Augmented-by Addition into the ietf-yang-library

draft-ietf-netconf-yang-library-augmentedby-03

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Changes

draft-ietf-netconf-yang-library-augmentedby-01
-> draft-ietf-netconf-yang-library-augmentedby-02

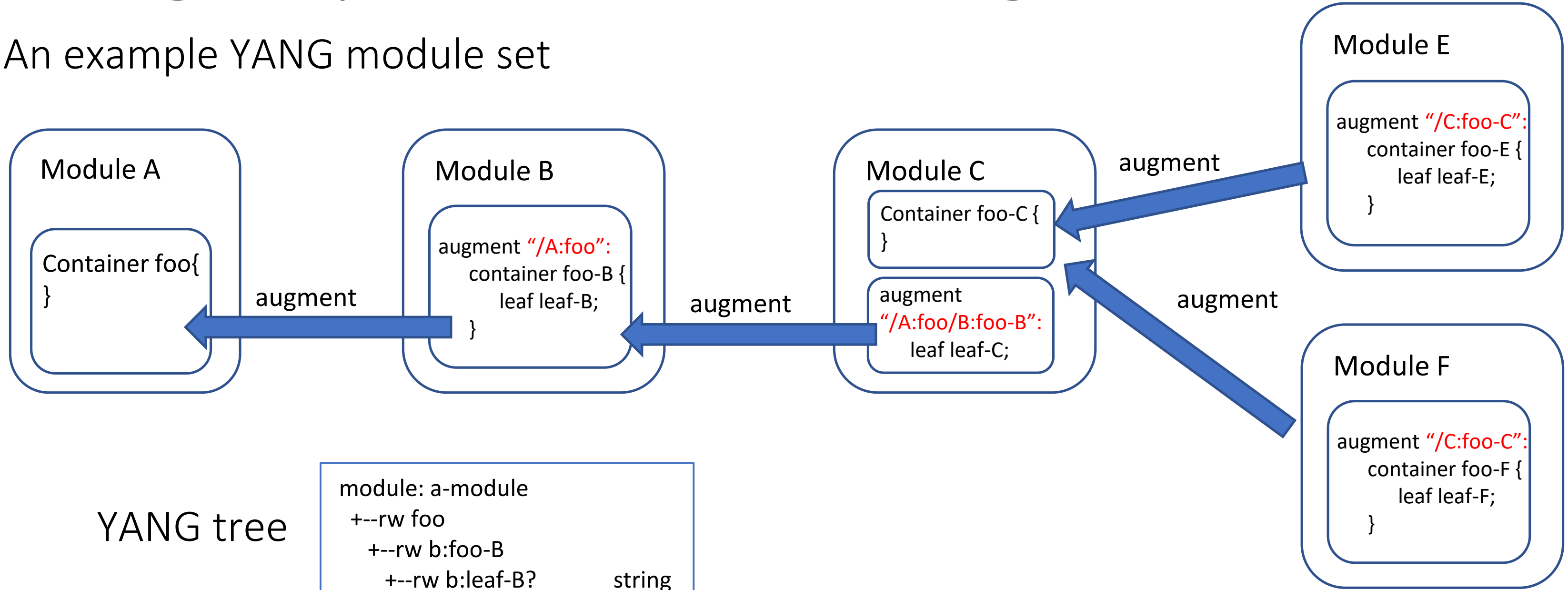
1. Add Section 4.2 Implementation Instructions. Address in section 4.2.1 that the definition of “augmented-by” only consider the **direct augment**. A YANG example for explaining this purpose has been put into Section 4.2.2.
2. Update Introduction
3. Draft refinement
4. reference update

draft-ietf-netconf-yang-library-augmentedby-02
-> draft-ietf-netconf-yang-library-augmentedby-03

1. Merge Thomas’ review feedbacks
2. Delete unused references

Change explanation: Direct augment

An example YANG module set



YANG tree

```
module: a-module
  +--rw foo
     +--rw b:foo-B
        +--rw b:leaf-B?        string
        +--rw c:leaf-C?        string

module: c-module
  +--rw c
     +--rw e:foo-E
     |  +--rw e:leaf-E?        string
     +--rw f:foo-F
        +--rw f:leaf-F?        string
```

Change explanation: Direct augment

Three solutions

1. Direct Augment

Only the direct augmentation relationship is considered as "augmented-by"

"augmented-by" result:

Module A -> module B
Module B -> module C
Module C -> module E, F

Simple, clear

2. Recursive Augmentation result

The "augmented-by" node of each module contains the recursive search result to the direct augmentation.

"augmented-by" result:

Module A -> module B, module C, module E, module F
Module B -> module C, module E, module F
Module C -> module E, F

The client should perform this search

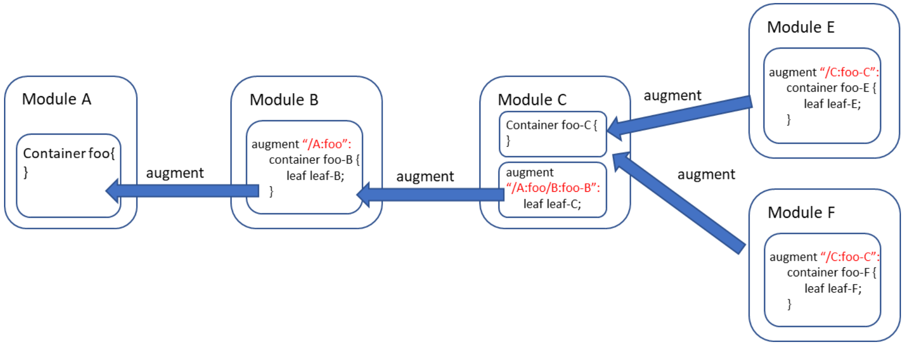
3. Xpath search

The "augmented-by" node of each module contains the all modules on the augmentation's xpath.

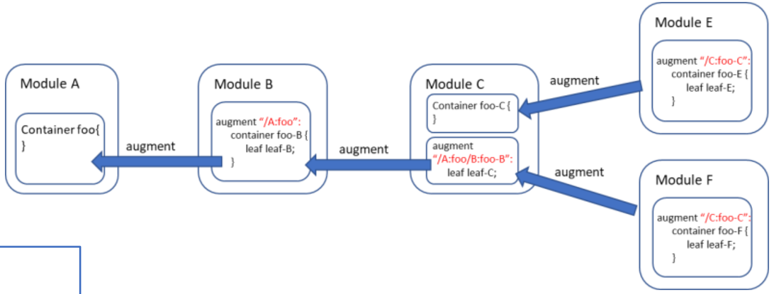
"augmented-by" result:

Module A -> module B, module C
Module B -> module C
Module C -> module E, F

Not augment



Change explanation: Direct augment



Example YANG-Push message for a-module

```
<notification>
    <datastore-contents>
        <a-module xmlns="urn:example:yang:a-module">
            <foo>
                <foo-B xmlns="urn:example:yang:b-module">
                    <leaf-B>some leaf</leaf-B>
                    <leaf-C xmlns="urn:example:yang:c-module">
                    another leaf</leaf-C>
                </foo-B>
            </foo>
        </a-module>
    </datastore-contents>
</notification>
```

Conclusion:

- Understanding the a-module in this subscription requires dependency b-module and c-module.
- This can be done by the client parse the ietf-yang-library content.

Open Issue: Augmented-by in deprecated /module-states

```
module: ietf-yang-library
  +--ro yang-library
   |  +--ro module-set* [name]
   |  |  +--ro name                  string
   |  |  +--ro module* [name]
   |  |  |  +--ro name                    yang:yang-identifier
   |  |  |  +--ro revision?               revision-identifier
   |  |  |  +--ro namespace                 inet:uri
   |  |  |  +--ro location*               inet:uri
   |  |  |  +--ro submodule* [name]
   |  |  |  |  +--ro name        yang:yang-identifier
   |  |  |  |  +--ro revision?   revision-identifier
   |  |  |  |  +--ro location*   inet:uri
   |  |  |  +--ro feature*                yang:yang-identifier
   |  |  |  +--ro deviation*               -> ../../module/name
   |  |  |  +--ro yanglib-aug:augmented-by*
                            -> ../../yanglib:module/name
   .....

x--ro modules-state
    x--ro module-set-id    string
    x--ro module* [name revision]
      x--ro name              yang:yang-identifier
      x--ro revision          union
      +--ro schema?             inet:uri
      x--ro namespace            inet:uri
      x--ro feature*            yang:yang-identifier
      x--ro deviation* [name revision]
      |  x--ro name        yang:yang-identifier
      |  x--ro revision    union
      x--ro conformance-type    enumeration
      x--ro submodule* [name revision]
        x--ro name        yang:yang-identifier
        x--ro revision    union
        +--ro schema?     inet:uri
```

Issue:

- /modules-state **is still used** by vendors no matter whether RFC7895 or RFC8525 is loaded, though deprecated.
- Augmented-by should be **put into the deprecated** /modules-state in case of that situation

Question:

- Does the augmentation for /modules-state require the revision, or can it use the same grouping as the one defined for augmented-by in /yang-library

Next Step:

- Resolve the open issue

Wrap Up

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Resources:

https://github.com/Zephyre777/draft-lincla-netconf-yang-library-augmentation.git

https://datatracker.ietf.org/doc/draft-lincla-netconf-yang-library-augmentation/

Reference:

https://datatracker.ietf.org/doc/draft-ietf-nmop-yang-message-broker-integration/03/