

PowerDNS Technologies

December 2012

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About PowerDNS

- PowerDNS is the name of the company and the products: Authoritative & Recursor
- Founded in 1999
- Powers $\pm 30\%$ of all domains in Europe at least, 75+% of DNSSEC worldwide
- Major SLA-supported users include lots of telecommunications companies named after their country
- 100% SLA-backed support

Name servers: Authoritative

- Standards compliant serving of DNS information from all relevant databases
 - Text files, dynamic scripts in various languages
 - Native support for legacy BIND zonefiles
- Leading DNSSEC implementation worldwide, hosting >75% of all DNSSEC domains
- Powerful dynamic abilities
 - Geographical load balancing
 - Content redirection, 'best answer' generation
- Supported on generic hardware running generic operating systems

Name servers: Recursor

- Standards compliant resolution of domain names
 - Strive for maximum resolution percentage
 - or conversely, least customer complaints
- Powerful dynamic abilities
 - Content redirection
 - 'best answer' generation
 - query & answer modification
 - **Filtering**
- Supported on generic hardware running generic operating systems

Name servers: Further details

- Please consult the document "PowerDNS Offerings" for further details on
 - Compliance Matrix
 - Hardware requirements
 - Platform requirements
 - Statistics provided
 - Training possibilities
- Full documentation on <http://doc.powerdns.com/>

Tools: analysis and troubleshooting

- Various specialist tools are provided for packet-based trouble shooting
- dnsscope: query/answer latency time statistics
- dnsreplay: replay existing traffic against reference nameservers
- dnsgram: per-time period sampling of traffic to determine overloads
- dnswash: anonymize PCAP traces, hiding IP addresses, for third party analysis

APIs

- PowerDNS offers a variety of APIs for remote:
 - Statistics
 - Provisioning
 - Zone editing
 - Master/slave operations
 - Log-file investigations
 - Configuration (updates)
 - Stop/Start/Upgrade/Restart
- Available over:
 - Local socket
 - "raw" TCP/IP
 - RESTful API direct
 - Centrally administered indirect (bulk) API

APIs: "web 2.0" / JSON

- All APIs are exposed via a JSON interface
- This interface is used by our native web management interface
- But is also open for direct customer or integrator use
- Use of http and JSON makes for easy integration and embedding in existing frameworks

Web interface

- Used for:
 - Viewing statistics (numbers & graphs)
 - Viewing and editing domains
 - Notifications to slaves, trigger slaves to update zones
 - Cache flushing / Bulk cache flushing
 - Log searching / Bulk log searching
 - Version management, triggering stop/start/upgrade/restart
- https encrypted, user/password managed
- Can manage dozens or hundreds of PowerDNS servers
- Supports auth & recursive from one interface
- Please see document "PowerDNS Web Control Panel" for further details

