

VISHNU - IMS - Tests report



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Chapter 1

Introduction

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The tests which follows have been done in the following environment:

- Database used : PostgreSQL 8.4
 - OS used for the test : Ubuntu 10.10
 - Cmake version : V2.6
 - gcc version : V4.3.3
 - DIET version : V2.6.1
 - Batch scheduler : TORQUE V2.5
 - RAM memory : 2Gb
-

Chapter 2

Functional tests

2.1 I2-B: Get metric data

API command: *getMetricHistory*

ID test	Description of the test cases	Output expected	Output gotten	Error
I2-B	Normal execution of <i>getMetricHistory</i>	The list of FREEMEMORY metric is returned	The list of FREEMEMORY metric is returned	0
I2-E1	Bad machine Identifier	VishnuException	VishnuException	0
I2-E2	Bad metric type	VishnuException	VishnuException	0

2.2 I4-B: Get data on the infrastructure

API command: *getMetricCurrentValue*

ID test	Description of the test cases	Output expected	Output gotten	Error
I4-B	Normal execution of <i>getMetricCurrentValue</i>	The list of current value of metric is returned	The list of current value of metric is returned	0

2.3 IA2.1-B: Get a system load threshold

API command: *getSystemThreshold*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA2.1-B	Normal execution of <i>getSystemThreshold</i>	The threshold of the metric FREEDISKSPACE is returned	The threshold of the metric FREEDISKSPACE is returned	0
IA2.1-E1	Bad machine Identifier	VishnuException	VishnuException	0
IA2.1-E2	Bad metric value	VishnuException	VishnuException	0
IA2.1-E3	<i>getSystemThreshold</i> is launched by a user who is not an administrator	VishnuException	VishnuException	0

2.4 IA2-B[1-3]: Define a system load threshold (CPUUSE, FREE_DISK_SPACE and FREE_MEMORY)

API command: *setSystemThreshold*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA2-B[1-3]	Normal execution of setSystemThreshold	The threshold for the corresponding metric is set	The threshold for the corresponding metric is set	0
IA2-E1	Bad machine Identifier	VishnuException	VishnuException	0
IA2-E2	Bad metric value	VishnuException	VishnuException	0
IA2-E3	getSystemThreshold is launched by a user who is not an administrator	VishnuException	VishnuException	0

2.5 I1-B: Get the update frequency

API command: *getUpdateFrequency*

ID test	Description of the test cases	Output expected	Output gotten	Error
I1-B	Normal execution of getUpdateFrequency	The update frequency value is returned	The update frequency value is returned	0

2.6 IA6-B: Set the update frequency

API command: *setUpdateFrequency*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA6-B	Normal execution of setUpdateFrequency	The update frequency value is set	The update frequency value is set	0
IA6-E1	The frequency is zero	VishnuException	VishnuException	0
IA6-E2	The frequency is negative	VishnuException	VishnuException	0
IA2-E3	setUpdateFrequency is launched by a user who is not an administrator	VishnuException	VishnuException	0

2.7 IA3-B: Define User/Machine/Job/FileTransfer/Authentication identifier

API command: *define[User|Machine|Job|Transfer|Auth]Identifier*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA3-B	Normal execution of de- fine[User Machine Job Transfer Auth]Identifier	The corresponding identifier is set	The corresponding identifier is set	0
IA3-E1	Bad format identifier	VishnuException	VishnuException	0
IA3-E2	define[User Machine Job Transfer Auth]Identifier is launched by a user who is not an administrator	VishnuException	VishnuException	0

Remarks IA3-B : In this version of tests, only define[User|Machine|Job|Transfer|Auth]Identifier is tested.

2.8 I5-B: Get system info

API command: *getSystemInfo*

ID test	Description of the test cases	Output expected	Output gotten	Error
I5-B	Normal execution of <i>getSystemInfo</i>	The system information (disk space and memory) is returned	The system information (disk space and memory) is returned	0
I5-E1	Bad machine Identifier	VishnuException	VishnuException	0

2.9 IA5-B: Set system info

API command: *setSystemInfo*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA5-B	Normal execution of <i>setSystemInfo</i>	The memory and the disk space of the corresponding machine is set	The memory and the disk space of the corresponding machine is set	0
IA5-E1	Bad machine Identifier	VishnuException	VishnuException	0
IA5-E2	Bad metric value (negative memory and disk space)	VishnuException	VishnuException	0
IA5-E3	<i>setSystemInfo</i> is launched by a user who is not an administrator	VishnuException	VishnuException	0

2.10 IA1-B: Get the running processes

API command: *getProcesses*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA5-B	Normal execution of <i>getProcesses</i>	The list of running processes is returned	The list of running processes is returned	0
IA5-E1	Bad machine Identifier	VishnuException	VishnuException	0
IA5-E2	<i>getProcesses</i> is launched by a user who is not an administrator	VishnuException	VishnuException	0

2.11 IA4.1-B: Load scheduling

API command: *loadShed*

ID test	Description of the test cases	Output expected	Output gotten	Error
IA5-B Soft Load scheduling	Normal execution of <i>loadShed</i> with LoadShedType SOFT	The jobs launched on the corresponding batch scheduler are stopped	The jobs launched on the corresponding batch scheduler are stopped	0
IA5-B Hard Load scheduling	Normal execution of <i>loadShed</i> with LoadShedType HARD	All VISHNU elements are stopped	All VISHNU elements are stopped	0

Remarks IA5-B Hard Load scheduling : It has been tested manually with a remote machine.

2.12 IA9-B: Restart

API command: restart

ID test	Description of the test cases	Output expected	Output gotten	Error
IA9-B	Normal execution of restart	The sed UMS is restarted	The sed UMS is restarted	0

Remarks IA9-B Restart: It works locally but there is a problem when we restart processes on a remote machine.

2.13 IA9-B: Stop

API command: stop

ID test	Description of the test cases	Output expected	Output gotten	Error
IA9-B	Normal execution of stop	The sed UMS on the remote machine is stopped	The sed UMS on the remote machine is stopped	0
IA9-E1	Bad machine Identifier	VishnuException	VishnuException	0
IA9-E2	The remote process to stop is unknown	VishnuException	VishnuException	0
IA9-E3	stop is launched by a user who is not an administrator	VishnuException	VishnuException	0

Remarks IA9-B Stop : It has been tested manually with a remote machine.

2.14 I3-B: Export and replay commands

API command: exportCommands

ID test	Description of the test cases	Output expected	Output gotten	Error
I3-B	Normal execution of exportCommands	The commands launched within an old session is exported	The commands launched within an old session is exported	0
I3-E1	Bad old session Identifier	VishnuException	VishnuException	0
I3-E2	Bad file path	VishnuException	VishnuException	0

Chapter 3

Stress tests

ID test	Date	Test description	Command(s) tested	Results
STR-SERV-DOWN	06/06/11	The ims sed is stopped and restarted	setUpdateFrequency	Success - normal update frequency setting
STR-AGENT-DOWN	06/06/11	The SysFera-DS Agent is stopped and restarted		failure
STR-DB-DOWN	06/06/11	The VISHNU database is stopped and restarted	getUpdateFrequency	Success - the corresponding error message is returned

Chapter 4

Load tests

ID test	Date	Test description	Command(s) tested	Results
LOAD-2.1- getMetricCurrentValue	06/06/11	Simultaneous launch of 100 commands	getMetricCurrentValue	Success - normal execution of all commands launched
LOAD-2.1- getMetricHistory	06/06/11	Success - Simultaneous launch of 100 commands	getMetricHistory	Success - normal execution of all commands launched

Chapter 5

Performance tests

ID test	Test description	Command(s) tested	VISHNU execution time	SSH execution time	Results
CDP-3.1-getMetricCurrentValue	comparison with " ssh host ps -efl "	getMetricCurrentValue	0,156s	0,280s	Success
CDP-3.1-getMetricHistory	comparison with " ssh host ps -efl "	getMetricHistory	0,116s	0,280s	Success

ID test	Test description	Command(s) tested	Consumption	Results
CDP-3.2.1-getMetricCurrentValue	memory consumption less than 500 Mb	getMetricCurrentValue	1,3% of the RAM	Success
CDP-3.2.1-getMetricHistory	memory consumption less than 500 Mb	getMetricHistory	1,6% of the RAM	Sucess
CDP-3.2.2-getMetricCurrentValue	CPU consumption less than 10%	getMetricCurrentValue	0,7% of the CPU	Sucess
CDP-3.2.2-getMetricHistory	CPU consumption less than 10%	getMetricHistory	0,7% of the CPU	Sucess
CDP-Memserver	Memory consumption of ims server running during 24 hours	ims server	1,1% of the RAM	Sucess