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there is a better way

Carsten Strotmann, Professional Services
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DNS Performance Monitoring

Agenda

- Men & Mice, the company
- The Performance Monitoring Product
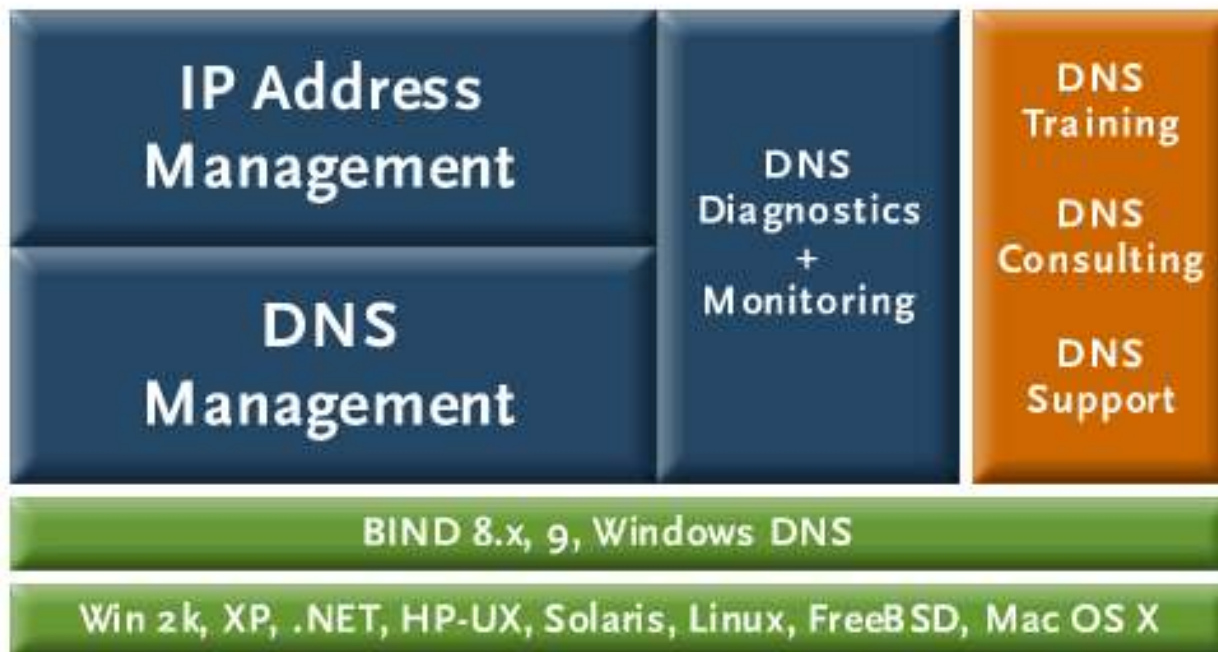- Live Demo

MEN&MICE

Men & Mice, the Company

- Located in Reykjavik, Iceland

- Founded 1990

- We concentrate only on DNS and IP Address Management

- Small and flexible staff

- DNS/IPAM Products, Research, Consulting, Training

Comprehensive DNS & IP Address management products/services

Men & Mice Suite

IP Address Management	**DNS Diagnostics + Monitoring**	**DNS Training** **DNS Consulting**
DNS Management		**DNS Support**

BIND 8.x, 9, Windows DNS

Win 2k, XP, .NET, HP-UX, Solaris, Linux, FreeBSD, Mac OS X

Over 10.000 customers, world wide
Including 23% of Fortune 1000

DNS Performance Monitoring

- Goals
  - Framework to collect and analyze DNS traffic data from DNS Server and Network gateways
  - Monitoring high volume DNS traffic
  - Flexible and extend able architecture
  - Not revolutionary but useful

DNS Performance Monitoring – Technical Details

- Small Data collection probe
  - Install on DNS Servers
  - or as an appliance on a switch monitor port
  - Works on Solaris, Linux, *BSD, Mac OS X
  - Windows 2000, 2003 Support possible

- DNS data is read from the network and send to the central DNS Performance Monitor Application

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DNS Performance Monitoring – Technical Details

- The Central DNS Performance Monitor Application stores Data into SQL Database
  - HSQLDB (build in) for small deployments
  - MySQL, PostgreSQL, Oracle, DB/2 ..., for Enterprise and high volume deployment
  - Every JDBC supported Database possible

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DNS Performance Monitoring – Technical Details

Architecture Overview:

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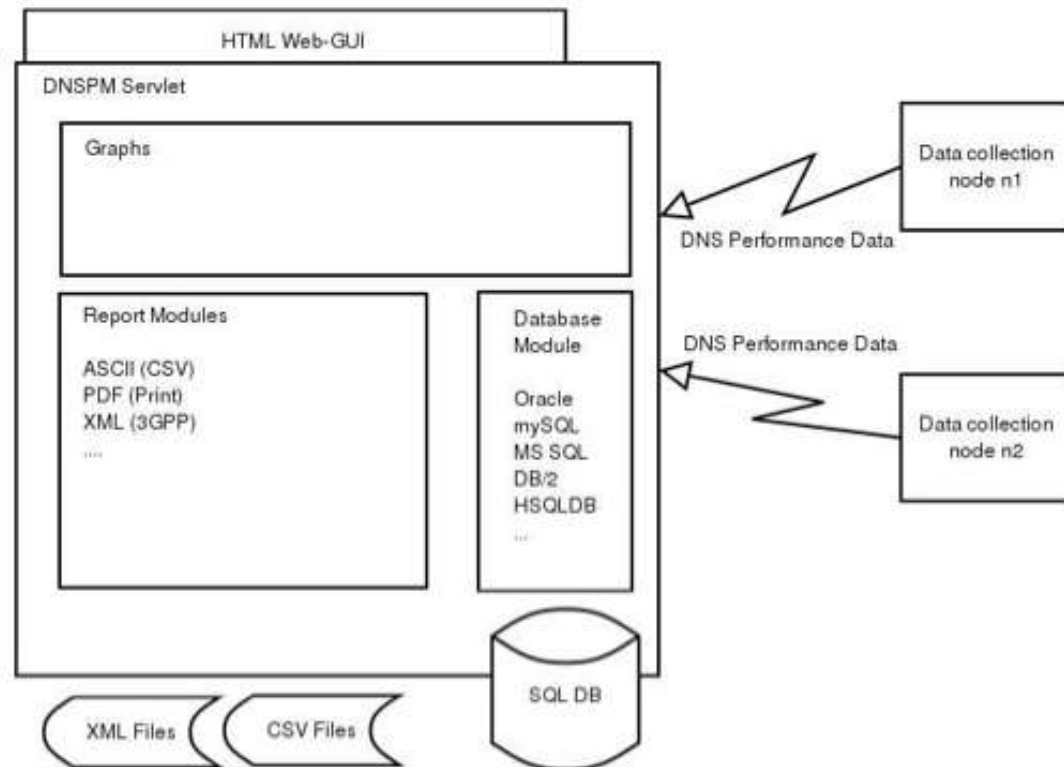
DNS Performance Monitoring – Features

- Feature development is customer driven

- The framework is very flexible

- If your report is not in today, it might be tomorrow (just ask for it)

- Works with all (RFC compliant) DNS Server

- Reports to screen (Web Browser) or to backend export modules (XML, CSV, structured text, ...)

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DNS Performance Monitoring – Features

- Graph: Number of Queries, Answers, NXDOMAIN, Errors

- Graph: RoundTripTimes (Max, Average, Min)

- Report: Client Hosts (Names/IP Addresses)

- Report: DNS Server asked (Names/IP Addresses)

- Report: DNS Query Data (Query Section)

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DNS Performance Monitoring – Features

- Report: Return codes (Error conditions)

- Report: Record Types

- Report: Top Level and Second Level Domain

- Report: RTT by TLD or SLD, DNS Server (local) or DNS Server (remote)

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DNS Performance Monitoring – Availability

- Software Solution for Unix/Windows/Mac OS X direct from Men & Mice or Reseller (n3k)
  - http://www.menandmice.com

- Appliance Hardware from AllInstall
  - http://www.allinstall.de
  - Build under license (Same code)

- Source code option available

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Demo

Live Demo
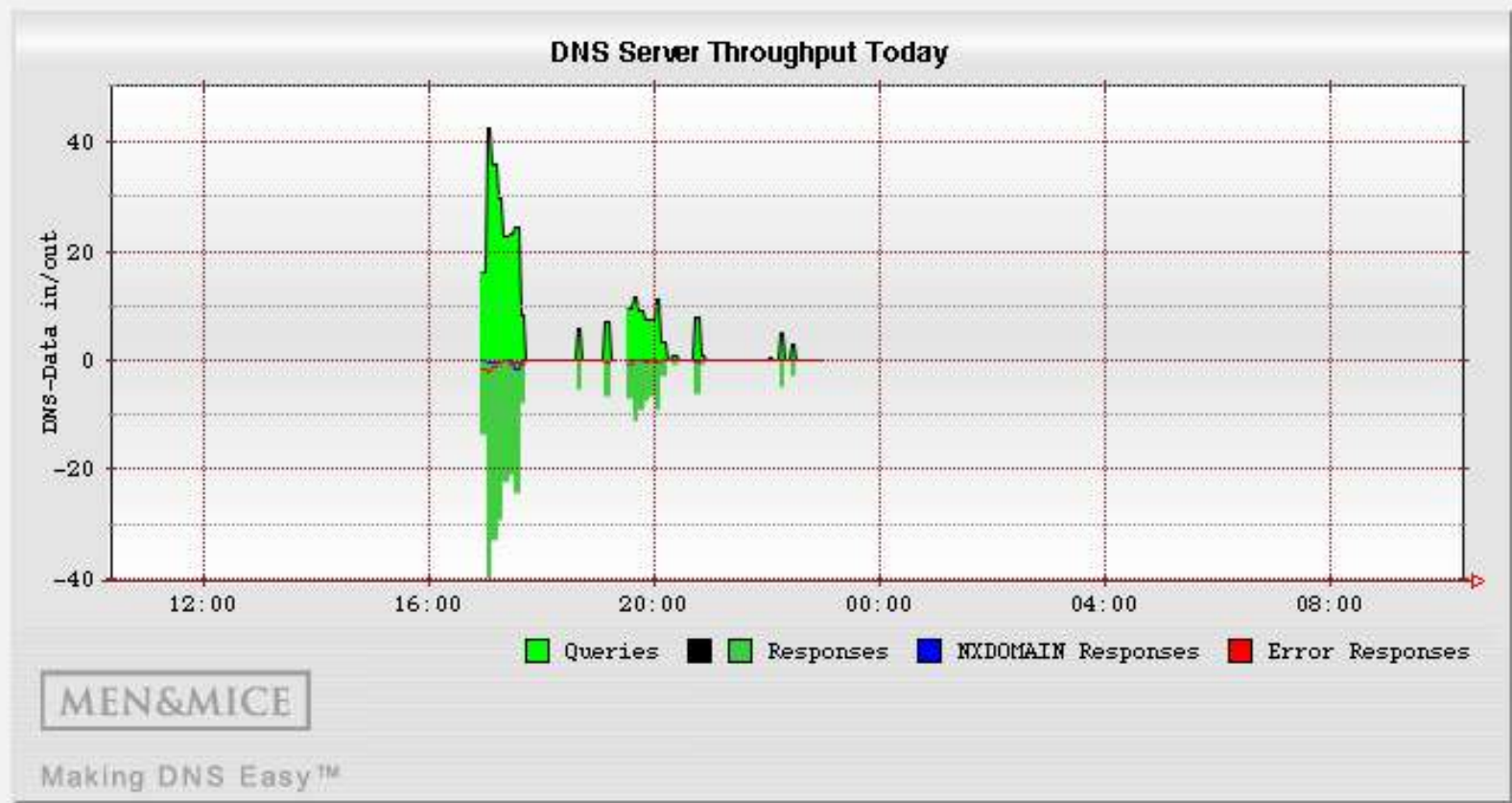
DNS Server Queries Today
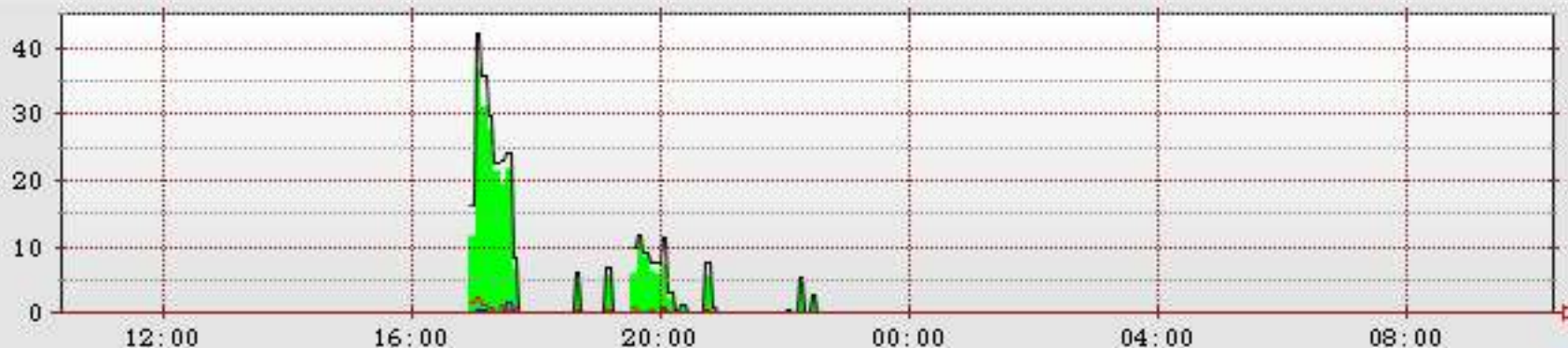
no Error   Query   NXDOMAIN   other Error

Queries [q/sec]

avgin=5.0 query/sec
avger=4.37 NoError/sec
avger=0.12 NxDomain/sec
avger=0.24 Other/sec

Time: 21-09-2004 10:19:50

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DNS Server Queries this Week
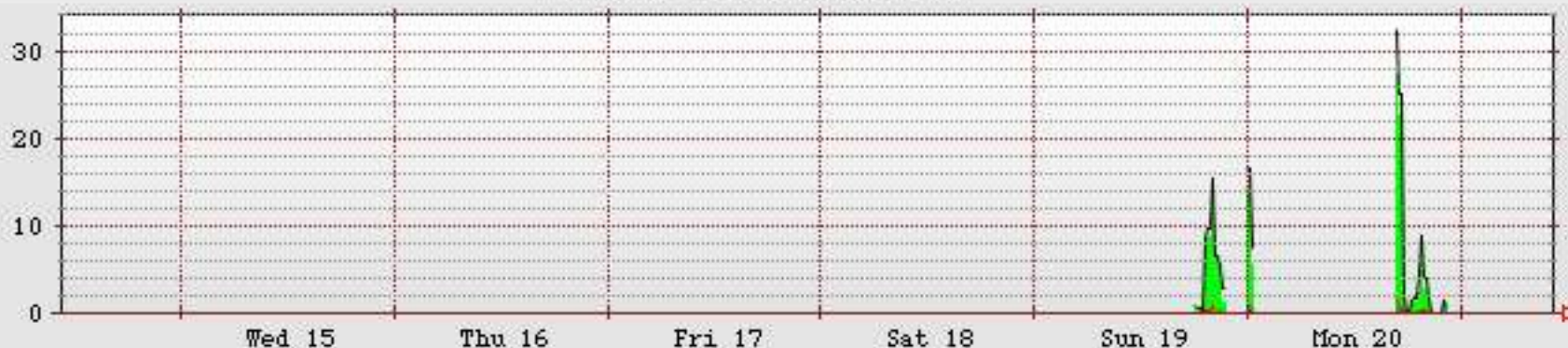
no Error   Query   NXDOMAIN   other Error

Queries [q/sec]

avgin=5.6 query/sec
avger=4.88 NoError/sec
avger=0.12 NxDomain/sec
avger=0.30 Other/sec

Time: 21-09-2004 10:19:52

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DNS Server RoundTripTimes Today

RoundTripTime [msec]

Maximum RTT
Average RTT
Minimum RTT

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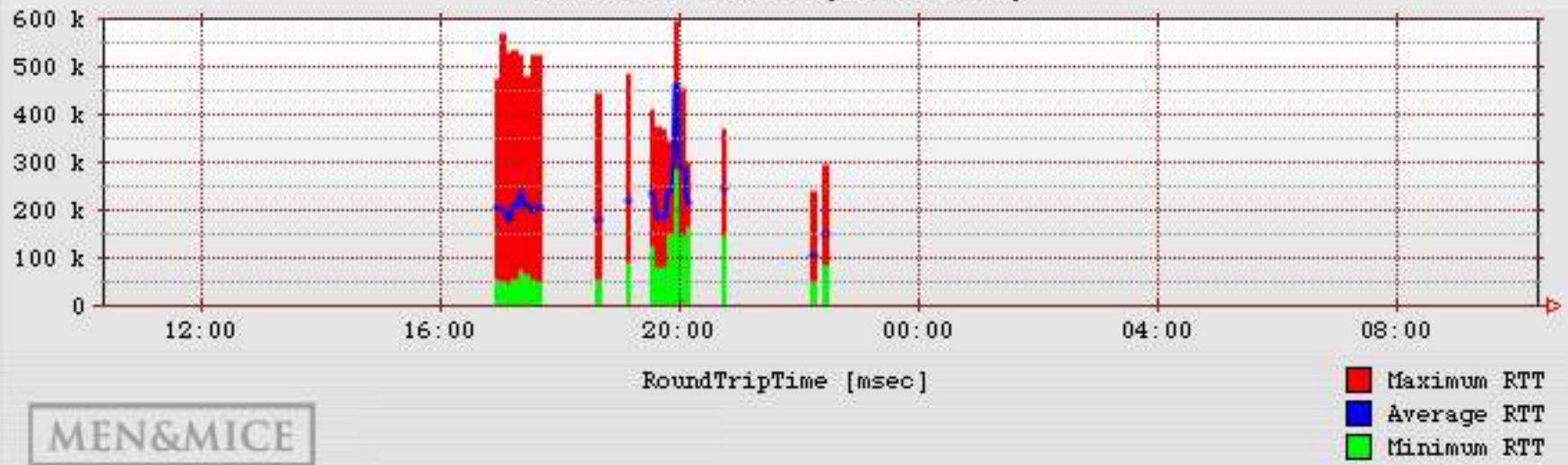
Making DNS Easy™

Time: 21-09-2004 10:21:12

DNS Server RoundTripTimes this Week
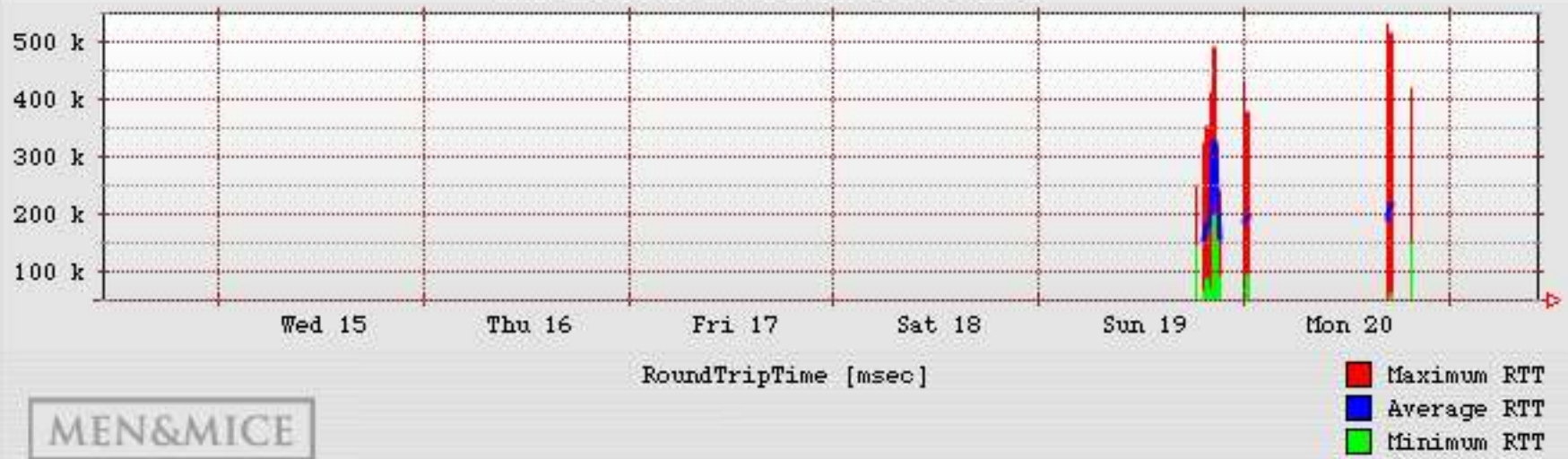
RoundTripTime [msec]

Maximum RTT
Average RTT
Minimum RTT

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Time: 21-09-2004 10:21:12

Version: 1.2.0.mnm
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
| Throughput | Status | RoundTrip | Report | Log Out |

Query DNS-Data Report:

	DNS-Data	Queries
🔍	clover.rsr.rupar.puglia.it	105
🔍	arco.rsr.rupar.puglia.it	88
🔍	ns2.accsi.net	54
🔍	info.cn.net	53
🔍	27.1.11.16.in-addr.arpa	52
🔍	23.1.11.16.in-addr.arpa	51
🔍	ns1.rti.rsr.rupar.puglia.it	50
🔍	ns2.rti.rsr.rupar.puglia.it	50
🔍	panda.cstnet.net.cn	48
🔍	5.200.66.138.in-addr.arpa	45
🔍	11.202.16.192.in-addr.arpa	44
🔍	ns1.accsi.net	43

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DNS Expert Performance Monitor

Throughput | Status | RoundTrip | Report | Log Out

Top Level Domain Detail for TLD = be

Dir.	Time	Node	Type	Source Addr.	Dest. Addr.	ReturnCode	DNS Data
›	2004.09.20 10:42:03	Vigor101	A?	192.168.1.101	193.0.14.129	NOERROR	ns.belbone.be
›	2004.09.20 10:42:04	Vigor101	A6?	192.168.1.101	193.0.14.129	NOERROR	ns.belbone.be
›	2004.09.20 10:42:04	Vigor101	A?	192.168.1.101	193.0.14.129	NOERROR	ns2.belbone.be
›	2004.09.20 10:42:04	Vigor101	A6?	192.168.1.101	193.0.14.129	NOERROR	ns2.belbone.be
‹	2004.09.20 10:43:27	Vigor101	A?	193.0.14.129	192.168.1.101	NOERROR	ns.belbone.be
›	2004.09.20 10:43:28	Vigor101	A?	192.168.1.101	192.134.1.1	NOERROR	ns.belbone.be
‹	2004.09.20 10:43:36	Vigor101	A6?	193.0.14.129	192.168.1.101	NOERROR	ns.belbone.be
›	2004.09.20 10:43:37	Vigor101	A6?	192.168.1.101	192.134.1.1	NOERROR	ns.belbone.be
‹	2004.09.20 10:43:43	Vigor101	A?	193.0.14.129	192.168.1.101	NOERROR	ns2.belbone.be
›	2004.09.20 10:43:45	Vigor101	A?	192.168.1.101	192.134.1.1	NOERROR	ns2.belbone.be
‹	2004.09.20 10:27:13	Vigor101	A6?	193.0.14.129	192.168.1.101	NOERROR	ns2.belbone.be
›	2004.09.20 10:27:14	Vigor101	A6?	192.168.1.101	192.134.1.1	NOERROR	ns2.belbone.be
‹	2004.09.20 10:27:57	Vigor101	A?	192.134.1.1	192.168.1.101	NOERROR	ns.belbone.be
›	2004.09.20 10:27:58	Vigor101	A?	192.168.1.101	195.13.1.13	NOERROR	ns.belbone.be
‹	2004.09.20 10:28:05	Vigor101	A6?	192.134.1.1	192.168.1.101	NOERROR	ns.belbone.be
›	2004.09.20 10:28:07	Vigor101	A6?	192.168.1.101	195.13.1.13	NOERROR	ns.belbone.be
‹	2004.09.20 10:28:13	Vigor101	A?	192.134.1.1	192.168.1.101	NOERROR	ns2.belbone.be
›	2004.09.20 10:28:14	Vigor101	A?	192.168.1.101	195.13.1.13	NOERROR	ns2.belbone.be
‹	2004.09.20 10:28:24	Vigor101	A6?	192.134.1.1	192.168.1.101	NOERROR	ns2.belbone.be
›	2004.09.20 10:28:25	Vigor101	A6?	192.168.1.101	195.13.1.13	NOERROR	ns2.belbone.be
‹	2004.09.20 10:29:33	Vigor101	A?	195.13.1.13	192.168.1.101	NOERROR	ns.belbone.be
‹	2004.09.20 10:29:34	Vigor101	A6?	195.13.1.13	192.168.1.101	NOERROR	ns.belbone.be

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Query Top Level Domains Report:

Top Level Domain	Queries
arpa	7399
net	2330
com	986
de	928
it	532
edu	485
au	422
ca	275
cn	264
fr	216
jp	216
org	215

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| Throughput | Status | RoundTrip | Report | Log Out |

Vigor101 Statistics Report:

Label	Value
Node:Vigor101	20-09-2004 10:23:40 - 21-09-2004 10:23:40
Sum of all queries	16036
Sum of all successfull responses	13824
Sum of NXDOMAIN (Domain not found) responses	359
Sum of other error responses	784
SuccessRate (%)	92
	Time: 21-09-2004 10:23:40