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A Yang Data Model for WSON Tunnel

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Abstract

This document provides a YANG data model for WSON TE tunnel.

Status of this Memo

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1. Introduction

This document provides a YANG data model for WSON tunnel model. The YANG model described in this document is a WSON technology-specific Yang Tunnel model based on the information model developed in [RFC7446] and the two encoding documents [RFC7581] and [RFC7579] that developed protocol independent encodings based on [RFC7446].

This document augments the generic TE tunnel model [TE-Tunnel].

2. YANG Model (Tree Structure)

module: ietf-wson-tunnel

```
  augment /te:te/te:tunnels/te:tunnel:
    +--rw src-client-signal?   identityref
    +--rw dst-client-signal?   identityref
  augment /te:te/te:tunnels/te:tunnel/te:state:
    +--ro src-client-signal?   identityref
    +--ro dst-client-signal?   identityref
  augment /te:te/te:globals/te:named-path-constraints/te:named-path-
constraint:
    +--rw wavelength-assignment?   identityref
  augment /te:tunnels-rpc/te:input/te:tunnel-info/tepc:request-list:
    +---- src-client-signal?       identityref
    +---- dst-client-signal?       identityref
    +---- wavelength-assignment?   identityref
```

3. TE Tunnel Model for WSON

```
<CODE BEGINS> file "ietf-te-wson@2017-10-29.yang"

module ietf-wson-tunnel {
    //TODO: FIXME
    //yang-version 1.1;

    namespace "urn:ietf:params:xml:ns:yang:ietf-wson-tunnel";
    prefix "wson-tunnel";

    import ietf-te { prefix "te"; }
    import ietf-otn-types { prefix "otn-types"; }
    import ietf-te-wson-types { prefix "wson-types"; }
    import ietf-te-path-computation { prefix "tepc"; }

    organization
        "IETF CCAMP Working Group";

    contact
        "WG Web:   <http://tools.ietf.org/wg/ccamp/>
         WG List:  <mailto:ccamp@ietf.org>

         WG Chair: Daniele Ceccarelli
                   <mailto:daniele.ceccarelli@ericsson.com>

         WG Chair: Fatai Zhang
                   <mailto:zhangfatai@huawei.com>
```

```
         Editor: Young Lee <leeyoung@huawei.com>
         Editor: Dhruv Dhody <dhruv.ietf@gmail.com>
         Editor: Ricard Vilalta <ricard.vilalta@cttc.es>";
         description
             "This module defines a model for WSON Tunnel Services.";


    revision "2017-10-29" {
        description
             "Updates to version 2";
        reference "version 2";
    }

    grouping wson-tunnel-endpoint {
        description "Parameters for OTN tunnel.";

        leaf src-client-signal {
                type identityref {
                        base otn-types:client-signal;
                }
                description
                        "Client signal at the source endpoint of
                        the tunnel.";
        }

        leaf dst-client-signal {
            type identityref {
                    base otn-types:client-signal;
            }
            description
                    "Client signal at the destination endpoint of
                    the tunnel.";
        }
    }

    grouping wson-path-constraints {
      description
        "Global named path constraints configuration
         grouping for WSON tunnel";

      leaf wavelength-assignment {
        type identityref {
          base wson-types:wavelength-assignment;
        }
```

```
        description "Wavelength Allocation Method";
      }
    }

    augment "/te:te/te:tunnels/te:tunnel" {
        description
                "Augment with additional parameters required for WSON
                tunnel.";
        uses wson-tunnel-endpoint;
    }

    augment "/te:te/te:tunnels/te:tunnel/te:state" {
        description
                "Augment with additional parameters required for WSON
                tunnel.";
        uses wson-tunnel-endpoint;
    }

    augment "/te:te/te:globals/te:named-path-constraints/"
        + "te:named-path-constraint" {
        description
                "Augment with additional constraints WSON
                tunnel.";
        uses wson-path-constraints;
    }


    augment "/te:tunnels-rpc/te:input/te:tunnel-info/"
        + "tepc:request-list" {
        description
                "Augment with additional constraints WSON
                tunnel.";
        uses wson-tunnel-endpoint;
        uses wson-path-constraints;
    }


}
```

<CODE ENDS>

4. Security Considerations

The configuration, state, and action data defined in this document

are designed to be accessed via a management protocol with a secure transport layer, such as NETCONF [RFC6241]. The NETCONF access control model [RFC6536] provides the means to restrict access for particular NETCONF users to a preconfigured subset of all available NETCONF protocol operations and content.

A number of configuration data nodes defined in this document are writable/deletable (i.e., "config true") These data nodes may be considered sensitive or vulnerable in some network environments.

5. IANA Considerations

This document registers the following namespace URIs in the IETF XML registry [RFC3688]:

```
---------------------------------------------------------------------
URI: urn:ietf:params:xml:ns:yang:ietf-wson-tunnel
Registrant Contact: The IESG.
XML: N/A, the requested URI is an XML namespace.
---------------------------------------------------------------------
```

This document registers the following YANG modules in the YANG Module

Names registry [RFC7950]:

```
---------------------------------------------------------------------
name:         ietf-wson-tunnel
namespace:    urn:ietf:params:xml:ns:yang:ietf-wson-tunnel
reference:    RFC XXXX (TDB)
---------------------------------------------------------------------
```

6. Acknowledgments

This document was prepared using 2-Word-v2.0.template.dot.

7. References

7.1. Normative References

[TE-TOPO] X. Liu, et al., "YANG Data Model for TE Topologies", work in progress: draft-ietf-teas-yang-te-topo.

7.2. Informative References

[RFC7446] Y. Lee, G. Bernstein, D. Li, W. Imajuku, "Routing and Wavelength Assignment Information Model for Wavelength Switched Optical Networks", RFC 7446, Feburary 2015.

[RFC7579] G. Bernstein, Y. Lee, D. Li, W. Imajuku, "General Network Element Constraint Encoding for GMPLS Controlled Networks", RFC 7579, November2015.

[RFC7581] G. Bernstein, Y. Lee, D. Li, W. Imajuku, "Routing and Wavelength Assignment Information Encoding for Wavelength Switched Optical Networks", RFC 7581, November2015.

8. Contributors

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