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**RESTCONF Update to Support the NMDA  
draft-ietf-netconf-nmda-restconf-00**

Abstract

This document updates RESTCONF [[RFC8040](#)] in order to support the Network Management Datastore Architecture (NMDA) defined in [[I-D.ietf-netmod-revised-datastores](#)].

Status of This Memo

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**1. Introduction**

This document updates RESTCONF [[RFC8040](#)] in order to support the Network Management Datastore Architecture (NMDA) defined in [[I-D.ietf-netmod-revised-datastores](#)].

The solution presented in this document is backwards compatible with [[RFC8040](#)]. This is achieved by it only adding new top-level resources, and thereby leaving the semantics of all existing resources alone.

**2. Requirements Language**

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [BCP 14](#) [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here.

**3. Summary of Updates to [RFC 8040](#)**

This document updates [[RFC8040](#)] in the following ways:

- o Adds new top-level resource "/ds".
- o Adds new query parameter "with-origin".
- o [Section 3.5.4](#), Paragraph 3 doesn't apply for <operational>.



#### 4. Conformance

A RESTCONF server identifies that it supports NMDA both by supporting the <operational> datastore, as well as by supporting at least revision YANG\_LIBRARY\_REVISION of the "ietf-yang-library" module, as specified in [[I-D.nmdsd-t-netconf-rfc7895bis](#)].

RESTCONF clients MAY test if a server supports NMDA using the HEAD method on the <operational> datastore resource, described later in this document.

RESTCONF clients MAY also test if a server supports the NMDA using either the HEAD or GET methods on "ietf-yang-library:yang-library" resource, under either {+restconf}/data or <operational>, though only the latter resource SHOULD be used so that the client doesn't need to have any ongoing need to use the {+restconf}/data resource.

RESTCONF clients MAY also test if a server supports the NMDA by checking the revision number for the "ietf-yang-library" module listed under "ietf-yang-library:modules-state", under either {+restconf}/data or <operational>. This approach might be preferred by some existing clients, but new clients should avoid using the deprecated "modules-state" resource.

#### 5. The {+restconf}/ds/<datastore> Resource

Knowing which datastores a server supports, from querying the ietf-yang-library module, a RESTCONF client interacts with specific datastores using the resource path template:

```
{+restconf}/ds/<datastore>
```

Where <datastore> is encoded as an "identity". For instance:

```
{+restconf}/ds/ietf-datastores:running  
{+restconf}/ds/ietf-datastores:intended  
{+restconf}/ds/ietf-datastores:operational  
{+restconf}/ds/example-ds-ephemeral:ds-ephemeral
```

#### 6. Protocol Operations

All existing protocol operations defined in [[RFC8040](#)] for the {+restconf}/data resource are available for all of the new datastore resources with the following exceptions:

- o Dynamic datastores are excluded, as each dynamic datastore definition needs to be reviewed for what protocol operations it supports.



- o Some datastores are read-only by nature (e.g., <intended>), and hence any attempt to modify these datastores will fail.
- o [RFC 8040, Section 3.5.4](#), Paragraph 3 does not apply when interacting with <operational>.
- o New boolean query parameter "with-origin" (default: false) is defined to request the "origin" attributes when querying <operational>.

## 7. Security Considerations

TBD

## 8. IANA Considerations

TBD

## 9. Normative References

[I-D.ietf-netmod-revised-datastores]

Bjorklund, M., Schoenwaelder, J., Shafer, P., Watsen, K., and R. Wilton, "Network Management Datastore Architecture", [draft-ietf-netmod-revised-datastores-04](#) (work in progress), August 2017.

[I-D.nmdsdt-netconf-rfc7895bis]

Bierman, A., Bjorklund, M., and K. Watsen, "YANG Library", [draft-nmdsdt-netconf-rfc7895bis-01](#) (work in progress), July 2017.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<https://www.rfc-editor.org/info/rfc2119>>.

[RFC8040] Bierman, A., Bjorklund, M., and K. Watsen, "RESTCONF Protocol", [RFC 8040](#), DOI 10.17487/RFC8040, January 2017, <<https://www.rfc-editor.org/info/rfc8040>>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in [RFC 2119](#) Key Words", [BCP 14](#), [RFC 8174](#), DOI 10.17487/RFC8174, May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.



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