Translation of SMIv2 MIB Modules to YANG Modules

Jürgen Schönwälder

JACOBS
UNIVERSITY

78. IETF 2010, Maastricht, 2010-07-27

Motivation

Goal

- Access to existing SNMP intrumentation via NETCONF
- Direct translation without bells and whistles

Non-Goals

- Generation of "nice" YANG configuration models out of SMIv2 data models (no attempts to "beautify" MIBs)
- Translation of YANG to SMIv2

Side Effects

- SMIv2 $\longrightarrow$ YANG $\longrightarrow$ XSD
- SMIv2 $\longrightarrow$ YANG $\longrightarrow$ RNG

Status

libsmi

- The libsmi MIB compiler smidump can already translate to numerous formats
- Translation to YANG is a straight-forward addition of another backend to the compiler
- Core implementation written during the Stockholm YANG Design Team meeting
- Open source: google, download, send patches

Future...

- Rewrite of the translation backend to generate an in memory YANG representation of an SMIv2 module

Standardize an SMIv2 to YANG Translation?

Questions

- Do we need a standard SMIv2 to YANG translation?
- If yes, is this the right time to work on it?
- If yes, who is willing to contribute and review?
- What is a possible timeline?

References

M. Björklund.

YANG - A data modeling language for the Network Configuration Protocol (NETCONF).
Internet Draft (work in progress) <draft-ietf-netmod-yang-13.txt>, Tail-f Systems, June 2010.

J. Schönwälder.

Common YANG Data Types.
Internet Draft (work in progress) <draft-ietf-netmod-yang-types-09.txt>, Jacobs University, April 2010.

J. Schönwälder.

Translation of SMIv2 MIB Modules to YANG Modules.
Internet Draft (work in progress) <draft-schoenw-netmod-smi-yang-00>, Jacobs University, January 2009.

K. McCloghrie, D. Perkins, and J. Schönwälder.

Structure of Management Information Version 2 (SMIv2).
RFC 2578, Cisco Systems, SNMPinfo, TU Braunschweig, April 1999.

K. McCloghrie, D. Perkins, and J. Schönwälder.

Textual Conventions for SMIv2.
RFC 2579, Cisco Systems, SNMPinfo, TU Braunschweig, April 1999.

K. McCloghrie, D. Perkins, and J. Schönwälder.

Conformance Statements for SMIv2.
RFC 2580, Cisco Systems, SNMPinfo, TU Braunschweig, April 1999.