Bundy DNS

let the Bird fly high

continue on the good work from the BIND 10 team

- DNS Response Rate Limiting
- shared memory for zones

Modular

- continue the work from BIND 10 to make a modular DNS/DHCP Server
  - ability to configure a minimal server, load "only-needed" modules
- new module ideas
  - modularise the protocol part of auth server with Python wrapper, so it can be used by other apps, even for a full-python auth DNS server
  - a complete recursive server
  - DNSSEC signing / DNSSEC key management
  - …

Modular

- more data sources
  - MySQL/MariaDB
  - PostgreSQL
  - NoSQL?

Enhancements

- shared memory/mmap based zone data with a separate memmgr daemon
- extend the C++ DNS library and its Python wrapper (DNSSEC support and more)
- C++ version of the getdns API
- hooks (custom modules that can change DNS/DHCP answer data)
- experimental stuff such as DNS/TLS

Extensible

- define a clean API for integrating with
  - external management systems
  - integrating server modules (dhcpy6d, KEA, ntp . . .)
  - integrating with external DNS checks (zonemaster?)

Friendliness

- a new user CLI interface (replacing "bindctl")
- Convention over configuration
- zone content management (adding / removing zone content — resource records)
- server sets (master-slave bundles)
- DNSSEC management module (standalone and/or interface with OpenDNSSEC)
- not "hiding" complexity, but helping to manage the complexity

Friendliness (Example)

- adding a new zone (on master and slaves of a server set)

```
bundycli> add zone example.com
added new zone "example.com" to server
  ns1.example.net
  ns2.example.org
SOA record is
  example.com. 3600 IN SOA ns1.example.com. postmaster 1 8h 2h 41d 1h
NS Record-Set is
  example.com. 3600 IN NS ns1.example.net.
  example.com. 3600 IN NS ns2.example.org.
make sure the NS records marking the delegation in the parent contain the same NS records
bundycli>
```

- this will
  - add a new zone with correct SOA
  - add all required NS record(s) on the master and all slaves
  - add zone-transfer configuration with new TSIG keys

Friendliness (Example)

- **adding a new zone (on master and slaves of a server set) based on a template**

```
bundycli> add zone example.net with template hosting1
added new zone "example.net" to server
  ns1.example.net
  ns2.example.org
SOA record is
  example.net. 3600 IN SOA ns1.example.com. postmaster 1 8h 2h 41d 1h
NS Record-Set is
  example.net. 3600 IN NS ns1.example.net.
  example.net. 3600 IN NS ns2.example.org.
make sure the NS records marking the delegation in the parent contain
the same NS records
created 5 A-Records, 5 AAAA-Records, 2 TXT-Records, 1 SPF-Record based
on template 'hosting1'
use command 'show zone example.net' to list the content of the zone
bundycli> save zone example.net
bundycli> enable zone example.net
```

Friendliness (Example)

- cloning from an existing zone

```
bundycli> clone zone example.org from example.com
```

- this will
  - add a new zone based on an existing zone (replacing the owner-names) on the master and all slaves, with zone-transfer configuration

Friendliness (Example)

- **adding a TLSA records**

```
bundycli> add record TLSA for https://www.example.com
added TLSA record to zone "example.com" with
 Port HTTPS (443)
 Transport tcp
 Cert Usage DANE-EE (3)
 Selector SPKI(1)
 Hash-Type SHA256(1)

_443._tcp.www.example.com. 3600 IN TLSA 3 1 1 abb01ab…

new SOA serial of zone is 2014051202
bundycli>
```

Friendliness (Example)

- **DNS sanity check**

```
bundycli> check zone example.com
WARNING [10101]: SOA serial out of sync (2014051205 on ns1.example.net, 2014051203
on ns2.example.org)
ERROR [00890]: CNAME "monitoring.example.com" pointing to non-existing (NXDOMAIN)
target "nagios.example.com"
INFO [50011]: NS Server "ns1.example.com" only has legacy IPv4 connectivity

[…]
```

Friendliness

- pre-installed DNS server images
  - stripped-down Linux/BSD OS
  - all dependencies installed
  - Bundy-DNS/DHCP, ssh, ntp, syslog
  - CD-ROM Live-Linux image
  - VM images for VirtualBox, KVM/qemu, VMWare, HyperV
  - update system

Participate

- **we need your help: C++ coding, Python coding, code reviews, testing, documentation, webpage ...**

- **Website:** `https://bundy-dns.de`

- **Mailing-Lists:** `http://bundy-dns.de/mailing-lists.html`

- **Source:** `https://github.com/bundy-dns/bundy`

- **IRC Chat:** `irc://irc.freenode.net/#bundy-dns`

Questions/Feedback

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