Acceptance Test Plan

Remote Monitoring of Power Consumption in a Cloud Server Network

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Preface

The document is the third release of the Acceptance Test Plan concerned with this project. This document is primarily aimed at the parties involved in this project, that is, the customer and the company involved in providing solution to the customer's needs. The company comprises of Chief Executive Officer (CEO) and the developer team Zenoss. Firstly, the document starts with glossary and abbreviations which define the technical terms and abbreviations used in the document. Secondly, we have sections describing the purpose of each module comprising the system architecture, which requirements does it satisfy and its interaction with other modules. Each section has detailed designs of the module's implementation and related test specifications. Lastly, there is a references section giving a list of the references used for the creation of this document.

This is version ATP 3.0 of the document and the version history is as follows:

Released v ATP3.0 on 2014-05-28

- Release of this document ATP 3.0 is due to major changes in the document as result of changes in the user interface on the front-end.

Released v ATP2.0 on 2014-05-19

– Initial release of this document ATP 2.0 after major revision to the previous version ATP 1.0.

Released v ATP1.0 on 2014-05-12

– Initial release

1. Glossary and abbreviations

API- *Application Program Interface*

An interface, generally specified as a set of operations, that allows access to an application program's functionality.

CN- *Computer Node*

IP- *Internet Protocol*

HTTP- *Hypertext Transfer Protocol*

It is an application protocol for distributed, collaborative and hypermedia information systems.

NMS- *Network Management System*

It constantly monitors a computer network and notifies the network administrator in case of outages.

PDU- *Power Distribution Unit*

It is a device designed to distribute electric power with multiple outputs.

SNMP- *Simple Network Management Protocol*

It is an internet-standard protocol for managing devices on IP networks.

SSH- *Secure Shell*

It is a cryptographic network protocol for secure network services between two networked computers.

UPS- *Uninterruptable Power Supply*

It is an electrical device that provides emergency power when the input power supply fails.

VM- *Virtual Machine*

It is a software based emulation of a computer. Virtual Machines operate based on the computer architecture and functions of a real or hypothetical computer.

Test Identification string

Used to uniquely identify tests for modules. Follows the following format:

ATP <Test no.>

2. Acceptance Test Plan

The acceptance test plan is based on the user requirements from the SRS.

ATP1 – Adding a device:

Purpose	The test is primarily conducted to check whether the user is able to add a device successfully in the product developed.
Requirements	UFR1, UFR7
Environment	All the modules mentioned should be integrated with each other, at least one device should be working and the user should be able to probe this device to obtain data dynamically in real time.
Operation	The following steps are to be performed in order: – The tester must first login into the Zenoss front end. – Then the tester must click on the dashboard. The webpage concerning the product must appear in the dashboard. – Then the tester must click on Add a device option from the menu which is present on the left hand side of the screen. – The tester must fill the details regarding the device which must include the name, IP address, community name, port number, name of the vendor, device type, connection type, if the device is connected to an already existing device then name of the parent device (if it is connected to an existing device). – After that the tester must click on add button to complete the addition of device product.
Expected result	A message will be displayed that the device is added successfully. The tester will be able to notice the added device in the list of devices with the entered credentials. This is the expected result.

ATP2 – Deleting an existing device:

Purpose	The test is primarily conducted to check whether the user is able to delete an existing device.
Requirements	UFR1, UFR7
Environment	All the modules mentioned should be integrated with each other, at least one device should be working and the user should be able to probe this device to obtain data dynamically in real time.

Operation The following steps must be performed in order:

- The tester must first login into the Zenoss front end.
- Then the tester must click on the dashboard. The webpage of the product is present in the dashboard
- Then the tester must click on Delete devices option from the Menu present on the left hand side of the screen.
- The tester must click on the IP address of the device from the list of devices displayed.

Expected result The device must be successfully deleted from the monitoring tool. This must be reflected in the front end with a message being displayed that the device is deleted from the list of all devices.

ATP3 – Edit an existing device:

Purpose The test is primarily conducted to check whether the user is able to edit the information of an existing device.

Requirements UFR1, UFR7

Environment All the modules mentioned should be integrated with each other, at least one device should be working and the user should be able to probe this device to obtain data dynamically in real time.

Operation The following steps are to be performed in order:

- The tester must first login into the Zenoss front end.
- Then the tester must click on the dashboard. The webpage concerning the product must appear in the dashboard.
- Then the tester must select the option Edit device from the menu present on the left hand side of the screen.
- The tester must select the device to be edited from the list of devices displayed by clicking on the IP address of the device.
- Then the tester should enter the new details regarding the device.
- Then the tester must confirm his/her action by clicking edit option to complete the process.

Expected result The tester will be able to view a message that the device information is edited and he/she will be able to check the new device credentials which have been edited in the list of devices being monitored.

ATP4 – Monitoring an existing device with graphs

Purpose The test is primarily conducted to check whether the user is able to monitor an existing device.

Requirements UFR2, UFR4, UFR7

Environment All the modules mentioned should be integrated with each other, at least one device should be working and the user should be able to probe this device to obtain data dynamically in real time.

Operation The following steps are to be performed in order:

- The tester must first login into the Zenoss front end.
- Then the tester must click on the dashboard. The webpage concerning the product must appear in the dashboard.
- The tester must select the Display Devices option from the Menu which is on the left hand side of the screen.
- The tester must select the option according to his/her requirement to either monitor grouped devices or all devices.
- Then the tester must click on the IP address to monitor the graphs. She/he must be successfully able to see the graphs of the parameters power, battery temperature and battery capacity with respect to the device.
- To view the daily, weekly, monthly and yearly graphs the tester must click on the respective parameter graph.

Expected result The tester will be able to see the respective graphs of the parameters associated with the device.

ATP5 – Grouping of Devices

Purpose The test is primarily conducted to check if the devices are grouped or not.

Requirements UFR5, UFR7

Environment All the modules mentioned should be integrated with each other, at least one device should be working and the user should be able to probe this device to obtain data dynamically in real time.

Operation The following steps should be performed in order:

- The tester must first login into the Zenoss front end.
- Then the tester must click on the dashboard. The webpage concerning the product must appear in the dashboard.
- Tester must select the Display Devices option from the menu present on the left hand side of the screen.
- Then he/she must select the option Display Grouped devices from the page displayed.
- Then the lists of devices which are grouped are displayed.
- The tester must select the name of the device to view the list of grouped devices of that particular device.

Expected result The tester must be able see a message if there are no connected devices. If there are connected devices then the tester will be able to view the list of them.

ATP6 - Notifications from the devices

Purpose The main aim of this test to see whether the product is able to deliver notifications in the dynamically changing network environment.

Requirements UFR6, UFR7

Environment All the modules mentioned should be integrated with each other, at least one device should be working and the user should be able to probe this device to obtain data dynamically in real time.

Operation The tester here should have physical access to the devices that are being monitored. The tester should perform the following steps in an orderly manner.

- The tester must first login into the Zenoss front end.
- Then the tester must click on the dashboard. The webpage concerning the product must appear in the dashboard.
- The tester, in the home page, will be able to view the list of devices which are facing problems i.e list of those devices whose battery status is low (below 75%) or whose battery status is irretrievable.
- Then the tester must select an individual device by clicking on the IP address to monitor.
- Then the tester should observe the results in the front end.

Expected result The result should be as follows:

- The tester must receive periodic updates (notifications) based on the severity of the condition.
- The severity here is dependent on the battery capacity of the UPS.
- If the battery capacity is less than 75% then it is represented with orange battery level, if it is less than 25% it is represented with red battery level and if it is not retrievable then a message is displayed stating it.