

Technical Support DATA (EMEA)

**System Functional and Design Specification**

**Preventive Maintenance**

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**REVISION HISTORY**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Revision | Date | Agile Revision | Update By | Revision Description | Status |
| 0.1 | 16/06/2021 |  | Raphael Voyer | Initial document, capturing the HA Vlan functional specifications and design. | Draft |

# INTRODUCTION

## Purpose

The document describes the Software Requirements Specification and Functional Specification of Preventive Maintenance for AOS 8.x .

## Scope

The scope of this document is to present the complete set of requirements and functional specifications for Preventive Maintenance.

## Intended Audience

This document is intended for the following:

* Technical support data Team
* Engineering Design Team
* Product Testing Team
* Technical Writing Team responsible for developing the user documentation
* Support organization providing end-user support.







# FUNCTIONAL DESCRIPTION

## Basic Overview

Preventive maintenance permet l’automatisation des résolutions de problèmes sur les équipements OmniSwitch AOS 8.x, Stellar APs, de plus une fonction de notification soit par email soit par Rainbow peut être configurable. Elle est constituée d’un serveur Debian qui permettra de recevoir les logs des différents équipements sur le réseau. Tous les logs seront filtrés par Rsyslog. Rsyslog permettra à la fois de détecter un ou des mots clés au sein des logs, pour ensuite les stocker et exécuter un script en fonction du log reçu. Tous les scripts permettant les résolutions sont développés en Python.

Pour pouvoir utiliser la Préventive Maintenance, le dossier devra impérativement contenir les fichiers suivants :

* **Setup.sh** : permet la configuration du serveur Debian.
* **Devices.csv** : Contient les IP address des switches afin de configurer active output socket.
* **support\_active\_output\_socket.py** : Configure out socket sur les switches contenu dans Device.csv.
* **support\_tools.py** : Permet le fonctionnement de tous les autres scripts support.
* **support\_send\_notification.py** : permet l’envoie des différentes notifications
* **support\_response\_handler.py** : Permet d’orchestrer l’émission et la réception des requests par notifications
* **support\_web\_receiver\_class.py**: Permet la configuration du serveur web on the fly pour recevoir les réponses envoyées par l’utilsateur.

Pour la première version de Preventive Maintenance, afin de configurer entièrement le serveur Debian, script bash sous le nom de Setup.sh à été développé. Celui-ci permet de configurer les éléments suivants :

* Configuration des notifications (Rainbow/Email)
* Pattern pour la collecte des logs des switchs
* Credentials des switchs
* Credentials des Stellar access points
* Pattern pour la collecte des logs des AP
* Les sous réseaux autorisés à envoyer les logs
* Installation de Python3 et des dépendances
* Configuration du Rsyslog
* Configuration du Logrotate
* Configuration de Iptables (pas encore implémenté)
* Configuration du serveur TFTP
* Création répertoire /opt/ALE\_Script

Active socket output on switches

## Platform Supported

The proposed Preventive Maintenance functionality shall be supported on Omniswitch AOS 8.X

## Design Constraints.

### Software Limitations

* Unknown

### Hardware Limitations

* Unknown

## Assumptions and Dependencies

* None

# SYSTEM REQUIREMENT SPECIFICATIONS

This chapter captures the requirements for Preventive Maintenance.

## Configuration Requirements

### Python Requirements

Python Version : Python 3.5.3 or higher

### TFTP Requirements

# DEBIAN SERVER INITIALIZATION

## Introduction

L’objectif du script Setup.sh est d’initialisé tous les services qui seront utiles au bon fonctionnement de la fonctionnalité Preventive Maintenance. Pour fonctionner Préventive Maintenance a besoin de service qui ne sont pas présent sur un serveur Ubuntu a l’installation. Il faut également pouvoir configurer ces différents services.

## Flowchart

## Services

### TFTP

### Rsyslog

### Logrotate

### Iptables

Not yet implemented

# UTILS PYTHON SCRIPTS

## Introduction

## Support Tools Script

## Active Output Socket

## Send Notification

## Requests Handler

## Web Receiver

# USE CASE PYTHON SCRIPTS

## L2 Loop Script

## Port Flapping Script

## Port Scanning (DDOS) Script

## Collection Logs (Switch) Script

## Collection Logs (Stallar AP) Script