

# YANG Conformance Issues

IETF 84, July 2012

Andy Bierman  
July 23, 2012

# Agenda

- Issues with NETCONF advertisement of YANG modules
- Possible Solutions

# Issue 1: Multiple Purposes

- Set of module capabilities from server used to uniquely identify the set of YANG modules used by the server (all main modules + all imports)
- Set of module capabilities from server used to identify the set of "base" conformance levels implemented by the server
  - Just importing a module should not imply conformance to the base level!

## Issue 2: Not all imports are equal

- Importing a module to reuse its top-level meta-data should be separate from importing its objects or top-level groupings
  - typedef
  - identity
  - extension
  - feature (for if-feature-stmt)

# Issue 3: Not all augments equal

- What does it mean wrt/ conformance to "implement" a non-presence container?
  - Augmenting an NP-container should not carry any conformance requirements from siblings of the augmenting node
- The augmenting module may only require a subset of the base to provide a complete API
  - Server wants to claim conformance to the augmenting module, not the complete base implied by conformance to the augmented module

## Issue 4: Need to support $<$ base

- Even if a server does not fully support a module it needs to be advertised to complete the module set
  - module deviations are not widely used, and this may be too complicated in some cases

# A1: Just Don't Advertise Imports

- If the module set advertised by the server is incomplete, the client only has a module name, and perhaps a revision date to find an import.
  - The only globally unique string is the module namespace, which is only present in the capability URI
  - Import-by-revision not widely used so revision likely unknown without module capability URI

## A2: Just use NETCONF Monitoring

- The `/netconf-state/schemas/schema` list has this information
  - The client should be able to identify the content supported before using it
  - This module is optional-to-implement so the client cannot rely on it
  - Retrieval of the schema list could be fully or partially blocked due to access control
    - Not sure if this is a feature or a bug



## A3: Extend the Module URI

- Add a new boolean parameter to the YANG module capability URI
  - conform=true|false
    - type : boolean (default true)
    - If 'true' then the server is claiming conformance to the module (per RFC 6020 rules)
    - If 'false' the server is not claiming any conformance to the module (features and deviations are not expected in the URI)
- Backward compatibility is an issue, but...
  - server consistency and accuracy are important