LFNETWORKING
Developer & Testing Forum

ODL: 2024.03 Calcium update

Robert Varga, PANTHEON.tech

https://lfnetworking.org

Agenda

- 2024.03 Calcium overview
- NETCONF
- TransportPCE
- Others
- 2024.09 Scandium lookahead

2024.03 Calcium overview

- 20th Simultaneous Release

- ~256 issues resolved

- Detailed changelog part of usual documentation

- Focus on applications:

  - NETCONF and TransportPCE account for >75% of changes

- 166 issues resolved

- OpenAPI almost completely rewritten
    - CPU/memory overheads minimized
    - Scales to extremely large models

- Unified NETCONF transport layer
    - TCP/TLS/SSH transports with consistent API supporting both 'regular' and 'call-home'
    - Transport configuration based on upcoming "IETF client-server" series of RFCs

- Continued RESTCONF northbound refactor
    - Almost at the finish line now and starting to pay dividends

- 30 issues resolved
- T-API models upgraded to version 2.4
  - T-API 2.1.1 models still available, but
- OpenConfig 4.0.0 models imported for future work
- Lightynode device simulator
  - Based on lighty.io for lightweight packaging
  - Supports OpenROADM 1.2.1, 2.2.1 and 7.1.0 models

- Controller
  - Removed ask-based protocol
  - Major improvements to datastore persistence scalability
- MD-SAL
  - Remove legacy RPC/Notification interface codegen
  - Updated Cluster Singleton Service API
- YANG Tools
  - All unit tests use JUnit5
  - A few more steps to improve code modularity

- Netty-based RESTCONF server
  - Aligns plugin design with other ODL protocol plugins
  - Reduced dependencies (no JAX-RS)
  - Key enabler for YANG Push notifications
- Akka-persistence migration, part I
  - Explicit control over I/O operations, removing ~3 layers of abstraction
  - Higher throughput and lower memory footprint
  - Automagic migration step
- YANG Parser API improvements
  - Better alignment with ietf-yang-library
  - Performance improvements

Q&A