Optical Network Management System

JDSU

Alarm Notification using XMLFTP

Edited by	JDSU	
Date of first issue	13/12/2005	
Date of last modification	16/03/2009	
Reference	ONMS XMLFTP	Version A.02

Optical Network Management System

Version	Date	Author	Index
A.0	12/07/04	N. Decroix	First release
A.1	03/01/2008	B. Lions	English version
A 2	16/03/09	B. Feuerstein	XML file updates (link comment + GPS coordinates)

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1. Purpose of the interface

Interface between ONMS and external systems for alarm processing like global alarm collecting system or geo-referenced alarm viewing.

## 1.1 Optical alarm notification

- Exchange format based on XML files

- File transmission over ftp (fully configurable, see Configuration below)

- Only optical alarms concerned

- One XML file per alarm event

- Optical events only sent if their severity is equal or higher than configured (see Configuration below)

- File naming convention: ONMS-OPT-${EVENTID}.XML where ${EVENTID} is the unique ONMS event id.

- Once transferred files have to be managed by the external software (mainly for removing after reading)

1.2 Heartbeat notification

- Heartbeat notification that informs the external software that ONMS functions

- Heartbeat sent at a predefined interval

- Exchange format also based on XML files over ftp

- File naming convention: ONMS-HB.XML

- Once transferred heartbeat files have to be managed by the external software, otherwise ONMS simply overwrites them

- The period of heartbeat generation will be the same as the RTU heartbeat of ONMS Application (min. interval of 5 minutes)

- XML heartbeat sending follows same global rules as OTU heartbeat (activated or not, interval starting at 5 minutes)

2. Operating

2.1 Principle
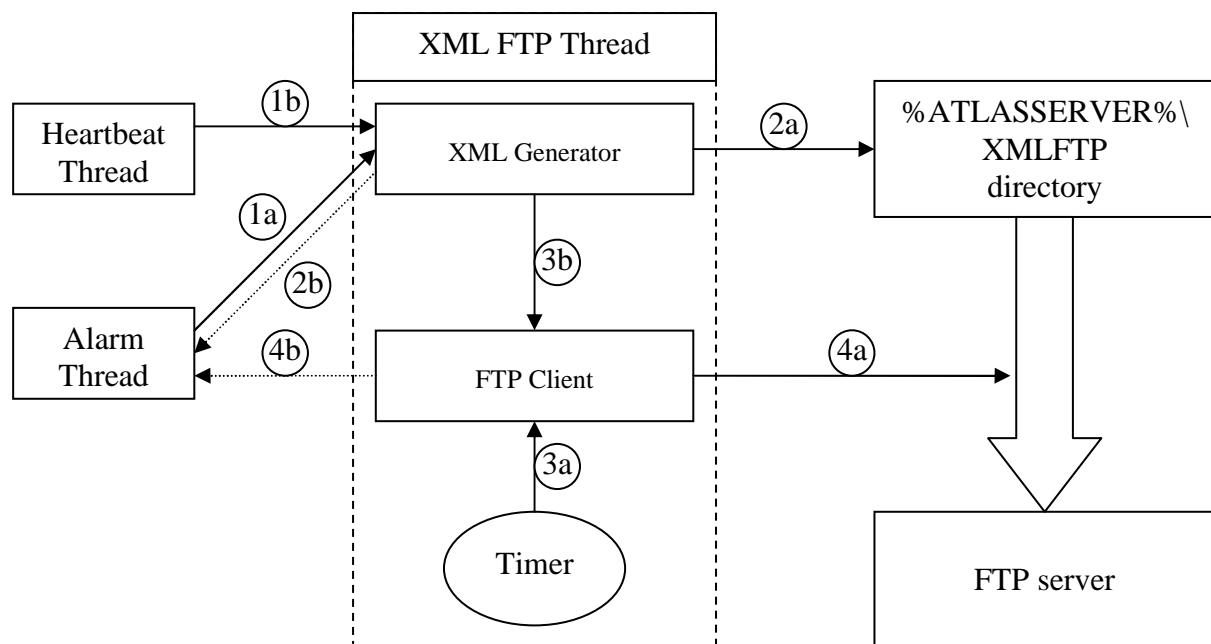
Step 1 :

The XMLFTP thread receives a message notifying a new optical event (1a) or a heartbeat (1b).

Step 2 :

The XMLFTP thread generates the XML file corresponding to the received message (2a) in a local directory %ATLASSERVER%\XMLFTP, in case of failure a specific ONMS system alarm is created (2b).

Step 3:

The ftp client is notified that files are awaiting transfer to the ftp server by a periodic timer (3a) or immediately after the generation of an XML file (3b).

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Step 4 :

The ftp client transfers all the XML files from the %ATLASSERVER%\XMLFTP local directory to the ftp server (4a), in case of failure a specific ONMS system alarm is created (4b).

Note :

- In case of file transfer failure, the timer interval (3a) is automatically increased after each consecutive failure (1, 5, 10, 15, 30, 60 minutes)

2.2 Configuration

The XMLFTP functionality configuration is made under the section [XMLFTP] in the %WINDOWS%\AtlasServer.ini file:

Section : [XMLFTP]

Field name	Authorized value	Default value	Description
Available	*Yes, No*	No	Says if XMLPTP function has to be activated
Host	Name / IP	<empty>	ftp server name or IP address
Port	1…65535	21	ftp server port
PassiveMode	*Yens, No*	No	Forces ftp to use passive mode
Directory	*ftp Remote path*	/	ftp server storage directory
Login	*String*	anonymous	ftp server Login
Password	*String*	<empty>	ftp server password
SeverityFilter=MAJ	*CLR,WRN,MIN,MAJ,CRT*	CLR	XMLFTP Optical events severity filter

3. XML file examples

3.1 Optical alarm file

```
<?xml version="1.0" encoding="UTF-8" ?>
<ONMS_Alarm>
        <Fault_Resources>
                <Region>Region A</Region>
                <RTU>10.33.17.218</RTU>
                <Port>OTDR2-301</Port>
                <Link>Test Nico</Link>
                <LinkComment><![CDATA[This link is on the port 1 of the SWITCH
3]]></LinkComment>
        </Fault_Resources>
        <Fault_Description>
                <AlarmType>OPTICAL</AlarmType>
                <EventID>56562</EventID>
                <AlarmID>34746</AlarmID>
                <EventCode>1090</EventCode>
                <EventTrigDate>28-11-05 05:13:15</EventTrigDate>
                <EventDescription>Threshold level exceeded : 26193.47 m / 1.093
dB</EventDescription>
                <Severity>Minor</Severity>
                <Level>1.093 dB</Level>
                <Status>Not acknowledged</Status>
        </Fault_Description>
        <Fault_Section>
                <FromLandMark>Estacion Terrena Tarbaca</FromLandMark>
                <ToLandMark>Estacion Terrena Guatuzo</ToLandMark>
                <FromMarker>E11 500 despues Esc. Alumbre</FromMarker>
                <ToMarker>E10 1500 antes Esc. Jose Navarro</ToMarker>
                <GpsLatitude>45°10'3.12"N</GpsLatitude>
                <GpsLongitude>0°30'5.40"E</GpsLongitude>
        </Fault_Section>
        <Fault_OpticalDistances>
                <Unit>meter</Unit>
```

```
                    <FromOTDR>26.193</FromOTDR>

        </Fault_OpticalDistances>

        <Fault_PhysicalDistances>

                    <Unit>meter</Unit>

                    <FromLandMark>17.538</FromLandMark>

                    <ToLandMark>18.622</ToLandMark>

                    <FromMarker>1.658</FromMarker>

                    <ToMarker>389</ToMarker>

        </Fault_PhysicalDistances>

</ONMS_Alarm>
```

3.2 Heartbeat file example

```
<?xml version="1.0" encoding="UTF-8" ?>

<ONMS_HeartBeat>

        <TimeStamp>

                    <DateTime>13-12-05 16:00:38: ONMS Server alive</DateTime>

        </TimeStamp>

</ONMS_HeartBeat>
```