

DHCPKIT

An IPv6 DHCP Server Framework

IT STARTED WITH:

- I was doing a project at Solcon (Dutch ISP)
 - Deploying IPv6 for FttH customers
 - Static /56 prefix per connection
 - Provisioning to CPE with IPv6 DHCP-PD
 - Connections identified by Remote-ID (RFC 4649)

GOALS

- I wanted something flexible
- Easy to adapt to different requirements
- Easy to configure and use
- Performance wasn't a big issue (yet)

THE RESULT

- DHCPv6 server and library for Python 3.4+
 - GPLv3 license
- The basic server process handles initialisation, sockets, parsing and generating packets etc.
 - And nothing else...
 - It's a framework :-)
 - Incoming messages are dispatched to handlers

AND THAT IS ENOUGH FOR A SMALL ISP DEPLOYMENT

- This is running at Solcon now
- Simple implementation with a CSV file
 - Hand out static IA_PD based remote-id
 - Assignment data from a CSV file
 - DNS, NTP etc. is statically provided from the config file

KEEPING AN EYE ON THINGS

- Reading log files is boring...
- Write a new looking glass handler in a few hours!
 - At pre-handling capture the incoming request
 - At post-handling capture the outgoing response
 - Spawn a separate process that stores the last request and response per customer in a database
 - Add a simple (e.g. Django) view on that database for the NOC

ROADMAP

- Received funding from SIDN Fund
- Further development ideas:
 - Implement more DHCP options and handlers
 - Performance improvements
 - More documentation, test coverage etc.
- Get involved! More ideas always welcome

LINKS

- Code: <https://github.com/sjm-steffann/dhcpkit>
- Documentation: <http://dhcpkit.readthedocs.org>
- Releases: <https://pypi.python.org/pypi/dhcpkit>
 - “pip install dhcpkit”