csstel

AN-860900

Alarm Reception PHP Script for Web Server

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Applicable Products: ComView NX(S/M/L/X)
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Introduction

ComView device can notify users of alarms via email, SNMP trap/inform, http POST, and syslog messaging. These standard protocols help simplify integration of alarm reception into user existing NMS platform more readily.

This application note is intended to describe ComView alarm message format and to demonstrate a simple server-backend PHP script to run on a web server such as Apache to receive alarms sent by ComView using http POST.

PHP is an open-source, server-side scripting language that is commonly used in the development web backend. PHP runs on different operating systems like Windows, UNIX, and Linux.

This application note focuses mainly on ComView alarm format used in http POST and a simple PHP program written to receive alarms sent by ComView.

This application note does not provide detailed description of how to use ComView, its connectivity and configuration, and other supporting information, as these are beyond the scope of this document. Refer to other resources for more details.

References:

[1]. ComView - User Guide

[2]. PHP - https://www.php.net/manual/en/intro-whatis.php

[3]. Apache web server - https://httpd.apache.org/

[4]. PHP tutorials - https://www.w3schools.com/php/

Alarm Variables

ComView encodes its alarm message prior to delivery using various alarm variables as follows:

```
SiteName
SiteID
SiteIP
SiteCoordinates
SiteAddress
SiteRemarks
AlarmDate
AlarmTime
AlarmInterface
AlarmSource
AlarmValue
AlarmName
AlarmDescription
```

Variable names with the ‘Site’ prefix are for site identification, predefined during the device configuration in ‘Site Info’ page of the device web interface.

Variable names with the ‘Alarm’ prefix are for alarm details. These are predefined (except AlarmDate and AlarmTime) in various pages of the device web interface due to various sources of alarm.

HTTP POST Alarm Format

ComView uses JSON (JavaScript Object Notation) to encode its alarm message and sends a POST request to HTTP servers to notify users of an alarm.

The following is a sample alarm in JSON string with "object":"value" pairs in CSV format:

```
{
"SiteName": "CVSite",
"SiteID": "00000001",
"SiteIP": "192.168.0.100",
"SiteCoordinates" = "43.64406,-79.38671",
"SiteAddress"= "*** Undefined address ***",
"SiteRemarks"= "*** Unconfigured device ***",
"AlarmDate"= "20221021",
"AlarmTime"= "141502",
"AlarmInterface"= "Device",
"AlarmSource"= "Internal",
"AlarmValue"= "Every 15 minutes",
"AlarmName"= "System heartbeat",
"AlarmDescription"= "CVSite"
}
```

Alarm Reception PHP Script

The following is a sample PHP script running on Apache web server to receive alarm posted in JSON string format:

```php
<?php
$file = "/var/www/html/alarms.log";
$SName = $_POST["SiteName"];
$SID = $_POST["SiteID"];
$SIP = $_POST["SiteIP"];
$SCoordinates = $_POST["SiteCoordinates"];
$SAddress = $_POST["SiteAddress"];
$SRemarks = $_POST["SiteRemarks"];
$ADate = $_POST["AlarmDate"];
$ATime = $_POST["AlarmTime"];
$AInterface = $_POST["AlarmInterface"];
$ASource = $_POST["AlarmSource"];
$AValue = $_POST["AlarmValue"];
$AName = $_POST["AlarmName"];
$ADescription = $_POST["AlarmDescription"];
$alarm = <<<EOD

--- Begin ---
Site_name= $SName
Site_ID= $SID
Site_IP= $SIP
Site_coordinates= $SCoordinates
Site_address= $SAddress
Site_remarks= $SRemarks
Alarm_date= $ADate
Alarm_time= $ATime
Alarm_interface= $AInterface
Alarm_source= $ASource
Alarm_value= $AValue
Alarm_name= $AName
Alarm_description= $ADescription
--- End ---

EOD;
if (file_exists($file)){
    $handle = fopen($file, "a");
    fwrite($handle, $alarm ."\n");
    fclose($handle);
}
?>
```

NOTES:

[1]. This PHP script can be embedded with an html page or run on its own. In the latter, the script must be in a file; e.g., 'alarm-receiver.php' and stored in '/var/www/html/' directory as an example.

[2]. Alarms received are logged in '/var/www/html/alarms.log' file which must be pre-created with write permission

[3]. Each alarm received is encapsulated by '--- Begin ---' / '--- End ---' header/trailer pair for ease in parsing and identification

Alarm Log

A sample alarm that the above PHP script receives, formats, and logs in '/var/www/http/alarms.log' is as below:

```
--- Begin ---
Site_name= CVSite
Site_ID= 00000001
Site_IP= 192.168.0.100
Site_coordinates= 43.64406,-79.38671
Site_address= *** Undefined address ***
Site_remarks= *** Unconfigured device ***
Alarm_date= 20221021
Alarm_time= 141502
Alarm_interface= Device
Alarm_source= Internal
Alarm_value= Every 15 minutes
Alarm_name= System heartbeat
Alarm_description= CVSite
--- End ---
```

Once collected on a web server, alarms can be parsed and processed according to user-specific requirements; for example, displaying on alarm monitor, integrating with other network management platforms.

Summary

This application note illustrates how ComView encodes an alarm message prior to sending a POST request to a remote HTTP web server. It also shows a simple PHP script that can be developed to integrate alarm reception from ComView device into user existing HTTP-based NMS platform, quickly and readily.

About CSSTEL

CSSTEL is a privately held developer and manufacturer of ComView hardware and software solutions for secure, remote infrastructure site management since 1997 with installations in over 30 countries around the world.

We offer ComView solutions that are scalable and customizable to monitor and manage virtually the entire spectrum of remote site infrastructure and site conditions.

We help telecom service providers, carriers, financial institutions, healthcare providers, government agencies, utilities, and other public and private sector organizations maintain constant visibility and control over their remote site infrastructure.

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Revision History

Revision	Date	Description
1.00	2023-01-08	Initial release

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