

NETCONF rpc-error extension for multiple language

draft-ysc-netconf-rpc-error-extension-00

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Background Introduction

- NETCONF support multiple language in the error-message.
- The device: It's very difficult to support multiple language.
- The NMS: There is the requirement of customization.
- The current solution:

```
<rpc-reply message-id="101"
  xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
  xmlns:xc="urn:ietf:params:xml:ns:netconf:base:1.0">
  <rpc-error>
  .....
  <error-message xml:lang="en">
    MTU value 25000 of interface ethernet1/0/1 is not within range
    256..9192
  </error-message>
  </rpc-error>
</rpc-reply>
```

→ Some parameters are not fixed, NMS is not easy to integrated.

The solution

- Each error-message contains 2 parts: static format string and dynamic error parameters.
- Each error-message maps to a unique error-app-tag.
- Network devices support common language and return error parameters in rpc-error
- NMS translate the format string to local language.
- Example:
 - ✓ Error message: MTU value 25000 of interface ethernet1/0/1 is not within range 256..9192
 - ✓ error-app-tag: 00010001
 - ✓ Error-parameters:25000, ethernet1/0/1, 256, 9192
 - ✓ Format string: MTU value \$1 of interface \$2 is not within range \$3..\$4

Example

```
<rpc-reply message-id="101"
  xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
  xmlns:xc="urn:ietf:params:xml:ns:netconf:base:1.0">
  <rpc-error>
    <error-type>application</error-type>
    <error-tag>invalid-value</error-tag>
    <error-severity>error</error-severity>
    <error-app-tag>00010001</error-app-tag>
    <error-path xmlns:t="http://example.com/schema/1.2/config">
      /t:top/t:interface[t:name="Ethernet1/0/1"]/t:mtu
    </error-path>
    <error-message xml:lang="en">
      MTU value 25000 of interface ethernet1/0/1 is not within range 256..9192
    </error-message>
    <error-parameters xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-error-parameters">
      <error-parameter>25000</error-parameter>
      <error-parameter>ethernet1/0/1</error-parameter>
      <error-parameter>256</error-parameter>
      <error-parameter>9192</error-parameter>
    </error-parameters>
  </rpc-error>
</rpc-reply>
```

Extension for :Error-parameters Capability

Use Case in NMS

- Example of error-message in common language:
 - ✓ error-app-tag: 00010001
 - ✓ Error message : MTU value 25000 of interface ethernet1/0/1 is not within range 256..9192
- Major work in NMS for each error-message:
 - ✓ 1. Translation format string to local language:
 - Format string: La valeur MTU \$1 de l'interface \$2 n'est pas dans la plage de \$3 à \$4.
 - ✓ 2. Load format string and generate the error-message in local language:
 - La valeur MTU 25000 de l'interface ethernet1/0/1 n'est pas dans la plage de 256 à 9192.

Next Steps

- Keep on research for more scenarios.
- Welcome comments on mailing list.