynaTrace RUM
Complete SAP Ecosystem with RFC
Modern UX and new OOTB Dashboards
SMB/CIFS, SQL, SSL, ...

Jan 2014

12.3

Automated Fault Domain Isolation
NPM-Based Workflows and Analysis
Auto-Discovery and Zero-Config Monitoring
MS Lync, Oracle EBS
EAP Universal Decode
Enterprise Scalability with Clustering & HA

Dec 2014

DC RUM 12.3: The “top 5” summary



News



Auto-discovery

Discover all network applications, servers and client locations, start performance monitoring instantly



App-Aware NPM

Network Performance Analysis workflow bridges the Network and Applications teams



Office 365 performance

The new Lync VoIP decode and ability to recognize the cloud-based Office 365 services



RMI, CORBA middleware

Expand end-to-end performance analytics across critical enterprise middleware with no agents



Easy start with the enterprise apps

Packaged application wizard enables quick DC RUM setup for SAP, EBS, Siebel, with business-relevant reporting

Reasons for upgrade



Scalability made simple

Scale out with parallel report servers, automatically balancing the analysis load



Automated slowness analytics

Employ real-time analytics to find reasons of transaction slowness, shorten time to dispatch the troubleshooting



Network vs. Server precision

Leverage enhanced client-network-server performance analysis model now available in CAS



Citrix availability analysis

Citrix monitoring got better with the ICA and CGP availability analysis and application traffic reporting



Better reporting and alerting

Improve information flow efficiency with diagrams, role-based report access and enhanced alerts

DC RUM Roadmap Update...

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Dashboards
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Dec 2014

12.4



Autodiscovery
Thematic workflows
Added L2 awareness
Universal Decode; Field SDK
Enterprise Apps Up-Levels
Citrix Up-Level (AppFlow, TCAM)
20Gbps+ Scalability
Currency

2H 2015



Autodiscovery- centric reporting

Auto Recognition of
applications,

Dedicated report workflows to
network audiences

Up-level SPAN port
diagnostics

Ease of use



All new simplified
plug&play traffic capture
for app discovery

Improved SPAN
port diagnostics

Reports Tools Settings Search [User Icon]

Traffic

▶ **1.24** Mbps

RTT 12.1 ms
LR 4.2%

Traffic quality issues
12% SSL session loss
3% duplicates

Data source(s):
3 AMDs [Gear Icon]

Dedicated flow for network-oriented audiences

Better recognition of applications,
integrated w/accelerators for OOTB
application monitoring

Network

Frames	1.65M /s
Packets	2.21k /s
VLANs	12
GRE tunnels	5
L7 protocols	64
TCP protocol	97%

Apps and Databases

Software services	45
SAP	2
Siebel	1
Databases	2

Recognition of encrypted
apps w/performance and SSL
certificate management

SSL

Full handshake time	12.1 ms
Quick handshake time	1.34 ms
Data transfer time	23.2 ms
SSL Alerts	12
Self-signed certificates	23
Weak servers	7
Slow servers	11

Sites and Links

Users

Citrix

Dedicated auto-discovery flow for network audiences

To deeper network-oriented insight...

Network

Frames	1.65M /s
Packets	2.21k /s
VLANs	12
GRE tunnels	5
L7 protocols	64
TCP protocol	97%

From high-level summary based on auto-discovery...

Auto-discovery

Network | Apps & DBs | Links & sites | Users | SSL | Citrix

Frames by size

128-Byte Frames	1.0M
256-Byte Frames	419k
1024-Byte Frames	300k
512-Byte Frames	244k
1513-Byte Frames	94k
64-Byte Frames	20k
Jumbo Frames	0

Frames by distribution

Unicast	89%
Multicast	9%
Broadcast	2%

Frames by type

IPv4	1.21 Mfps
IPv6	125 kfps
IPX	22 kfps

Packets by protocol

TCP	126 kpps
ICMP	12.5 kpps
UDP	22.3 kpps

Bytes by protocol

TCP	1.21 Mbps	89%
ICMP	125 kbps	9%
UDP	22.3 kbps	2%

Top N - Network - General

Resolution: 1 period | Time range: Monday, 12/15/14 (Today)

Bytes over Time

Top Software Services by bytes

Top Sites by bytes

Top Servers by bytes

Top Links by bytes

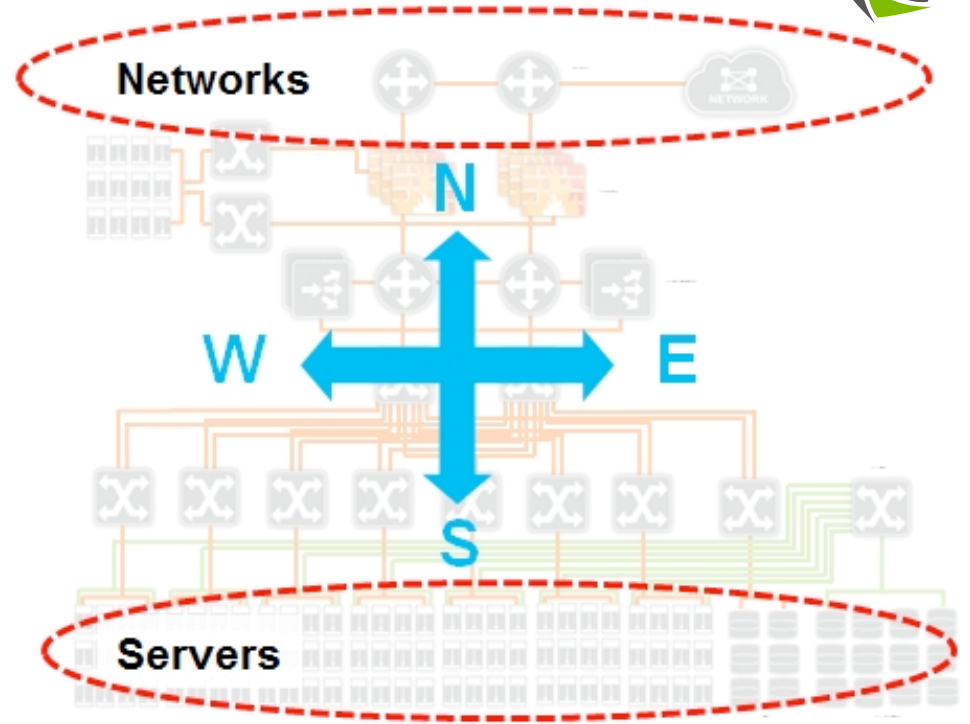
To application-related perspective



Network
Virtualization

App-aware
Network
Infrastructure

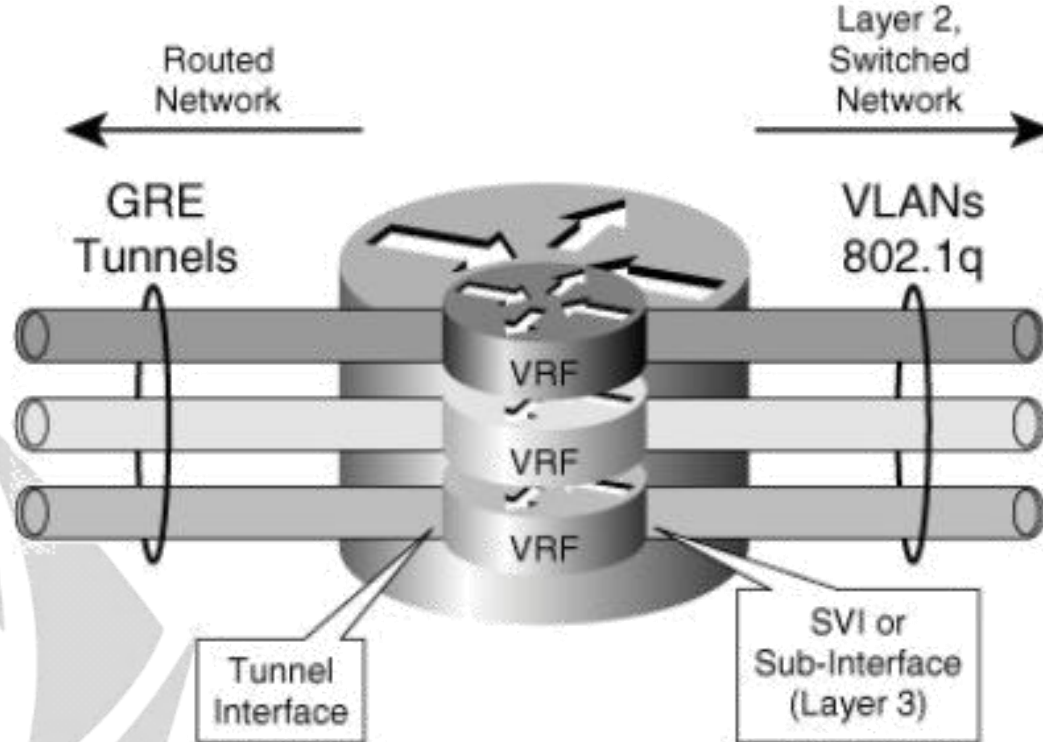
SDN




VLANs

Tunnels

QoS



A photograph showing a brown donkey pulling a wooden cart heavily laden with large, rectangular packages, likely cardboard boxes. The cart is tilted significantly to the right, suggesting it is being pulled at an angle or is struggling under the weight. A person in a white garment is walking alongside the cart, holding onto it. In the background, another person in dark clothing is walking away from the camera. The scene is set on a dusty, unpaved road under a clear sky. The text "VLAN oversubscription" is overlaid in a large, white, sans-serif font across the center of the image.

VLAN oversubscription

Top VLANs

Total bytes

201



66.2G

411



10.3G

901



8.71M


VLANs by: bandwidth



One VLAN exhibiting heavier usage will lead to oversubscription and performance issues in that VLAN

Number of VLANs above 4000 = the environment is getting close to maxing out in terms of VLAN enablement.

VLAN misconfiguration causes transaction slowdowns



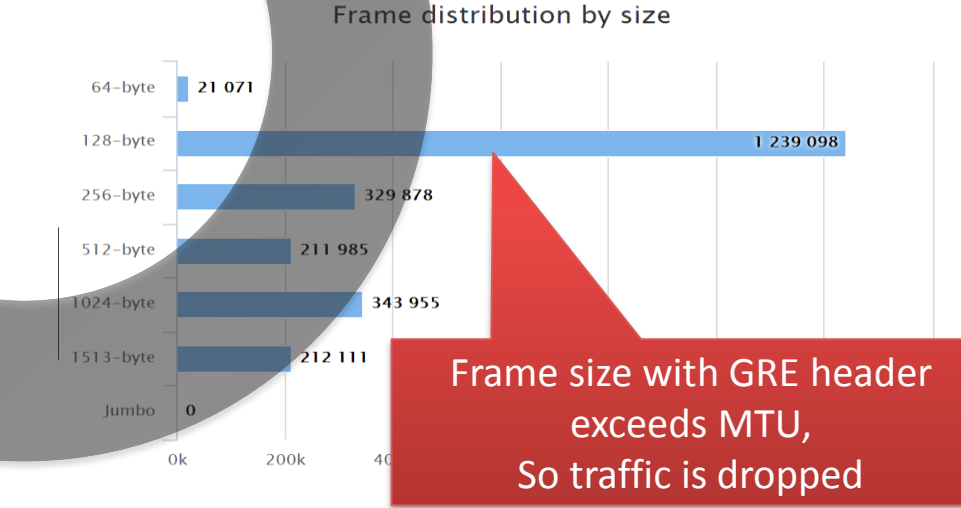
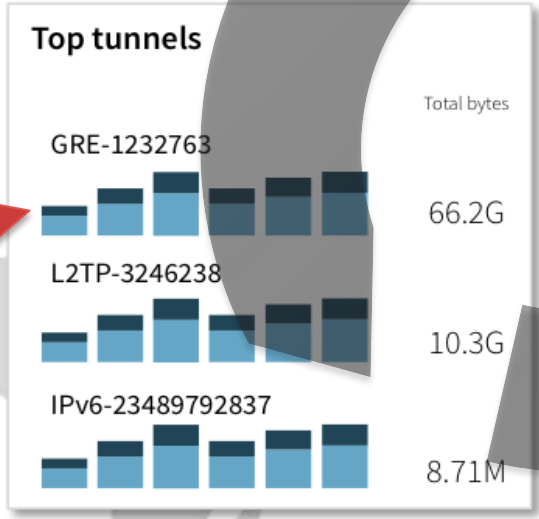
Tunnel (un)awareness

📌 Sites with highest packet loss rate


Client site	Total bytes	Two-way loss rate
Branch 363	74.7 kB	6.7 %
Branch 340	474 kB	3.2 %
Branch 516	16.6 MB	1.9 %
Branch 484	13.3 MB	1.3 %

“Can’t connect to the Internet”
 Users experience high loss rate at a remote site

Through what tunnel?
 Is it operational?

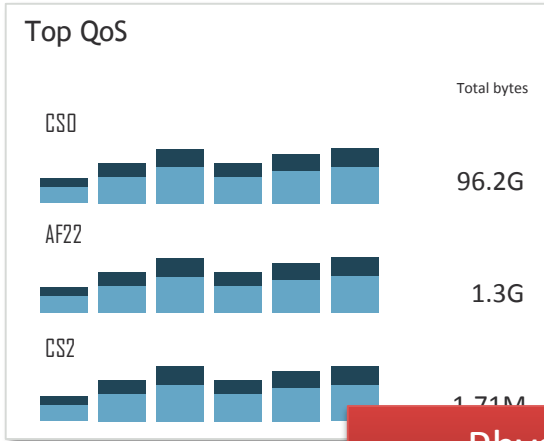


Frame size with GRE header exceeds MTU, So traffic is dropped

The image shows three motorcycles parked on a paved surface. On the left is a white and blue scooter with orange safety straps. In the center is a smaller red and yellow scooter. On the right is a red cruiser motorcycle. The background is a grey wall with horizontal lines. The text 'Inefficient QoS handling' is overlaid in white on the center of the image.

Inefficient QoS handling

CS 0 is the default Best Effort and default QoS queue
 Heavy usage in any of the queues, but specifically the
 default will result in oversubscription, impact performance



Utilization by Link



Physical utilization not oversubscribed

User performance impacted for all applications

Software service	End-to-end RTT	Total bandwidth usage with breakdown	Two-way loss rate with breakdown	Operation time	Unique and affected users (performance) benchmark
Drupal7 PHP WEB	21 ms	12.3 kbps	1%	1.43 s	2
easyTravel B2B VIP	21.3 ms	31.2 kbps	1%	3.27 s	2
easyTravel Customer VIP	21.2 ms	112 kbps	1%	1.42 s	2
Oracle EBS WebApp	21.2 ms	7.99 kbps	22%	-	2

Any class oversubscription causes traffic drops



Thematic reporting
for:

Identify and fix application
specific problems faster

Apps: SAP, Microsoft
and Siebel

for databases

for SSL health

Siebel Health

Analyzer group = Citrix Task = #Bolts N Things

Report is outdated ⌂ ⏸ Actions ?

Resolution: 1 hour Time range: Tuesday, 1/20/15 (Today)

1/20/15 00:00 - 1/20/15 06:40

99%

Health Index

2k/5k

slow operations

Primary reason for slowness

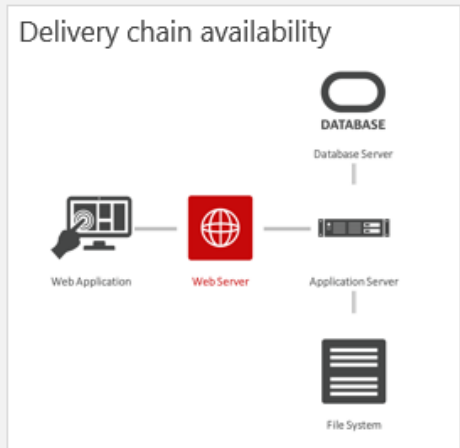
Network

22/321

performance affected users

5

alerts



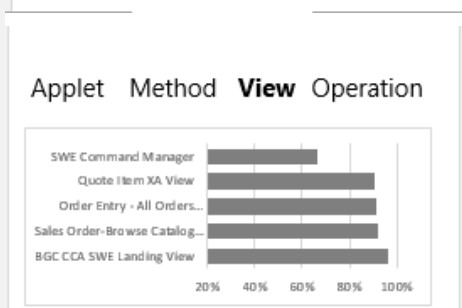
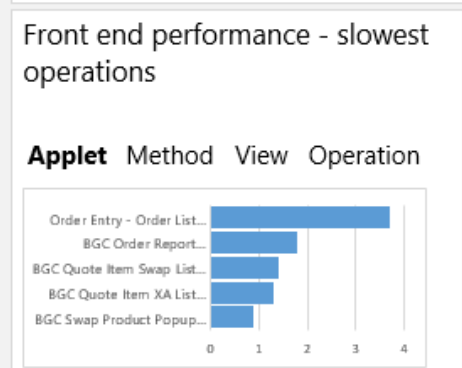
Errors

146

96	TCP
0	Transport
50	Application

Performance within last 4 hours

100% Network Performance
99% Application Performance





HTTP transport decodes unified

For Oracle – Forms and Web

For Exchange – ActiveSync,
Exchange Web Services, and
everything else

For SOAP – all HTTP decode
capabilities instantly available



HTTP transport, app-specific decoding

- Get the deep performance insight into each component of your enterprise application
- For Oracle E-business suite from Oracle Forms, through Web Interface into Middleware SOAP Gateway
- For Exchange from Active Sync, through Outlook Web Applications, Offline Address Book, Exchange Web Services into Outlook Desktop MAPI communication

Software Service	Analyzer	Server	Port	„New Dimension“
HTTP	HTTP	192.168.0.1	8000	EBS / HTTP
HTTP	HTTP	192.168.0.1	8000	EBS / OF
HTTP	HTTP	192.168.0.1	8000	EBS / SOAP
HTTP	HTTP	192.168.0.1	8000	HTTP
HTTP	HTTP	192.168.0.1	8000	OF
HTTP	HTTP	192.168.0.1	8000	SOAP
TCP	TCP	192.168.0.1	8000	TCP

- HTTP traffic recognized by traffic profile
- EBS recognized by URL

- OF traffic recognized by traffic profile
- EBS recognized by URL

- SOAP traffic recognized by traffic profile
- EBS recognized by URL

- HTTP traffic recognized by traffic profile
- URL not recognized

- OF traffic recognized by traffic profile
- URL not recognized

- SOAP traffic recognized by traffic profile
- URL not recognized

All recognized operations reported under HTTP Software Service

All operations not recognized as HTTP reported under TCP Software Service

The same server and port



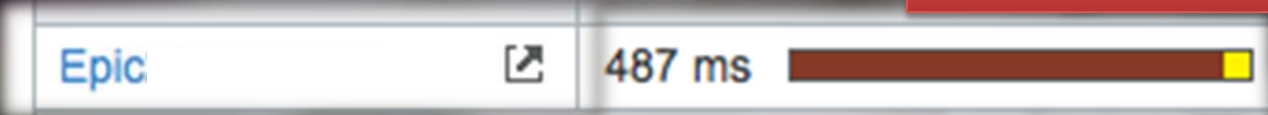
The Universal Decode

SDK

Dedicated Community support

The universal decode: what does it do?

For DC RUM 12.2: this is TCP



The logic defined in a script tells how to turn network packet stream into a trace of a business transaction execution

For DC RUM 12.3: this is Epic

getExtID^EGRPC2	18.7 ms	<div style="width: 10%;"></div>
listItms^EGRPC2	1.15 ms	<div style="width: 2%;"></div>
isrec^EGRPC2	31.1 ms	<div style="width: 15%;"></div>
nameVal^EGRPC2	3 ms	<div style="width: 3%;"></div>
catList^EGRPC2	213 ms	<div style="width: 100%;"></div>

The multi-protocol decode efficiency

Epic decode 12.2:

1200 lines of C++ code

Programmers skills

Compiled into the AMD

Epic decode 12.4:

96 lines of script

System integrator skills

Open

Field-adjustable

Community enabled

Supported with the SDK

The multi-protocol decode

Potential next targets

Financial Services

ISO 8583

FIX

Healthcare

HL-7

DICOM

Epic

Business Middleware

Apache AJP

Siebel SISNAPI

Websphere MQ

Help improving industry-specific application performance: focus on a problem and efficient solution delivery



DC RUM for Citrix

Citrix Thematic Dashboard and
Workflow

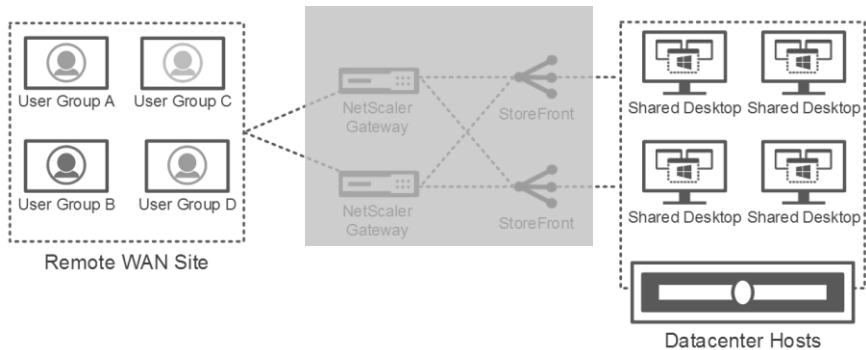
AppFlow integration for
Netscaler environment
performance

Citrix: sewing the patchwork quilt (ref. Gartner) with TCAM and NetScaler



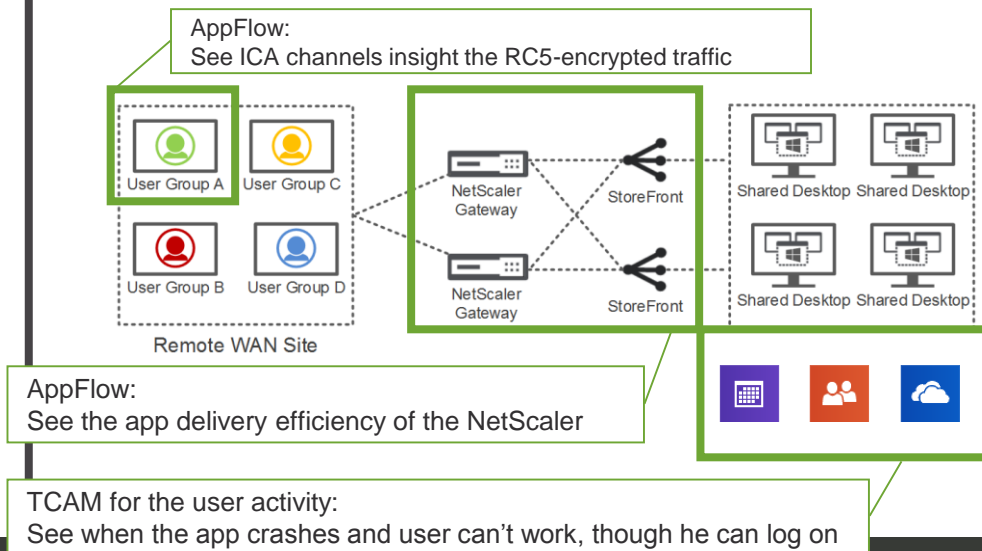
DC RUM for Citrix 12.3:

End-to-end performance view
over the delivery box



DC RUM for Citrix 12.4:

End-to-end view **through**
the delivery infrastructure



Citrix: sewing the patchwork quilt (ref. Gartner) with TCAM and NetScaler



DC RUM for Citrix 12.3:

RC5 encryption enabled for ICA =
NO channel insight

Citrix Channels

Service = All other x Module = ICA x Published Application = #SAPGUI x Software

Software Services

Servers

Published Applications

Resolution: 1 hour Time range: Friday, 12/12/14 (Today)

Channels

Channel		
Published Application	Name	Total b
#SAPGUI	Encrypted operation	6.

Citrix Connection Performance

DC RUM for Citrix 12.4:

AppFlow import from NetScaler =
restored ICA channel visibility

Citrix Channels

Service = All other x Module = ICA x Published Application = #SAPGUI x Software ser

Software Services

Servers

Published Applications

Resolution: 1 hour Time range: Friday, 12/12/14 (Today)

Channels

Channel		
Published Application	Name	Total byte
#SAPGUI	CTXTW (Thinwire)	6.83
#SAPGUI	CTXTWI (Thinwire)	2.12
#SAPGUI	CTXCAM (Audio)	449
#SAPGUI	Special Thinwire	1.51
#SAPGUI	CTXCPM (Printer)	340

Citrix performance dashboard

Analyzer group = Citrix Task = #Bolts N Things

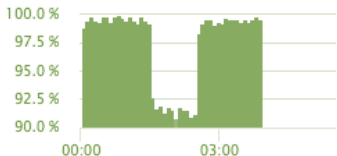
Report is outdated ↻ ⏸ Actions ⌵ ?

Resolution: 1 hour Time range: Tuesday, 1/20/15 (Today) 📅 🌐

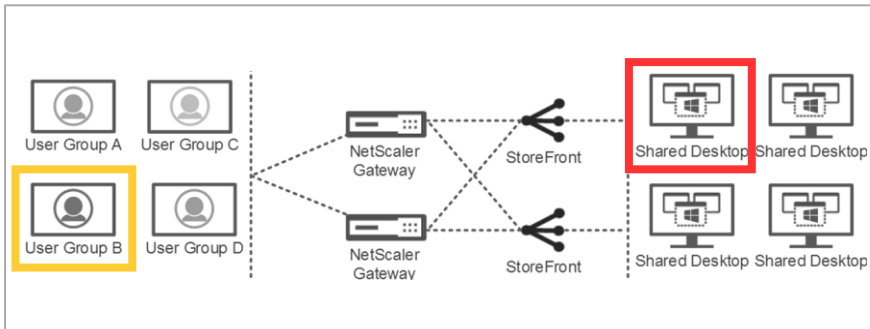
1/20/15 00:00 - 1/20/15 06:40

ICA EUE

As volume **Latency** RBW errors

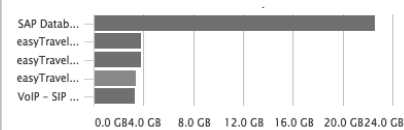


Click to see All Users



Top App servers

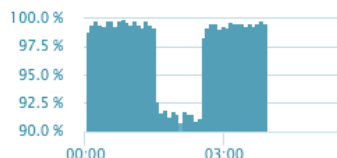
By health **volume** load resp.time errors



Click to see All Servers

Network

As **NetPerf** traffic clients rtt retrans



Click to see All Sites

Published Apps

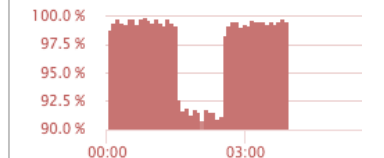
By clients **volume** performance errors



Click to see All Pub Apps

XenApp Rsrcs

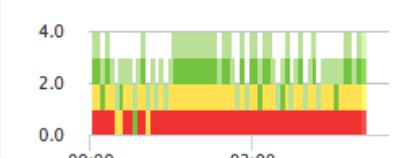
As **CPU** memory disk sessions



Click to see All Servers

XenApp servers

As status **breakdown**



Click to see All Servers



Integrated EUE with the DC RUM

3rd Parties - Splunk / ServiceNow

Dynatrace Synthetic Monitoring
(Gomez) Last Mile



DC RUM converged dashboards

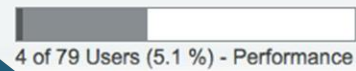
DC RUM



APMaaS



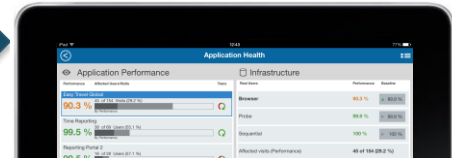
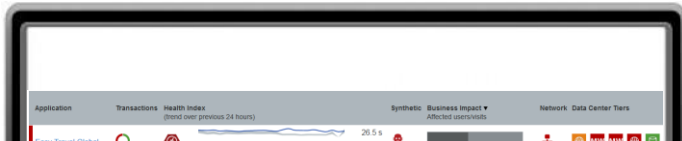
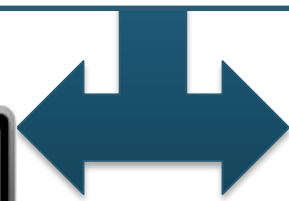
Network



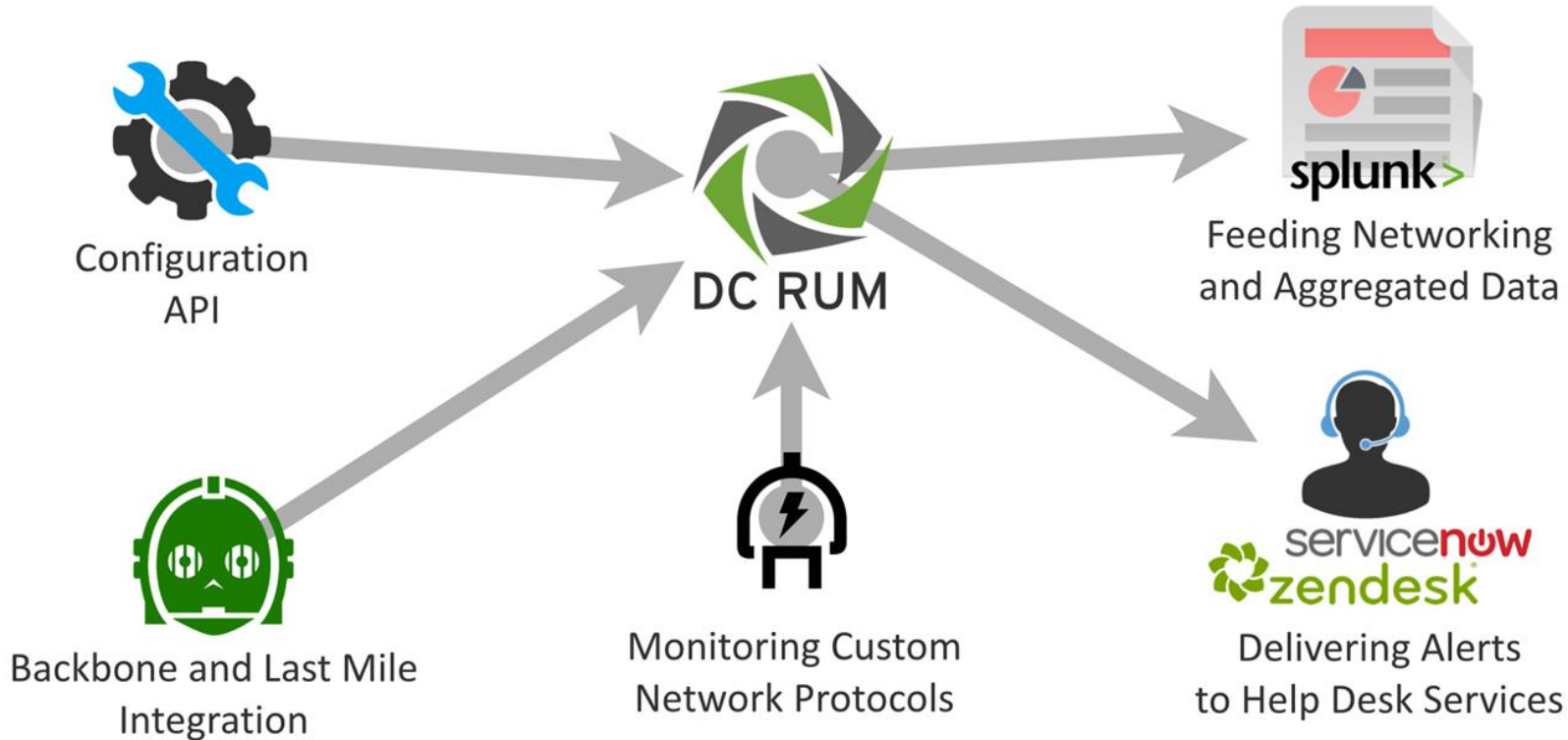
UEM

SyM Ent

WAN



Integration Friendly





Integrated EUE with the DC RUM

SyM Enterprise
Gomez Last Mile



Apr '15



Single Web UI w/ Ease to Use
Browser Currency (CH)
Modern Rest API platform
Splunk / Integration
Mobile App Push Notif. (June)
Self Service Doc on the Community
RCA & 3rd Party Analy. Advances



Analytics Advancements – Root Cause & 3rd Party



End-to-end Diagnostics



Real-time and Proactive Analytics



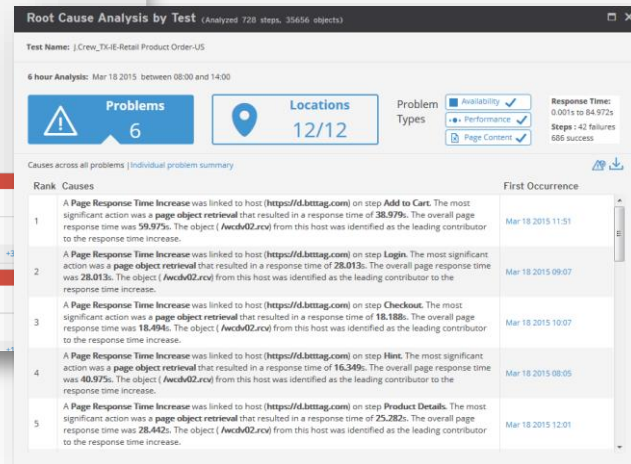
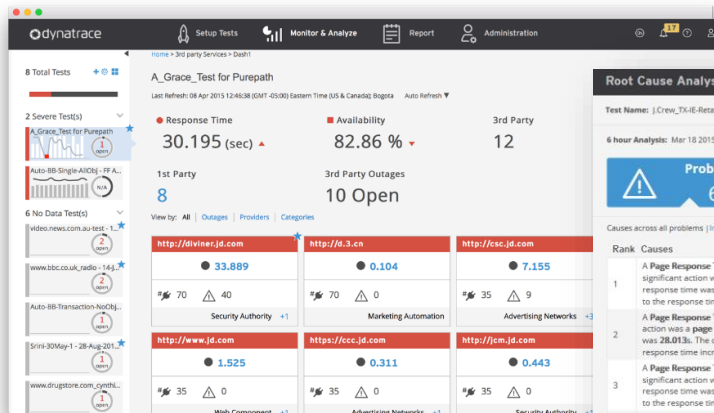
User-centric Design



Global Performance Network Advancements



Omni-channel Customer Experience





Alert Push Notifications



End-to-end Diagnostics



Real-time and Proactive Analytics



User-centric Design



Global Performance Network Advancements



Omni-channel Customer Experience

Warning - Initial
Response Time Alert

Apple

You have received this alert because your test has exceeded your defined threshold of 3 or more of selected sites.

You will receive another alert if your test fails at all sites or its performance improves and subsequently crosses your defined threshold again at some point in the future.

Alert Time: **May 20 2015 12:39PM**
(May 20 2015 04:39PM GMT)

Sites at Alert Status: **3**

	Availability (%)	Response Time (sec)	
Walmart			
BB	98.98	13.350	
Sears			
BB	98.16	8.776	
Amazon			
BB	99.46	7.951	
Staples			
BB	99.37	7.424	
CDW Corp			
BB	98.31	6.813	
Office Depot			
BB	99.37	6.067	
Home Depot			

View Test Share OK

Last 48 hours (20 May 2015 02:20 PM GMT-04:00)

Proactive Problem Notifications on your Smartphone

Single Management Console All in One with built-in Quick Start Guides



End-to-end Diagnostics



Real-time and Proactive Analytics



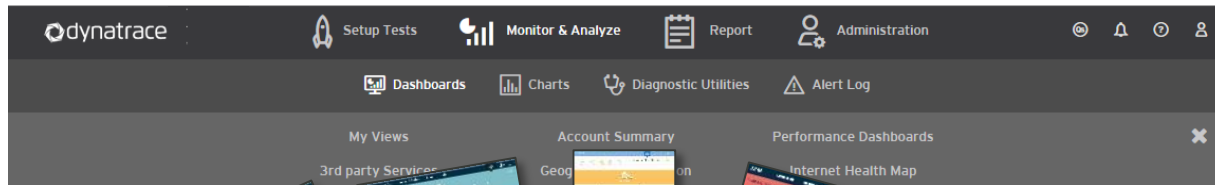
User-centric Design



Global Performance Network Advancements



Omni-channel Customer Experience



Modern REST API platform for Enterprise Integration



End-to-end
Diagnostics



Real-time and
Proactive Analytics



User-centric Design



Global Performance
Network
Advancements



Omni-channel
Customer Experience

- Single API that is simpler, faster, and more customizable
- Powered by modern, robust REST API platform
- Supports easy integration with 3rd-party dashboards or applications





Apr '15

Single Web UI w/ Ease to Use
Browser Currency (CH)
Modern Rest API platform
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Oct '16

Touch First UI for Biz and IT v1
UEM & Synthetic Integration (v6.3)
Web-based Recorder EAP
Browser Currency (IE11, CH4x)
REST API v2 - Alerting

Apr '16

Touch First UI for Biz and IT v2
Web-based Recorder GA
Browser Currency (FF)
Auto-Retry on Error
'Hyper' Availability Testing
Virtual Node in a Box
REST API v3 - Provisioning



Touch First UI for Biz & IT



End-to-end
Diagnostics



Real-time and
Proactive Analytics



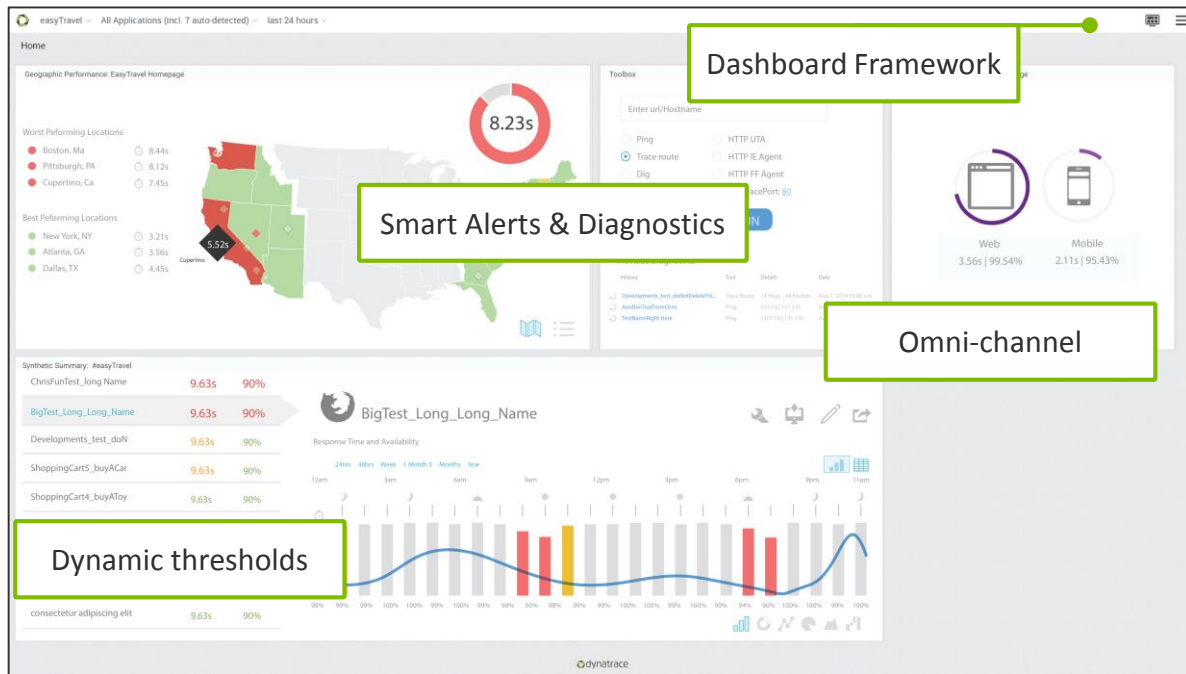
User-centric Design



Global Performance
Network
Advancements



Omni-channel
Customer Experience



October '15



Global Network Advances



End-to-end Diagnostics



Real-time and Proactive Analytics



User-centric Design



Global Performance Network Advancements



Omni-channel Customer Experience

'Hyper' – high throughput availability testing



April '16

Deploy everywhere 'Virtual node in a box'

Continuous delivery of mobile and web browser currency



April '15

October '15

April '16



UEM & Synthetic All-in-One



End-to-end
Diagnostics



Real-time and
Proactive Analytics



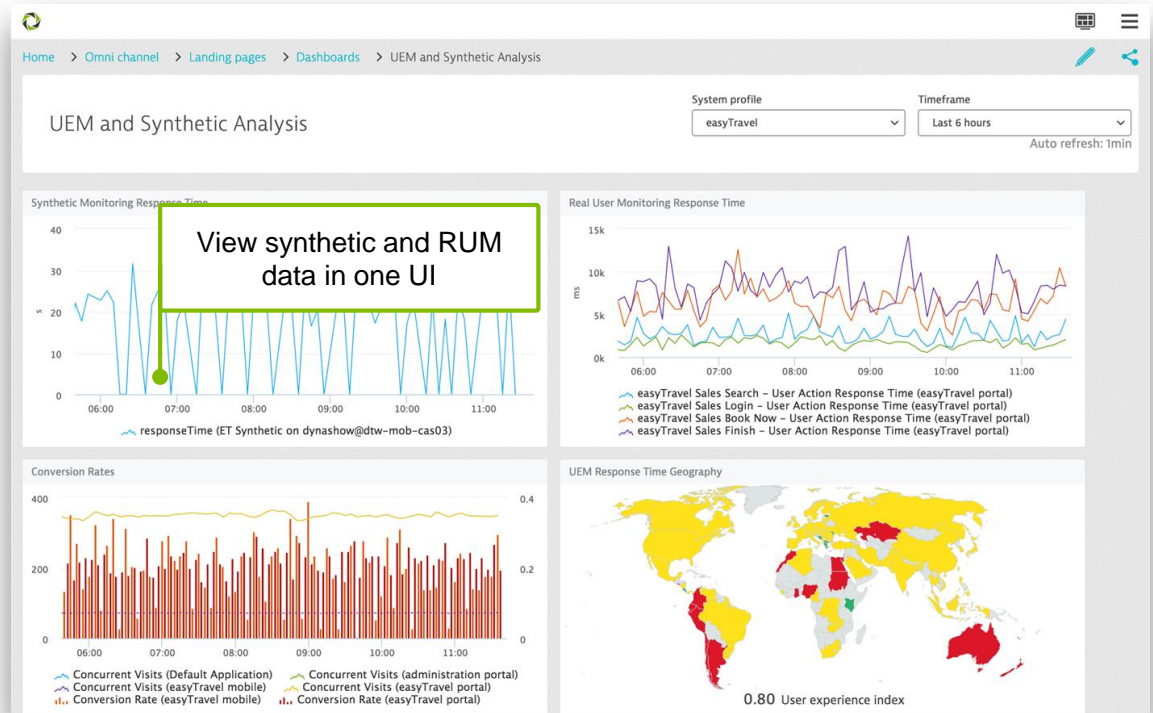
User-centric Design



Global Performance
Network
Advancements



Omni-channel
Customer Experience



October '15



Easy to Use Web Based Script Creation



Omni-channel Customer Experience



End-to-end Diagnostics



Real-time and Proactive Analytics



Global Performance Network Advancements



User-centric Design

Save and Monitor Go Back

Website

Enter the HTTP/HTTPS URL of the website you'd like to monitor

October '15 EAP

April '16 GA



Action click on "Entdecken"

Action name

TargetWindow

Locators

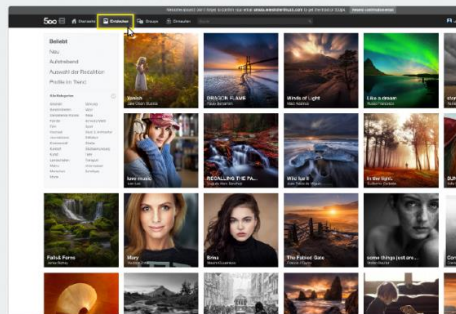
CSS

CSS

Dom

CSS

CSS



Pause Recording

Finish Recording

Playback

Settings

UPLOAD YOUR PHOTOS
500px is a site with other photos. Upload your photos.

AWESOME

Lurie Bellegurschi
Reykjavik, Iceland

Sean Archer
Watersburg, Russia

Edwin Martinez
Manila, Philippines

The Photo Fiend
Cagary, Canada





Apr '15

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CAFE



dynatrace