Riverbed

Оптимизация и контроль ИТ-инфраструктуры

Bogdan Syrotenko, Sales engineer, Bakotech Ukraine

BAKOTECH® riverbed®

1

Today Users, Applications, and Data are Everywhere

62%
of **employees** work in multiple locations.

FORRESTER

52%
of enterprises have over 50% of their **data** outside of the data center.
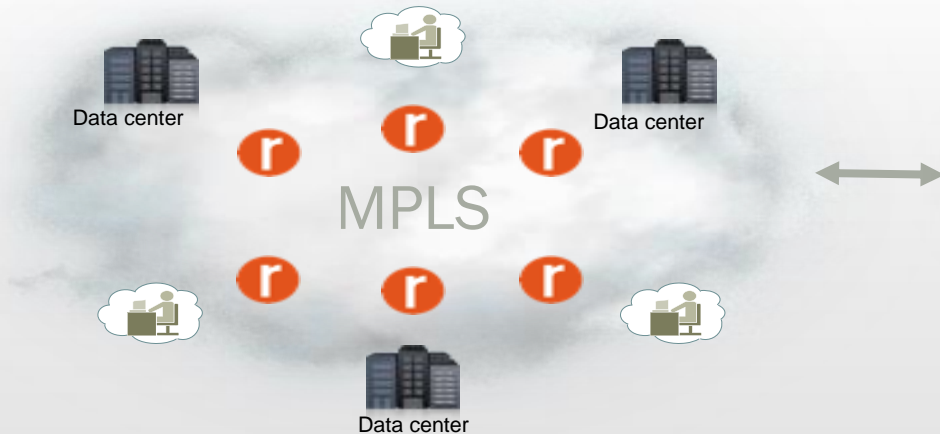
FORRESTER

51%
say **application complexity** is their primary challenge.

FORRESTER

BAKOTECH   riverbed

New Challenges

Customer Network

MPLS

Data center
Data center
Data center

- Guaranteed SLAs - network latency
- Reserved bandwidth
- Business critical apps prioritized
- WAN acceleration
- Network visibility

Internet

The Cloud

webex
amazon web services™
Office 365
Microsoft Azure
salesforce
box

- No commitment on latency
- No control on network paths
- No bandwidth reservation
- No Quality of Service
- No network visibility
- No WAN acceleration

BAKO TECH® riverbed®

Key Trends & Challenges

1. **Cloud Applications**

"Public cloud computing has rendered traditional enterprise WAN architectures to be suboptimal, from a price and performance perspective."

2. **Increased Demand for Bandwidth & Video**

"Organizations [are] struggling with increased demand for bandwidth – with video fast becoming the #1 app for bandwidth consumption.."

3. **Encrypted Applications**

"Traffic is increasingly encrypted.   Encrypted traffic is difficult to classify and segment, so it is all treated equally, usually with high priority."

4. **Hybrid WAN & SD-WAN**

"Network managers now find branch office network solutions are increasingly complex and inflexible, as well as costly, to deploy and manage."

Gartner: Technology Overview for SD-WAN. July 2, 2015
Gartner: The WAN is the new LAN. December 17, 2014
Gartner: Market Overview for SD-WAN. December 1, 2015

Internet Challenges

User Expectations

New Traffic Mix

Bandwidth

riverbed

5

A Comprehensive Solution Is Needed for Deploying & Managing Today's Complex Networks
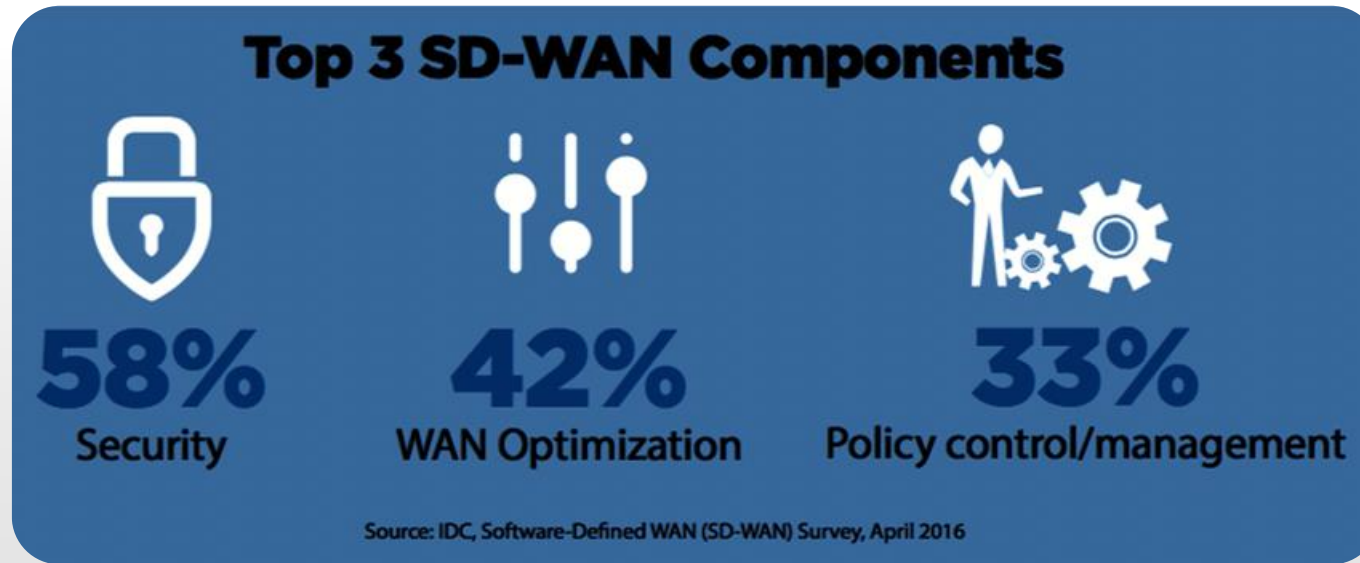
Software Defined & Policy Based Control

WAN, Cloud, WLAN

Continuous Performance Improvement

Location, Latency, App Independent

Seamless integration

Critical components of SD-WAN

Top 3 SD-WAN Components

58% Security

42% WAN Optimization

33% Policy control/management

Source: IDC, Software-Defined WAN (SD-WAN) Survey, April 2016

The combination of WAN optimization and software defined control provides the performance and agility needed for today's business

SteelHead

Introducing the Riverbed SteelHead

OPTIMIZATION

Optimized, secure delivery of all apps across all networks

VISIBILITY

End user visibility for all applications – including SaaS

CONTROL

Application-level, policy-based control to meet business requirements

Superior Application Performance

### Optimized, secure delivery of all apps across all networks
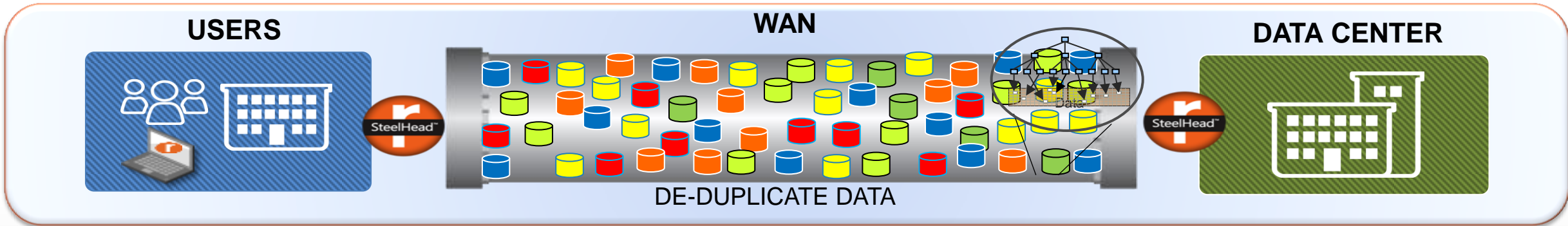
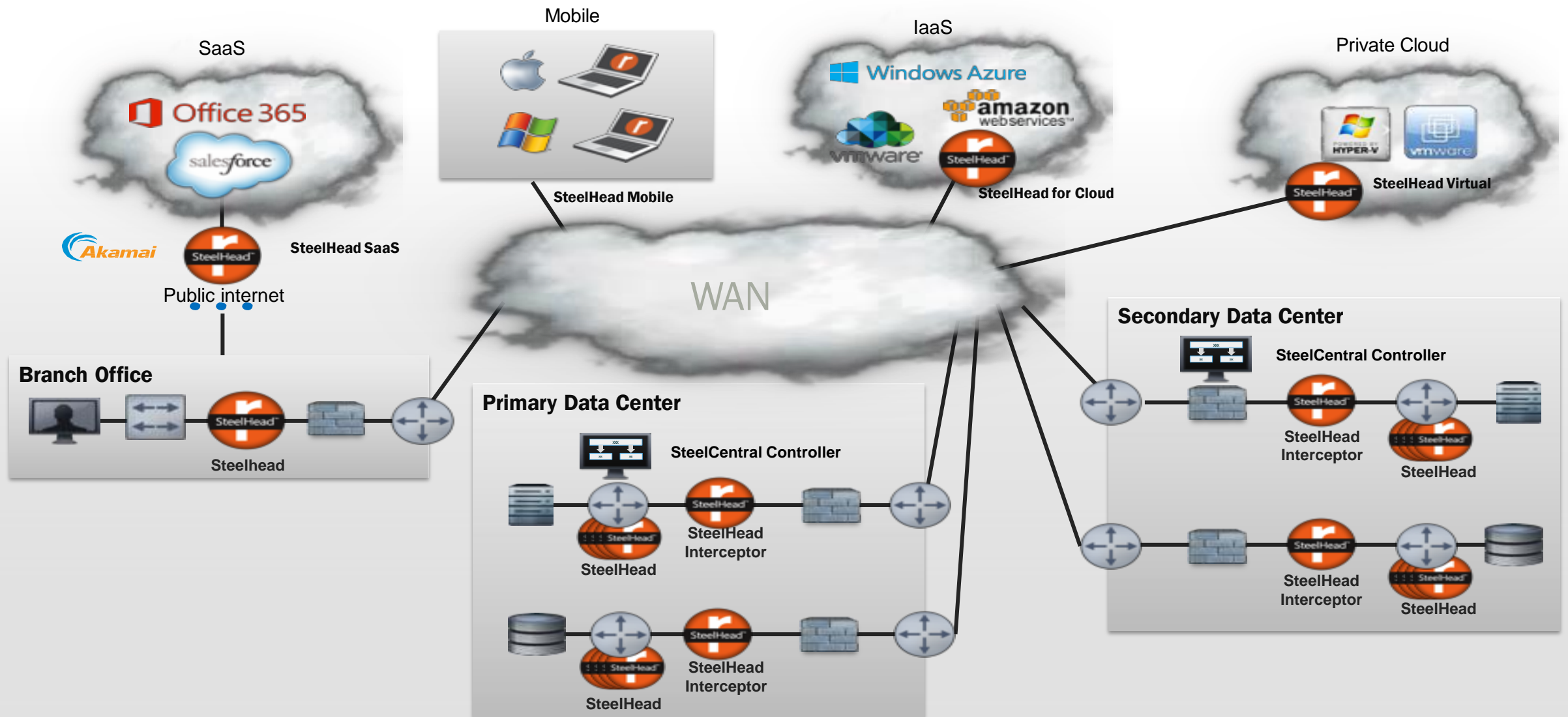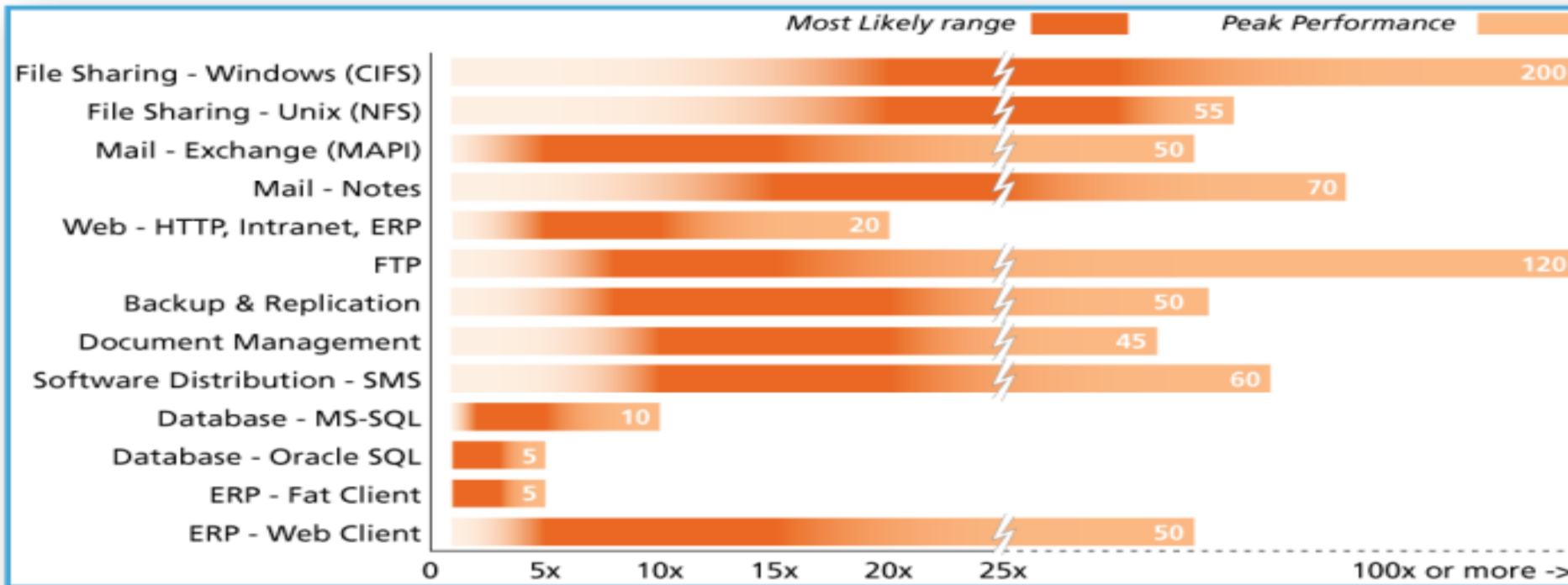| Application Streamlining	Data Streamlining	Transport Streamlining
• Up to 100X faster app performance • Industry-Leading app protocol optimization	• Up to 95% reduction in capacity requirements. • Secure support for encrypted transport protocols (SSL/TLS & HTTPS)	• Up to 98% reduction of round trips • Up to 60x boost in WAN throughput

riverbed 23
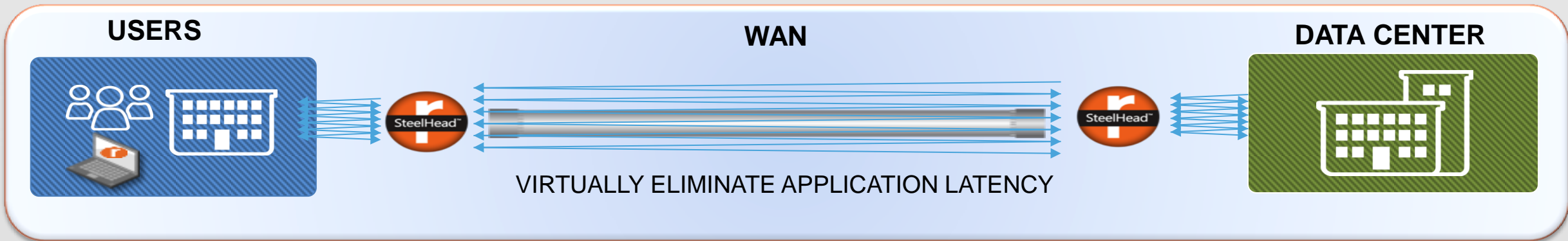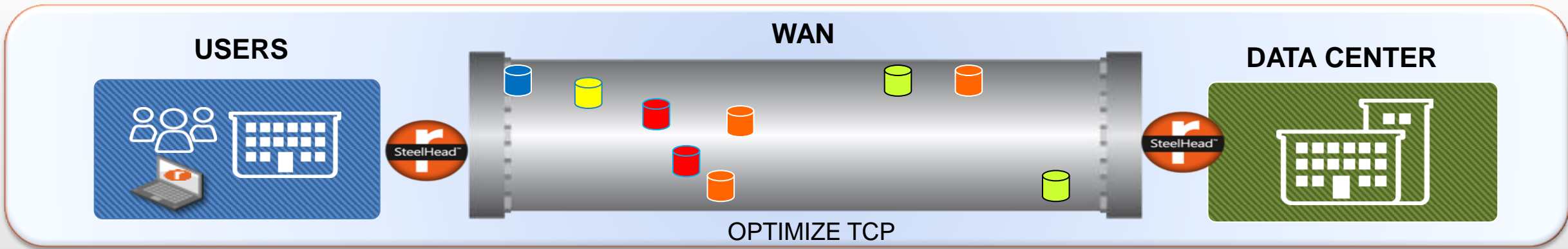
Complete Solution

Results?

CIFS	CIFS signed	CIFS print	Mac CIFS	MAPI	MAPI 2K3	MAPI 2K7	MAPI crypto	MAPI prepop	Lotus Notes	HTTP	SSL	Oracle Forms	ICA	NFS
✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

Most Likely range   Peak Performance

Application	Value
File Sharing - Windows (CIFS)	200
File Sharing - Unix (NFS)	55
Mail - Exchange (MAPI)	50
Mail - Notes	70
Web - HTTP, Intranet, ERP	20
FTP	120
Backup & Replication	50
Document Management	45
Software Distribution - SMS	60
Database - MS-SQL	10
Database - Oracle SQL	5
ERP - Fat Client	5
ERP - Web Client	50

0   5x   10x   15x   20x   25x   100x or more ->

BAKOTECH®   riverbed®

StealHead pilot (Branch-DC optimization)

		CT	Notes	Source:Port	Destination:Port	LAN kB▼	WAN kB	Reduction	Start Time	Application
▶	▲	»*	🗗🗗🔒☁🛡	10.81.3.210:50863	192.168.112.12:445	2,980,458	2,405,723	19%	2016/12/06 10:19:34	SMB30
▶	▲	»*	🗗🗗🔒☁🛡	10.81.3.107:49161	192.168.112.12:445	1,007,710	39,280	96%	2016/12/08 09:29:57	SMB30
▶		»*	🗗🗗🔒☁🛡	10.82.2.15:54651	8.253.81.110:80	254,195	259,008	0%	2016/12/08 16:21:59	HTTP
▶		»*	🗗🗗🔒☁🛡	10.82.2.21:56785	91.231.235.100:80	217,775	228,207	0%	2016/12/08 11:16:41	HTTP
▶		»*	🗗🗗🔒☁🛡	10.82.3.20:49441	192.168.112.20:1562	86,898	2,034	97%	2016/12/08 10:49:18	TCP
▶	▲	»*	🗗🗗🔒☁🛡	10.82.3.143:58304	192.168.112.12:445	45,502	8,308	81%	2016/12/08 09:09:25	SMB30
▶		»*	🗗🗗🔒☁🛡	10.82.1.104:49413	192.168.112.21:1074	44,730	15,426	65%	2016/12/08 09:07:28	TCP
▶		»*	🗗🗗🔒☁🛡	10.82.3.20:50161	192.168.112.20:1562	30,709	1,554	94%	2016/12/08 14:29:12	TCP
▶		»*	🗗🗗🔒☁🛡	10.82.1.47:49780	192.168.112.21:1074	30,340	8,588	71%	2016/12/08 09:14:19	TCP
▶		»*	🗗🗗🔒☁🛡	10.82.1.27:50732	192.168.112.21:1074	27,877	9,536	65%	2016/12/08 09:51:05	TCP
▶		»*	🗗🗗🔒☁🛡	10.82.1.216:59623	192.168.112.21:1074	27,346	9,714	64%	2016/12/08 09:59:41	TCP
▶		»*	🗗🗗🔒☁🛡	10.82.3.17:49811	192.168.112.20:1562	20,805	3,095	85%	2016/12/08 09:37:46	TCP
▶		»*	🗗🗗🔒☁🛡	10.82.3.17:49838	192.168.112.12:445	19,057	3,669	80%	2016/12/08 09:43:05	SMB21
▶		»*	🗗🗗🔒☁🛡	10.82.1.30:59449	192.168.112.21:1074	16,556	6,822	58%	2016/12/08 12:22:54	TCP

BAKOTECH®   riverbed®

StealHead pilot (DB backup)

Data Reduction
Average: 41.0%
Peak: 99.1%
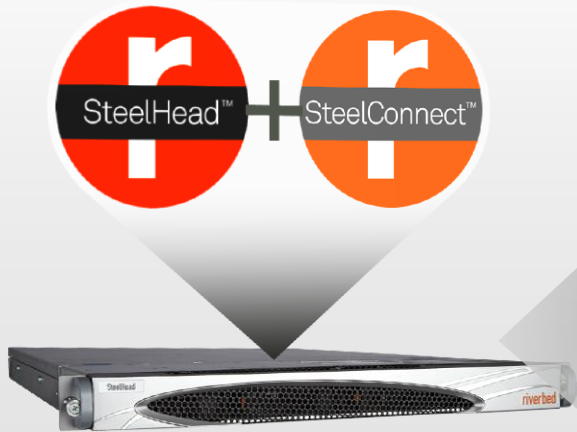1.7x capacity increase

☑ **LAN Throughput**
Total: 1.9 GB

☑ **WAN Throughput**
Total: 1.1 GB

772.5 MB was removed from the WAN link.
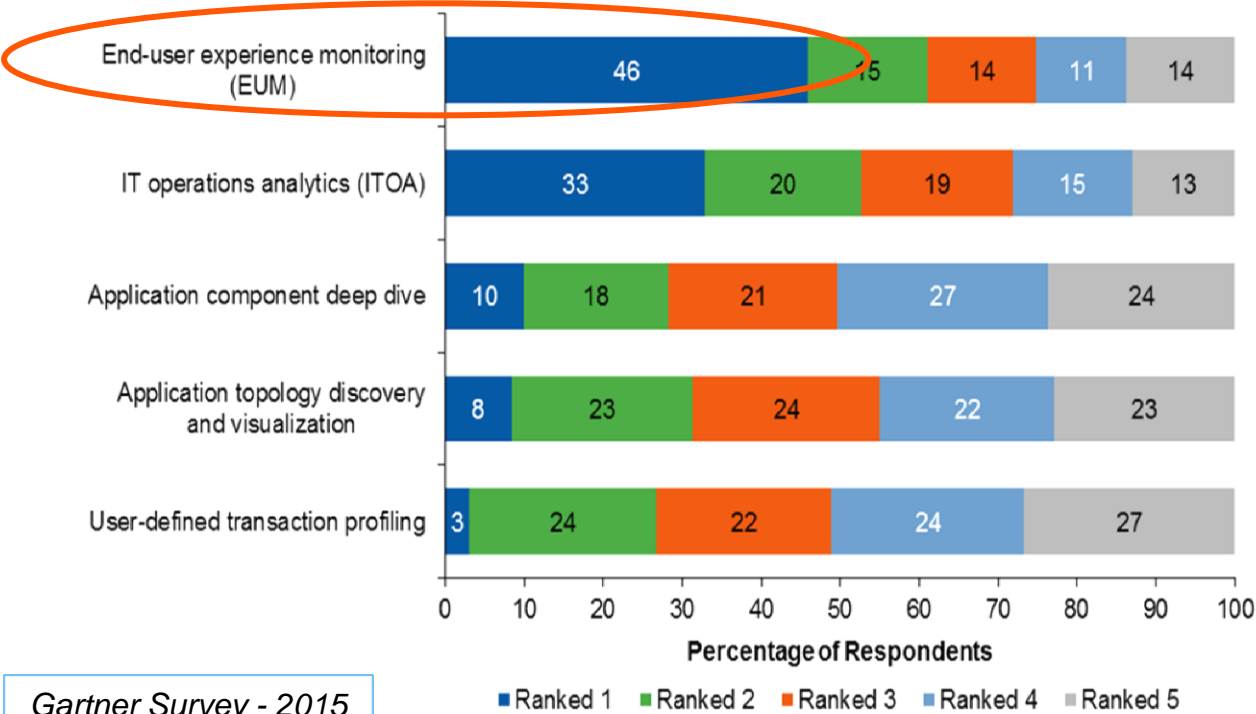
Introducing SteelHead SD

- Improved Agility
- Holistic performance improvement
- Improved MTTR/downtime
- Easier management while retaining flexibility for upgrades or decommissioning of services
- Smaller hardware footprint
- Geared for growth/scale spikes
- No compromise in end-to-end app centricity
- End-to-end identification and classification of apps

EUE monitoring is a top priority

End-user experience monitoring (EUM): Ranked 1: 46, Ranked 2: 15, Ranked 3: 14, Ranked 4: 11, Ranked 5: 14

IT operations analytics (ITOA): Ranked 1: 33, Ranked 2: 20, Ranked 3: 19, Ranked 4: 15, Ranked 5: 13

Application component deep dive: Ranked 1: 10, Ranked 2: 18, Ranked 3: 21, Ranked 4: 27, Ranked 5: 24

Application topology discovery and visualization: Ranked 1: 8, Ranked 2: 23, Ranked 3: 24, Ranked 4: 22, Ranked 5: 23

User-defined transaction profiling: Ranked 1: 3, Ranked 2: 24, Ranked 3: 22, Ranked 4: 24, Ranked 5: 27

Percentage of Respondents

■ Ranked 1 ■ Ranked 2 ■ Ranked 3 ■ Ranked 4 ■ Ranked 5

Gartner Survey - 2015

Which is the most important objective for your organization's digital transformation initiative in the coming 12 months?

51% Improved end-user or customer experience

EMA Survey - 2015

…but most companies lack the right tools

5% of global enterprises have strategically implemented EUEM technologies or services *

Gartner research

The move to cloud continues

Public Cloud Services (Gartner, 4Q 2015)

Billions

- $140
- $120
- $100
- $80
- $60
- $40
- $20
- $0

2013 2014 2015 2016 2017 2018 2019

■ SaaS ■ IaaS ■ Paas
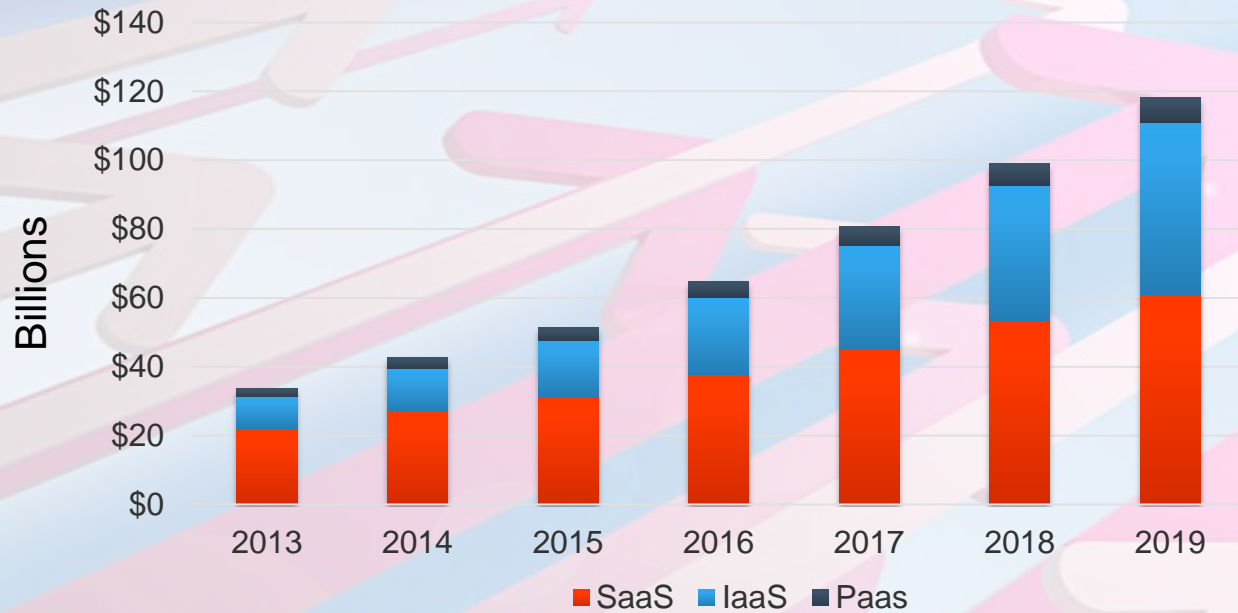
CAGR (2014-2019): 22%

Why are Cloud Services the First and Preferred Option for IT Investments?
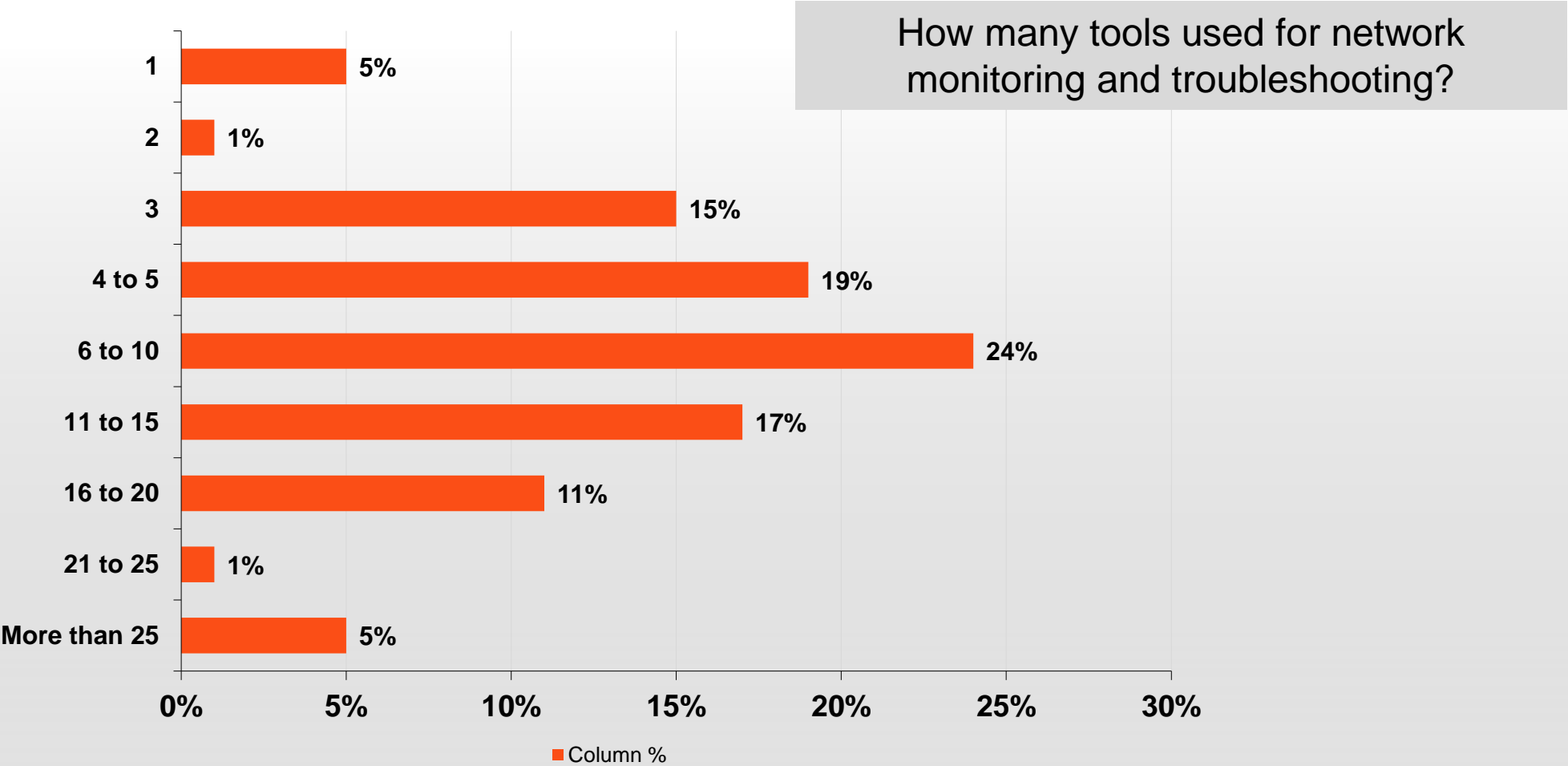
Cost Reduction
Business Growth
Agility
Scalability

65%

*Gartner Survey

BAKOTECH   riverbed

Apps can break for a lot of different reasons

OS Failure

Configuration Problem

Broken Link

Configuration Problem

Code Error

End-User Devices

WAN

LAN

Web-Servers

LAN

App-Servers

Device Malfunction

Network Congestion

Missing Link

Memory Leak

BAKOTECH   riverbed

Many point tools in use

How many tools used for network monitoring and troubleshooting?

Tools	Column %
1	5%
2	1%
3	15%
4 to 5	19%
6 to 10	24%
11 to 15	17%
16 to 20	11%
21 to 25	1%
More than 25	5%

■ Column %
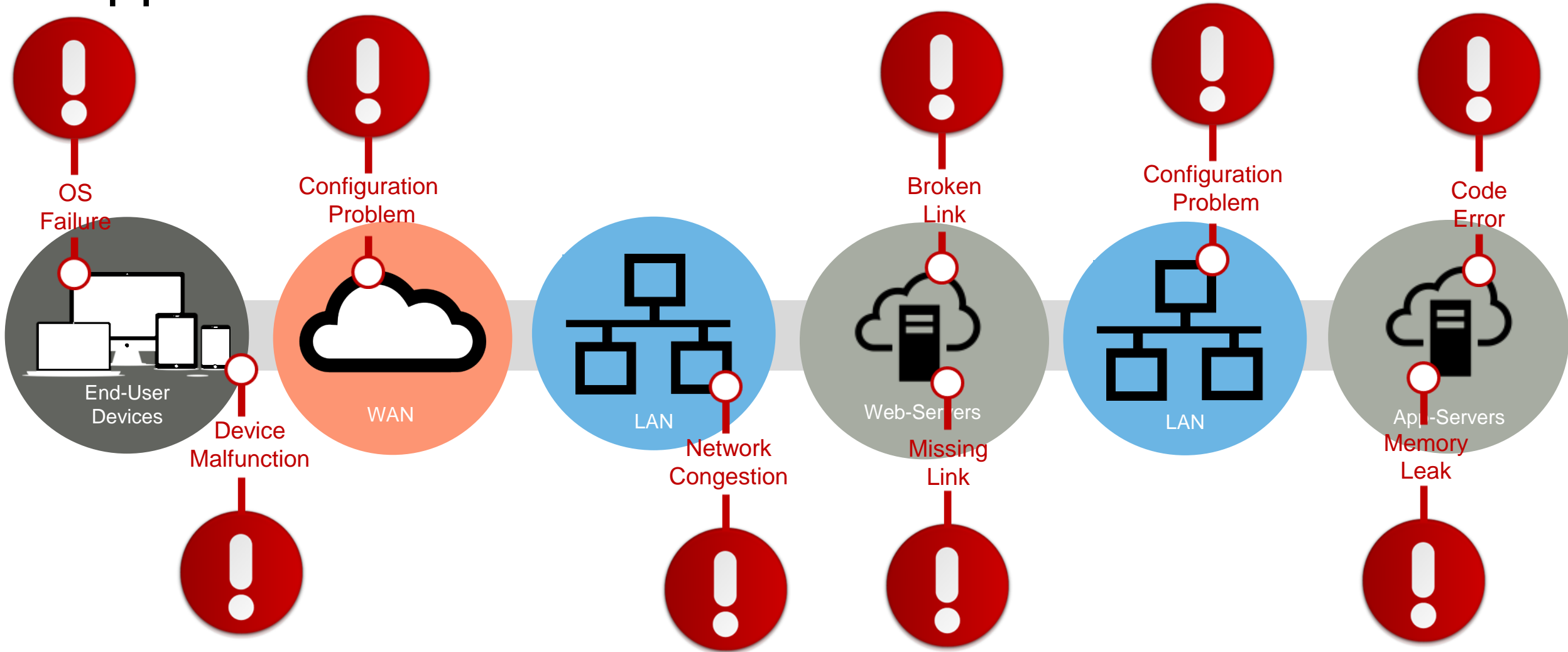
Source: Enterprise Management Associates, Inc.

New technologies increase potential blind spots

83% of execs think troubleshooting issues with enterprise applications is more difficult in a hybrid network.[1]

51% of companies say that application complexity is primary obstacle to mastering application performance.[2]

[1] "Riverbed Global Application Performance Survey," October 2015
[1] Forrester, "Think You've Mastered Application Performance? Think Again," July 2013

…and a cloud…

BAKOTECH   **riverbed**   37
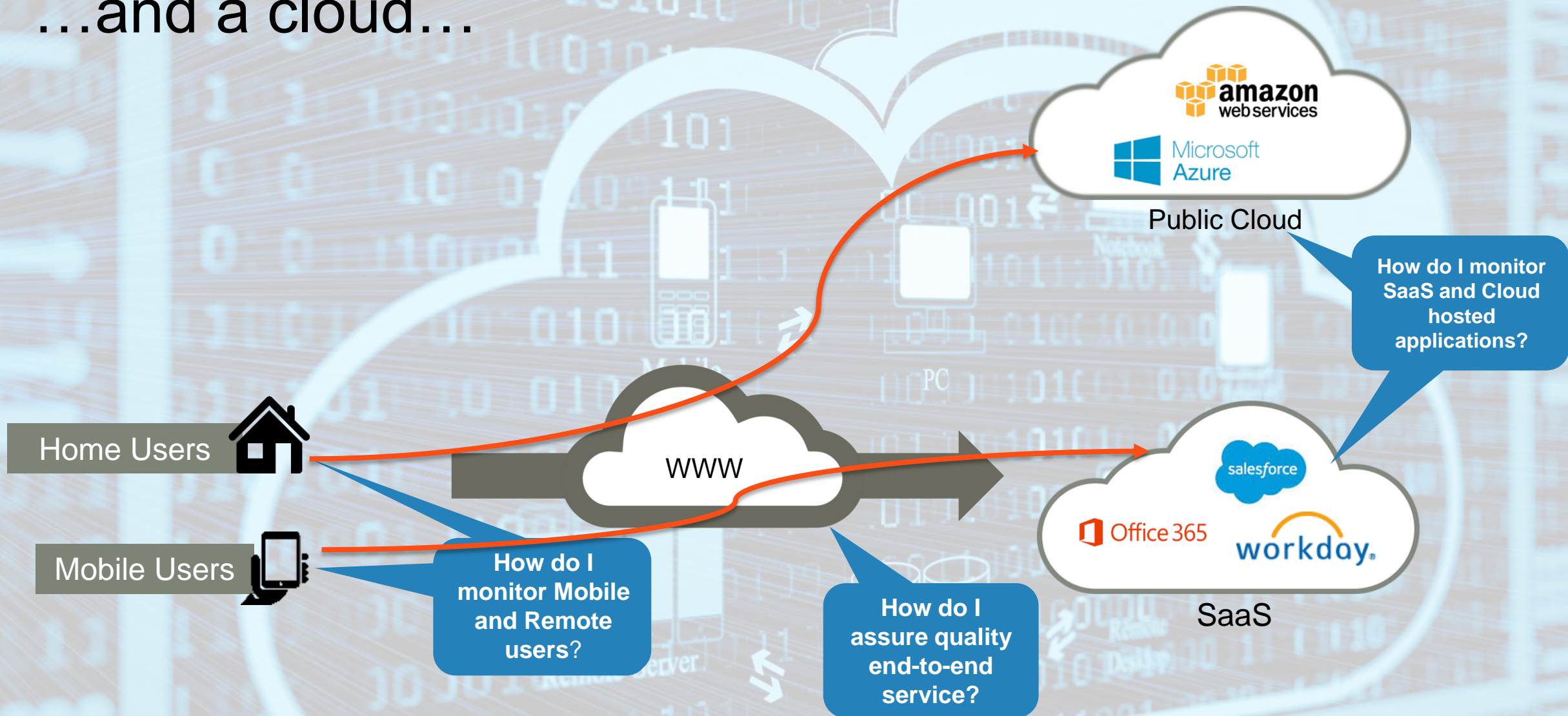
SteelCentral Vision & Mission

END USERS

NETWORKS & INFRASTRUCTURE

APPLICATIONS

<u>Vision:</u> Deliver the most complete, modular and integrated performance monitoring solution in the industry

<u>Mission:</u> Monitor all types of end-user devices, apps, networks and infrastructure, wherever they are. Specialize in two core solutions: 1) App and EUE monitoring & troubleshooting, 2) Network and infrastructure monitoring & troubleshooting

Integrated Monitoring

...is more than just monitoring everything

Driving the Evolution of Visibility

Fragmented

IT Component Level
Monitoring
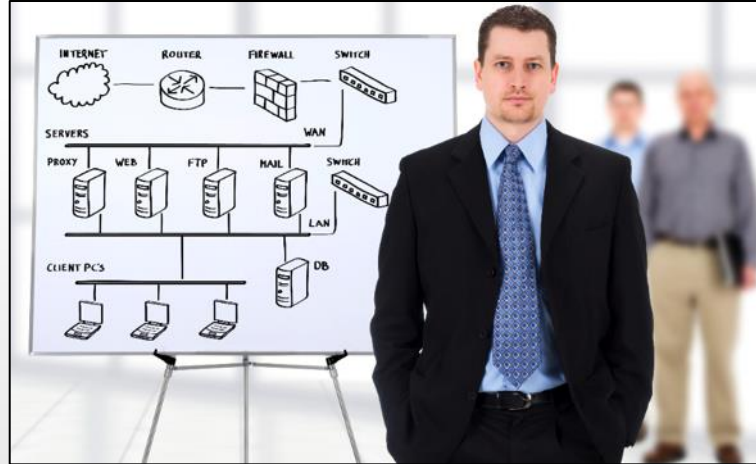
Consolidated

IT Domain Performance
Visibility

Unified

IT & Business Performance
Insight

BAKOTECH® riverbed® 41

SteelCentral Benefits

67%
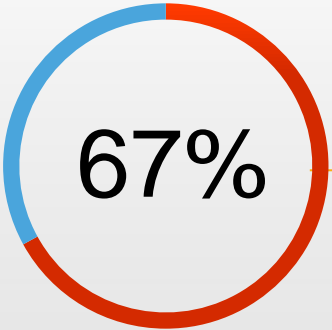
Reduction in downtime[1]

69%
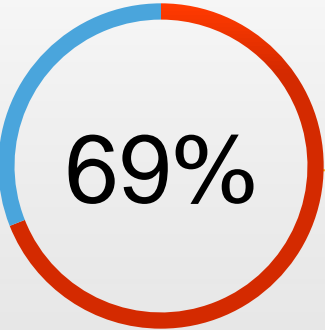
Increased IT efficiency[2]

88%
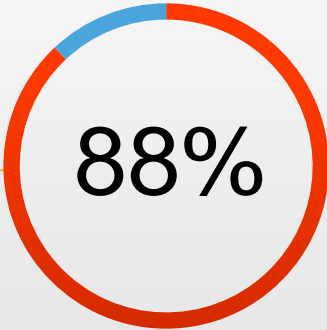
Improved MTTR by 50% or more[3]

1 http://www.riverbed.com/document/fpo/IDC_WhitePaper-Realizing_Business_Value_and_ROI_with_Cascade-2012.pdf
2 TVID: **E71-702-6A8**
3 TVID: **571-6CE-4F3**

BAKOTECH   riverbed   42

Gartner Magic Quadrant 2016 Reports: Riverbed Recognized as Leader & Visionary

WAN Optimization

Application Performance Monitoring

Network Performance Monitoring and Diagnostics

Leaders

Challengers

Leaders

Bogdan Syrotenko
Sales Engineer
e-mail: riverbed@bakotech.com

Thank You

BAKOTECH® **riverbed**®