

LMAP Interim Meeting

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draft-oslebo-lmap-control-yang
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Overview

- Based on MAs polling configuration from controller
- YANG module, Imap-control, defines the information stored on the controller.
- Timing object copied from draft-schoenw-Imap-yang-01

Overall structure

```
+--rw lmap-control
  +--rw tasks
    |   +--rw task* [name]
  +--rw channels
    |   +--rw channel* [name]
  +--rw schedules
    |   +--rw schedule* [name]
  +--rw timings
    |   +--rw timing* [name]
  +--rw log
    |   +--rw log-entry* [agent-id event-time]
  +--rw measurement-agents
    +--rw ma* [agent-id]
```

Tasks

```
+--rw tasks
|   +--rw task* [name]
|       +--rw name                string
|       +--rw registry-entry      inet:uri
|       +--rw role?               string
|       +--rw options
|           |   +--rw option* [name]
|           |       +--rw name      string
|           |       +--rw value?    string
|       +--rw suppress-by-default? boolean
|       +--rw cycle-id?            string
```

Tasks XML

```
<tasks>
  <task>
    <name>Configuration</name>
    <registry-entry>urn:...:configuration
  </registry-entry>
  </task>
  <task>
    <name>Ping</name>
    <options>
      <option>
        <name>destination</name>
        <value>127.0.0.1</value>
      </option>
    </options>
    <registry-entry>urn:ping</registry-entry>
  </task>
</tasks>
```

Channels

```
+--rw channels
|   +--rw channel* [name]
|       +--rw name                string
|       +--rw target              inet:uri
|       +--rw credentials         string
|       +--rw interface?         leafref
```

Channels XML

```
<channels>
  <channel>
    <name>Control channel</name>
    <target>http://www.example.com:5000
    </target>
    <credentials></credentials>
  </channel>
  <channel>
    <name>Report channel</name>
    <target>http://www.example.com:5001
    </target>
    <credentials></credentials>
  </channel>
</channels>
```

Schedules

```
+--rw schedules
|   +--rw schedule* [name]
|       +--rw name          string
|       +--rw tasks
|           |   +--rw task* [name]
|           |       +--rw name          leafref
|           |       +--rw channels
|           |           |   +--rw channel*          leafref
|           |           +--rw downstream-schedules
|           |               +--rw downstream-schedule*
|                           [schedule]
|           |               +--rw schedule          leafref
|           |               +--rw outputs
|           |                   +--rw output*        int32
|           +--rw timing          leafref
```


Schedules XML

```
<schedules>
  <schedule>
    <name>Ping</name>
    <tasks>
      <task>
        <name>Ping</name>
        <downstream-schedules>
          <downstream-schedule>
            <schedule>Report daily</schedule>
            <outputs>
              <output>1</output>
            </outputs>
          </downstream-schedule>
        </downstream-schedules>
      </task>
    </tasks>
    <timing>Hourly</timing>
  </schedule>
</schedules>
```

Timings

```
+--rw timings
|   +--rw timing* [name]
|       +--rw name                                string
|       +--rw (timing-type)
|           |   +--: (periodic)
|           |   +--: (calendar)
|           |   +--: (one-off)
|           |   +--: (immediate)
|           |   +--: (startup)
|       +--rw random-spread?                       int32
```

Timings XML

```
<timings>  
  <timing>  
    <name>Hourly</name>  
    <periodic>  
      <interval>3600000</interval>  
    </periodic>  
  </timing>  
</timings>
```

Log

```
+--rw log
|   +--rw log-entry* [agent-id event-time]
|       +--rw agent-id          leafref
|       +--rw event-time        int64
|       +--rw code               int32
|       +--rw description        string
```

Measurement agent

```
+--rw measurement-agents
  +--rw ma* [agent-id]
    +--rw agent-id                yang:uuid
    +--rw config
    +--rw schedules
    |   +--rw schedule*          leafref
    +--rw suppressions
    +--rw status-and-capabilities
```

Measurement Agent XML

```
<measurement-agents>
  <ma>
    <agent-id>0...02</agent-id>
    <config>
      <device-id>Device ID 2</device-id>
      <credentials></credentials>
      <group-id>1</group-id>
      <control-channel-failure-threshold>5
      </control-channel-failure-threshold>
    </config>
    <schedules>
      <schedule>Configuration</schedule>
      <schedule>Ping</schedule>
    </schedules>
  </ma>
</measurement-agents>
```

RESTCONF query - XML

```
GET /restconf/data/imap-control:imap-control/measurement-agents/  
ma=00000000-0000-0000-0000-0000-000000000001/config HTTP/1.1  
Host: 127.0.0.1:5000  
Accept: application/yang.data+xml,  
        application/yang.errors+xml
```

```
HTTP/1.0 200 OK  
Content-Type: application/yang.data+xml  
Server: example-server  
Date: Fri, 12 Sep 2014 11:56:42 GMT
```

```
<config>  
  <credentials/>  
  <group-id>1</group-id>  
</config>
```

RESTCONF query - JSON

```
GET /restconf/data/Imap-control:Imap-control/measurement-agents/  
ma=000000000-0000-0000-0000-0000000000002/schedules HTTP/1.1  
Host: 127.0.0.1:5000  
Accept: application/yang.data+json,  
        application/yang.errors+json
```

```
HTTP/1.0 200 OK  
Content-Type: application/yang.data+json  
Server: example-server  
Date: Fri, 12 Sep 2014 12:14:15 GMT  
{  
  "schedules": {  
    "schedule": [  
      "Configuration",  
      "Ping"  
    ]  
  }  
}
```


RESTCONF: add log entry

POST /restconf/data/imap-control:imap-control/logs HTTP/1.1

Host: example.com

Content-Type: application/yang.data+json

```
{ "imap-control:log" : {  
    "agent-id" : "000000000-0000-0000-0000-0000000000001",  
    "event-time" : "1410701348000",  
    "code" : "1",  
    "description" : "log entry test"  
  }  
}
```

HTTP/1.1 201 Created

Date: Mon, 23 Apr 2012 17:01:00 GMT

Server: example-server

Location: http://example.com/restconf/data/imap_control:.....

Last-Modified: Sun, 14 Sep 2014 15:32:00 GMT

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