

# EnforcerNG Architecture

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The purpose of this page is to give an overview of the EnforcerNG design, design decisions, and implementation details.

## Future work on EnforcerNG

**Recommendation: Further work on profiling the enforcement of zones is required!**

A decision was taken to re-factor the entire database layer in March 2014. Here are some suggestions for how the re-factor could be done:

- There has been some discussion on the developer list as to why and how the re-factor should be done. It is recommended that this page is used to hold design documents as the re-factor moves forward. It would be helpful from an architectural and knowledge sharing point of view if the following documents were created:
  - the architecture of the system immediately prior to the re-factor and the
  - the proposed design for the re-factor and the reasons for it
  - the actual design after the re-factor
- It is also proposed that a review team of at least 3 developers is involved in the re-factor as it progresses. This is to reduce the risk of
  - a single developer making design decisions in isolation
  - ending up with a component that is only well understood by a single developer, which is clearly a risk for the project
  - sufficient documentation not being produced
- It is recommended that as many regression tests as possible are enabled **before** the re-factor is done to provide as much automated regression testing as possible
- It is also recommended that the benchmarking tests are improved and re-run as each of the stages of the re-factor are completed to ensure that the previous levels of performance are met or exceeded.

## Enforcer NG (Q4 2013-Q1 2014)

- Status report produced in Q1 2014 by Sara Dickinson: [Status\\_of\\_2.0\\_feb\\_2104.pdf](#)
- Benchmarking report produced Q1 by Sinodun: [OpenDNSSEC-performance.pdf](#)
- Update on benchmarking report produced by Sara Dickinson: [Benchmarking update.pdf](#)
  - Valgrind files (summary file in zone\_add directory has commands used): [valgrind.zip](#)

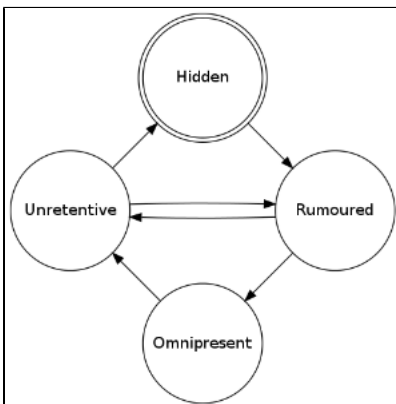
## Enforcer NG 2011-2013

This section contains documents generated in the developmet done mostly during 2011-2103:

- Document prepared by OpenFortress analysing the 1.1 enforcer: [kasp-1.1-maintainability.pdf](#)

### Theory:

- Yuri's paper on DNSSEC key state transitions: [enforcer\\_rules.pdf](#)
- Yuri's paper on "Flexible and Robust Key Rollover in DSNSSEC": [satin2012-Schaeffer.pdf](#)
- Underlying key states as described in the above paper:



## Development docs:

- Mind map from early days of development: [ODSEnforcerNG.pdf](#)
- Document produced by Rene on the use of Protobuf in the original design: [protobuf-20110111.pdf](#)
- Document produced by Rene evaluating if ligsq could be used in the original design: [litesql-20110111.pdf](#)
- Retrofitted [DesignDocument](#)