

ROI of Performance Management



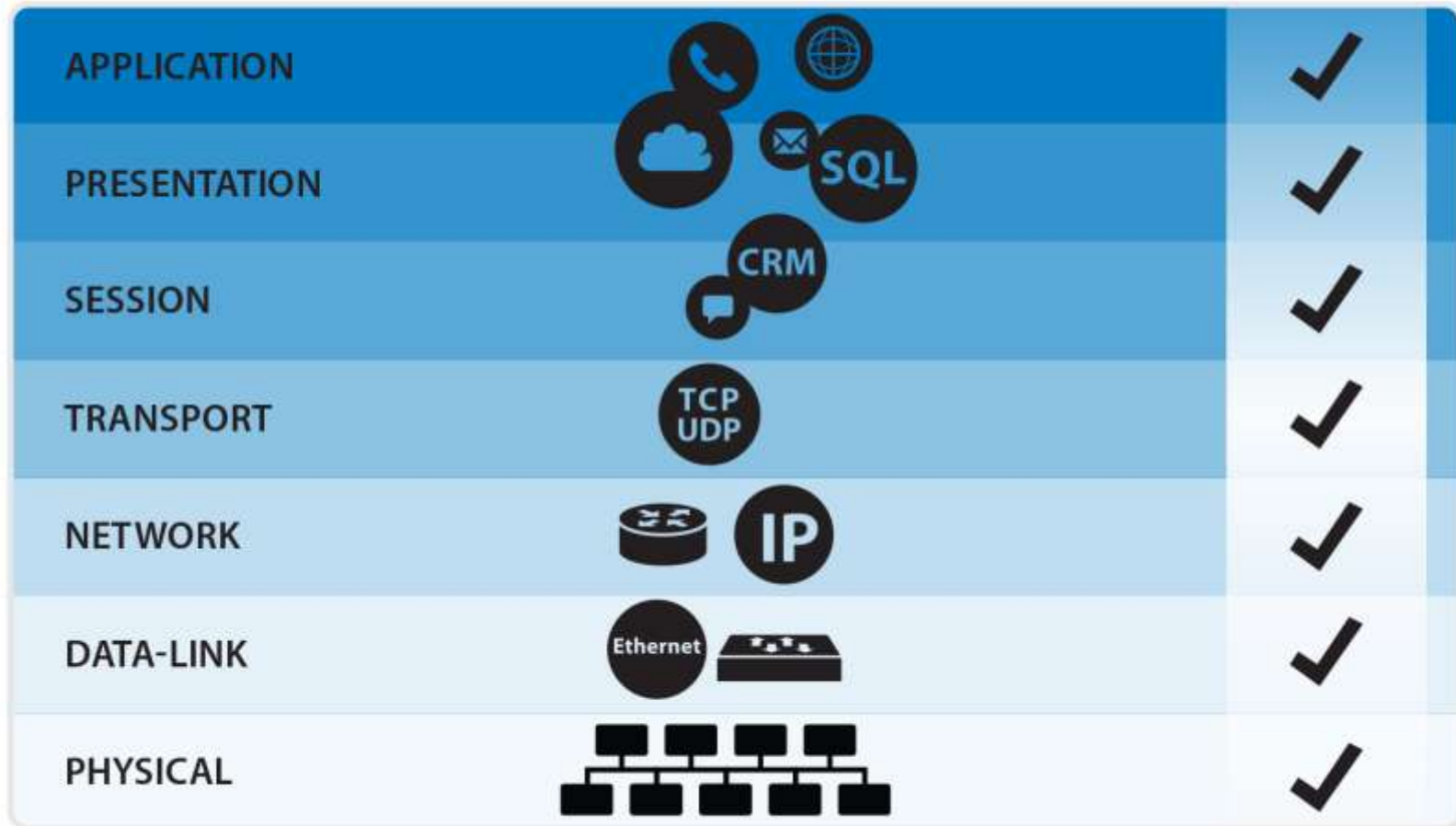
Performance Management Solutions

Recognized Performance Leader

- 20 years of innovation ensuring optimal network and application performance
- In-depth visibility to support critical IT initiatives:
 - UC, cloud, big data, application rollouts
- Discover and resolve issues more quickly

Joining the JDSU Family

Optimize Your Network at Every Layer



Strong and Diverse Customer Base

Technology



Manufacturing



Healthcare



Insurance



Financial services



Retail



Government



Carriers



What's the Cost of Downtime & Delay?

- IT downtime costs \$26.5 billion in lost revenue*
- Average downtime cost for companies in 2012 was \$161K per hour**
- Second delay in website page-load time equals:***
 - 11% fewer page views
 - 16% decrease in customer satisfaction
 - 7% loss in conversions

* CA Technologies, [May 2011](#)

** Aberdeen Group Report, [Feb. 2012](#)

***Aberdeen Group, [March 2012](#)

Application Challenges

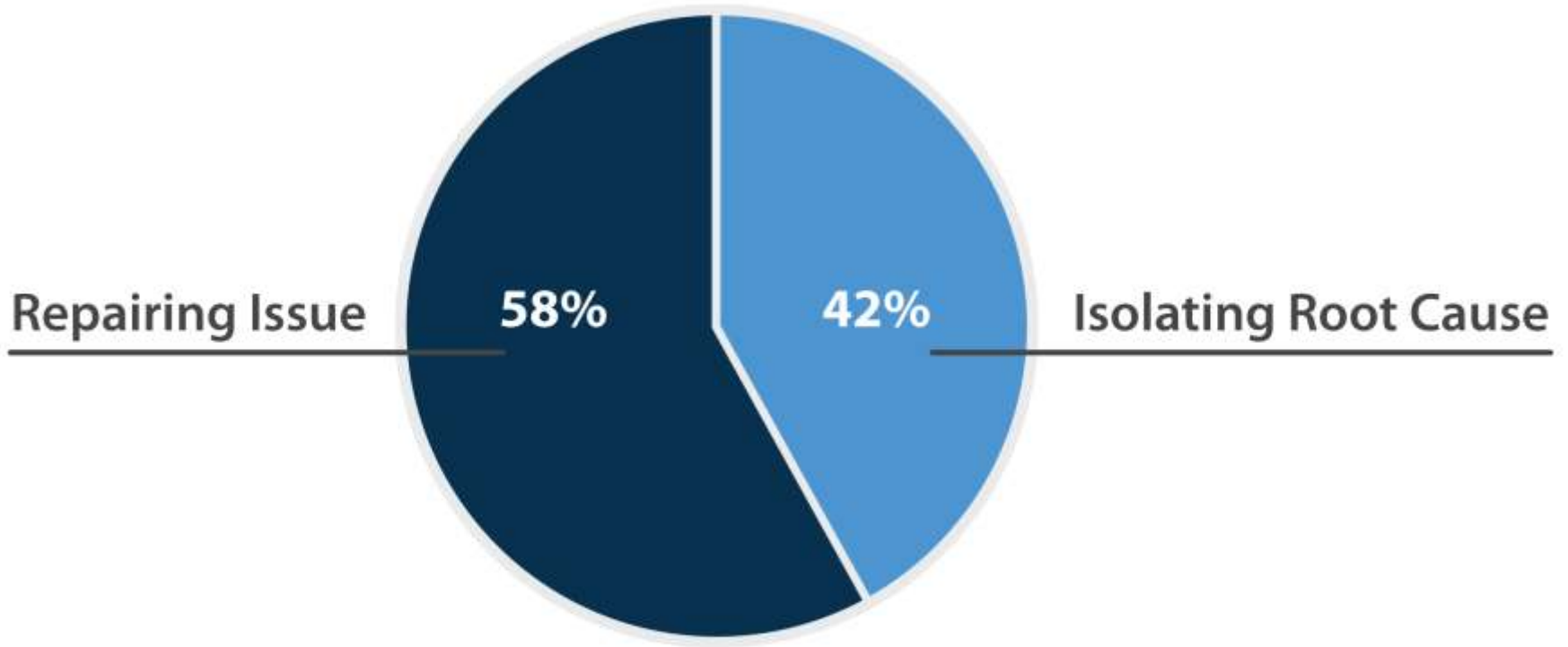
- Complex and highly distributed
- Tiers maybe virtual or accessed via WAN/Internet
- 61% report decreased visibility into user experience after move to cloud*
- IT staffs without APM spend 46.2 hours per month in war-room meetings**



*Fifth Annual State of the Network Study, Mar. 2012

**TRAC Research, October 2012

Turning the Troubleshooting Tide



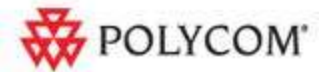
Application Performance: Monitoring Best Practices



Performance Management Solutions

1. Monitor Variety of Technologies

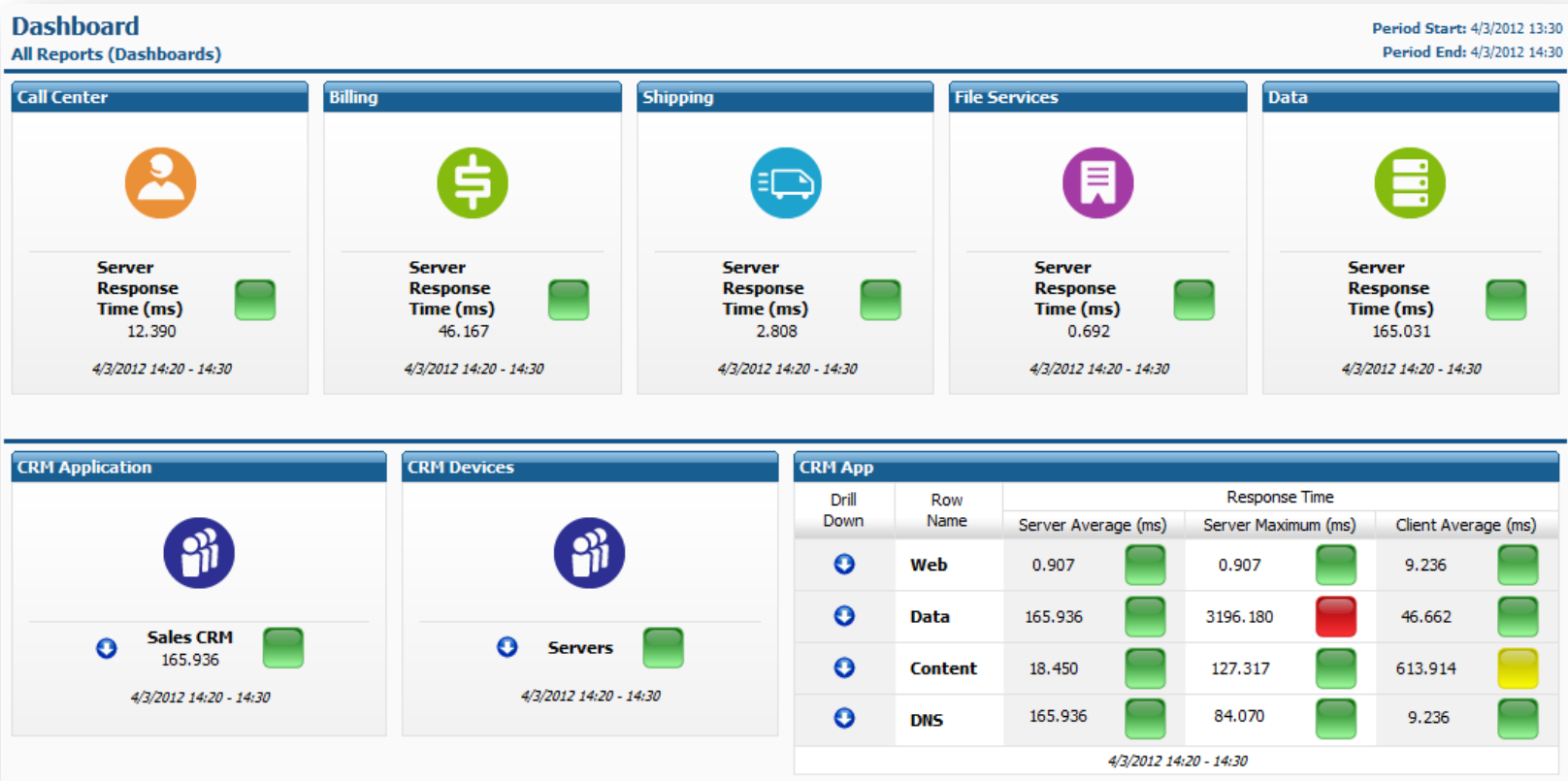
- **Voice & Video**
 - Cisco, Microsoft, Avaya, Nortel, Shoretel, Polycom, etc.
- **Databases & Middleware**
 - Oracle, MySQL, MS SQL, Sybase, DB2, Informix, WebSphere, DynamoDB etc.
- **Virtual Environments**
 - Citrix VMWare, Microsoft, Sun, storage, etc.
- **Network Services**
 - Email, DNS, DHCP, Telnet, file sharing, etc.
- **WAN Optimization & Load Balancing**
 - Cisco, F5, Riverbed, HP
- **Cloud Providers**
 - Amazon, Google, Rackspace (Cloudkick)



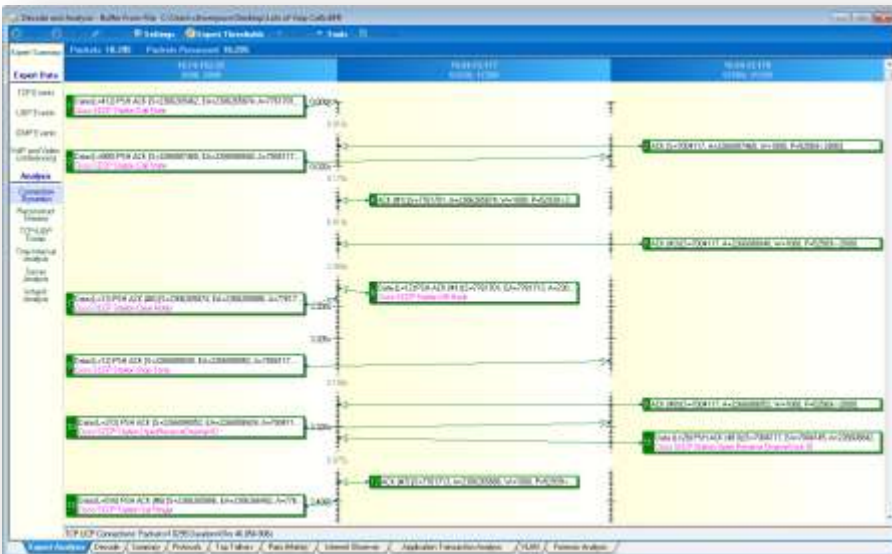
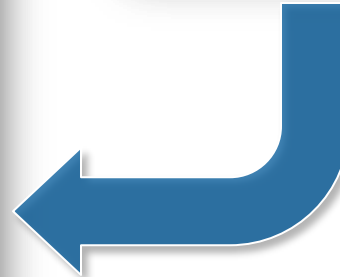
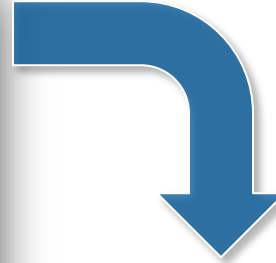
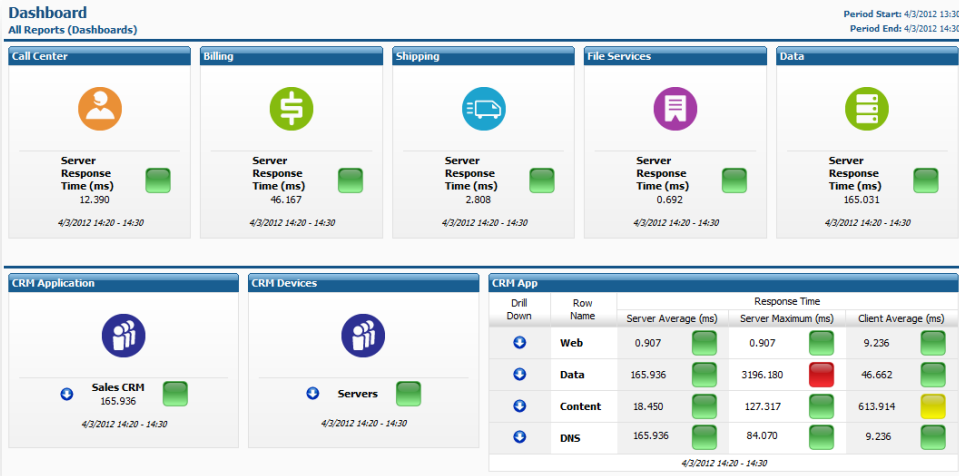
2. Utilize High-Level Reports and Views

Begin with enterprise views of key items and services

- Tailor views to organization and team needs
- Easily assess condition and scope of the problem



3. Logical Troubleshooting Workflows



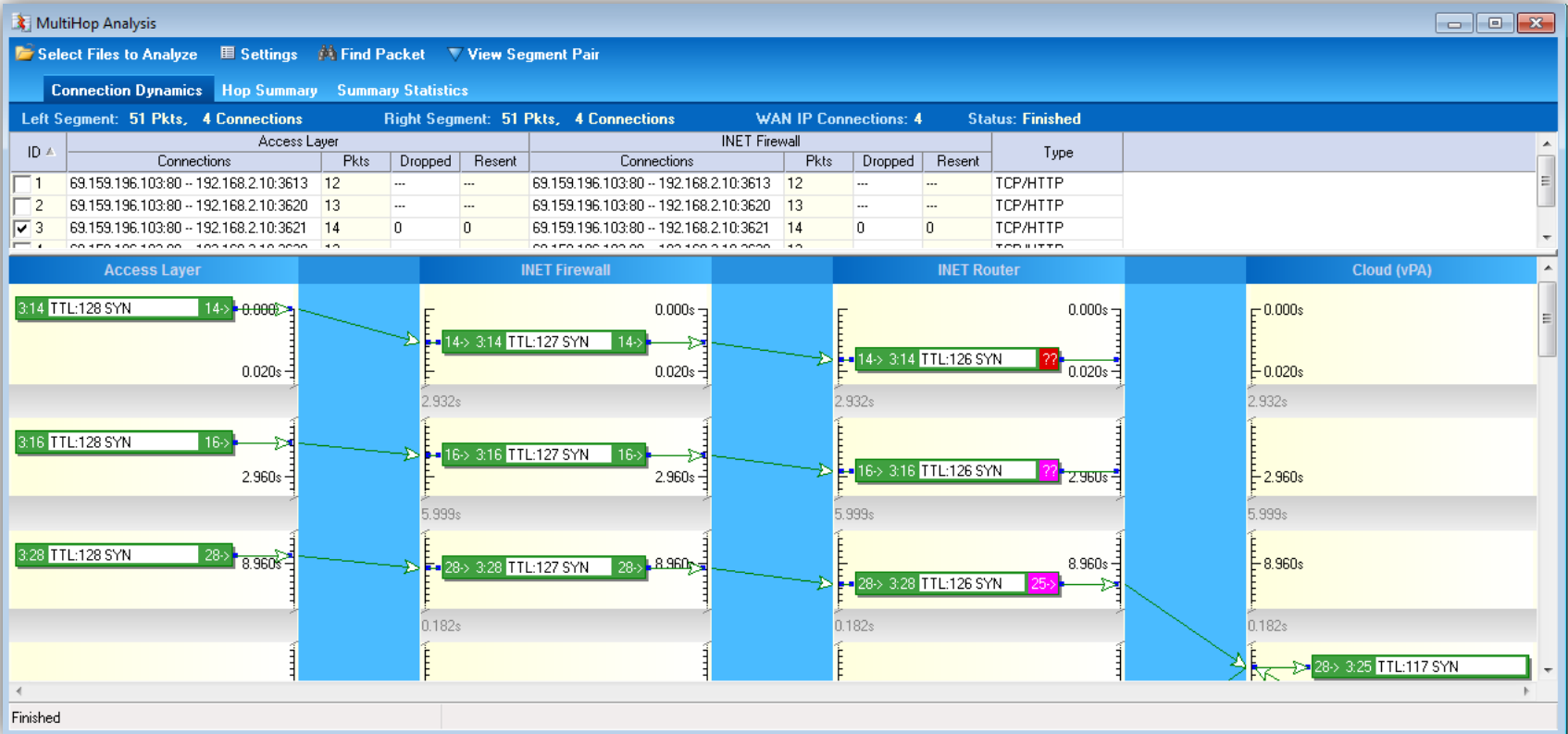
4. Behaviour Learning and Analysis

- Understand and benchmark the environment
- Set dynamic thresholds based on critical elements



5. Multiple Segment Analysis

Track user-to-provider or *n*-tier conversations and prove point of delay



6. Transaction-Level Application Analysis

- Analyze from error codes what's occurring

Server (IP)	Average (ms)	Max (ms)	Total Requests	Latency Request Time	Packets	Request Bytes	Utilization (Pb/s)	Response Bytes	Utilization (Bytes/s)
10.0.38.79/1414	46.721	68.847	3	4/5/2012 10:41:26	8	2076	23.204	8	1379
10.0.38.79/1414	28.125	38.371	3	4/5/2012 10:41:28	7	8048	53.508	8	8530
10.0.38.79/1414	29.054	31.199	2	4/5/2012 10:41:18	4	4274	34.702	4	2205
10.0.38.79/1414	128.146	874.984	12	4/5/2012 10:41:37	38	37147	217.528	34	28812
10.0.38.79/1414	41.981	598.628	288	4/5/2012 10:41:44	2004	718202	5730.898	3975	45046
10.0.38.79/1414	54.141	91.084	8	4/5/2012 10:41:43	78	17469	136.872	108	101603
10.0.38.79/1414	147.048	147.048	1	4/5/2012 10:41:28	8	2809	23.272	14	18429
10.0.38.79/1414	24.680	24.680	17	4/5/2012 10:41:18	17	2767	22.286	20	27986
10.0.38.79/1414	368.481	364.586	4	4/5/2012 10:41:37	50	17696	143.508	18	117876
10.0.38.79/1414	58.781	308.381	18	4/5/2012 10:41:44	62	48268	342.404	121	148712
10.0.38.79/1414	28.134	28.134	1	4/5/2012 10:41:28	19	958	28.544	20	10702
10.0.38.79/1414	27.622	27.671	2	4/5/2012 10:41:28	28	957	44.958	27	52007
10.0.38.79/1414	31.402	51.989	8	4/5/2012 10:41:37	12	11607	88.138	12	6796
10.0.38.79/1414	128.688	128.288	8	4/5/2012 10:41:38	31	19008	156.864	28	24912
10.0.38.79/1414	53.442	53.442	1	4/5/2012 10:41:17	1	471	3.768	1	508
10.0.38.79/1414	267.118	267.118	1	4/5/2012 10:41:18	2	228	18.848	2	837

Application (Web)

Middleware (MQ)

Server	Count	Average (ms)	Max (ms)	Packets	Bytes	Packets	Bytes
10.0.38.79/1414 (WebSphere MQ)	3	205.525	336.964	11	1190	8	1062
Ox01 = INITIAL_DATA	2	308.518	336.964	7	712	6	548
Ox00 = HEARTBEAT	1	0.428	0.428	4	278	2	214

Request	Time	Response	Request Packet Number	Response Packet Number	Response Time (ms)
2010-06-24 14h:05m:44.882s	2010-06-24 14h:05m:45.108s	11	13		225.367
2010-06-24 14h:05m:12.200s	2010-06-24 14h:05m:12.534s	4	6		334.563

Server	Count	Average (ms)	Max (ms)	Packets	Bytes	Packets	Bytes
10.0.38.79/1414 (EDS-SQL)	128	4.534	16.680	148	68668	141	63298
DB01	7	8.675	16.680	7	3822	7	1721
#	1	9.265	9.265	1	406	1	153
SELECT	118	4.411	10.399	139	63742	133	61129
set	2	0.757	1.114	2	532	2	294
SET	1	0.395	0.395	1	158	1	75

Database (SQL)

ROI of APM



Performance Management Solutions

ROI of APM

Performance Improvement

Reduced MTTR by 75% or more

Critical monthly incidents involving app performance reduced by over 30%

Improved success rate of 50% in preventing issues before users impacted

Business Benefits

Reduced hours spent in war-room meetings monthly by 59%

Labor cost managing app performance reduced by \$223,000 on average

Discussion



Performance Management Solutions