D1.1d - VISHNU Command-line interface specifications

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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME
0	05/01/2011	Formatting example	SysFera
1	13/01/2011	First release	SysFera
2	10/02/2011	Removed UMS::SessionStateType. Added UMS::StatusType, UMS::PrivilegeType. Modified UMS::addVishnuUser, UMS::updateUser, UMS::addLocalAccount, UMS::addMachine, UMS::updateMachine, UMS::listSessions, UMS::restoreConfiguration.	SysFera
3	18/02/2011	Renamed all commands to follow C-style command names with vishnu prefix. Added the help option to all commands. Modified update_machine and export_commands. Removed the VISHNU_SESSION_KEY environment variable on all commands.	SysFera

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME
4	15/04/2011	Updates for TMS: Modified description of machineId parameter, vishnu_submit_job service. Modified name of get_all_jobs_output to get_completed_jobs_output. Added input parameter outDir to get_job_output and get_completed_jobs_output. Added vishnu_get_machine_refresh_period service. Removed set_machine_env service. Removed jobPriority option in submit_job. Updates for IMS: Add option in exportCommand, getMetricCurrentValue, getProcesses, getMetricHistory, restart and getSystemThreshold. Add services stop and getSystemInfo.	SysFera
5	21/04/2011	Updates for TMS: Removed vishnu_get_machine_refresh_period and vishnu_set_machine_refresh_period services. Added UNDEFINED status of JobStatus Enum. Added UNDEFINED priority of JobPriority Enum. Removed of outputPah and errorPath of ListJobsOptions. Removed scriptContent in Job class. Added ERRCODE_ALREADY_TERMINATED, ERRCODE_ALREADY_CANCELED, ERRCODE_JOB_IS_NOT_TERMINATED in exception list. Modified values of JobPriority Enum. Modified values of QueuePriority and QueueStatus. Added UNDEFINED priority of QueuePriority. Added option queueName in vishnu_list_queues.	SysFera
6	24/05/2011	Updates of UMS: Added new error code for addLocalAccount and updateLocalAccount.	SysFera

Contents

Chapter 1

Document presentation

1.1 Document objectives

This document presents the detailed specifications of the VISHNU command line user interface.

These specifications include the definition of all commands including administration commands.

1.2 Document structure

The document is divided into 4 parts corresponding to the 4 modules that compose the Vishnu system:

- UMS: Users Management Service

- TMS: Tasks Management Service

- FMS: Files Management Service

- IMS: Information Management Service

Each module corresponds to a chapter in the document, and each chapter contains the following sections:

- A first section describing the definition of all commands provided by the package.

- A second section describing the definition of all enumerated values used as command parameters.

1.3 References

- D1.1a : VISHNU General specifications

1.4 Glossary

- VISHNU admin: any user having the administrator privilege

1.5   Generic command definition format

This section presents the generic format used in the following chapters to describe the commands. It also details the environment variables required and the user options.

A commands is defined as follows:

Access

Here is detailed the access level of the command line (i.e. the privilege required to use this command)

Description

Here is detailed the purpose of the command line.

Example of use

Here is detailed an example of the use of the command line which starts by optional arguments preceded by a short letter and the required arguments at the end.

myCommand **-l** acLogin **-s** sshKeyPath userId

Parameters

The following table contains all the input arguments of the command with their type and description, their short letter for options and a required flag.

Parameter	Type	Option	Description	Required
userId	string		This is an example of a required argument	YES
acLogin	string	l	This is an example of an optional argument	NO
sshKeyPath	string	s	This is an example of an optional argument	NO

The following table contains the list of environment variables information. These environment variables can be mandatory or optional and the value will be overriden by the corresponding command-line option if applicable. When the user option flag is true, the value for this variable can be defined persistently as a user option stored in the database (see the "vishnu_configure_option" command.

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_CONFIG_FILE	N/A	string	This is an example of an environment variable	YES	NO

Note:

For each command line the -h option can be used for help.

1.6   Environment variables and options

Here is detailed the way to use the user options which are stored in the database and environment variables in VISHNU.

Example 1.1 Pseudo code

```
if (the option is provided in the command line) {
    optionValue = option

} else {
    if (an environment variable exists) {
        optionValue = EnVariable_Value

    } else {

        if (a value has been defined in the user configuration) {
            optionValue = user_Option
        }
        else {
            //The default value of the option defined by VISHNU admin is used
            optionValue = defaultValueOption
        }
    }
}
```

Chapter 2

Commands specification for User Management Service (UMS)

2.1 Command definitions

2.1.1 vishnu_connect

Access

This command line can be used by any VISHNU user

Description

The vishnu_connect command opens a session

Example of use

```
vishnu_connect [-h] [-p closePolicy] [-d sessionInactivityDelay] [-s substituteUserId] userId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier	YES
password	string		password represents the password of the user, it is an interactive parameter	YES
closePolicy	SessionCloseType	p	is an option for closing session automatically	NO
sessionInactivityDelay	int	d	is the maximum delay in seconds between two user requests when the CLOSE_ON_TIMEOUT policy is set	NO
substituteUserId	string	s	is an admin option which allows an admin to open a session as if she was another user identified by her userId	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_CLOSE_POLICY	closePolicy	SessionCloseType	is an option for closing session automatically	NO	YES

2.1.2 vishnu_reconnect

Access

This command line can be used by any VISHNU user

Description

The vishnu_reconnect command reconnects to a session that is still active

Example of use

```
vishnu_reconnect [-h] userId sessionId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier	YES
password	string		password represents the password of the user, it is an interactive parameter	YES
sessionId	string		sessionId is the identifier of the session defined in the database	YES

Environment variables

This command defines no environment variables.

2.1.3 vishnu_add_user

Access

This command line can be used by ADMIN users only

Description

The vishnu_add_user command adds a new VISHNU user

Example of use

```
vishnu_add_user [-h] firstname lastname privilege email
```

Parameters

Parameter	Type	Option	Description	Required
firstname	string		is the firstname of the user	YES
lastname	string		is the lastname of the user	YES
privilege	PrivilegeType		is the privilege of the user (admin or simple user)	YES
email	string		is the email of the user	YES

Environment variables

This command defines no environment variables.

2.1.4 vishnu_update_user

Access

This command line can be used by ADMIN users only

Description

The vishnu_update_user command updates the user information except the userId and the password

Example of use

```
vishnu_update_user [-h][-f firstname][-l lastname][-p privilege][-m email][-s status] userId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		represents the VISHNU user identifier	YES
firstname	string	f	represents the updated firstname of the user	NO
lastname	string	l	represents the updated lastname of the user	NO
privilege	PrivilegeType	p	represents the updated privilege of the user	NO
email	string	m	represents the updated email adress of the user	NO
status	StatusType	s	represents the status of the user (LOCKED or ACTIVE)	NO

Environment variables

This command defines no environment variables.

2.1.5 vishnu_delete_user

Access

This command line can be used by ADMIN users only

Description

The vishnu_delete_user command removes a user from VISHNU

Example of use

```
vishnu_delete_user [-h] userId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier of the user who will be deleted from VISHNU	YES

Environment variables

This command defines no environment variables.

2.1.6 vishnu_close

Access

This command line can be used by any VISHNU user

Description

The vishnu_close command closes the session

Example of use

```
vishnu_close [-h]
```

Parameters

This command defines no arguments.

Environment variables

This command defines no environment variables.

2.1.7 vishnu_change_password

Access

This command line can be used by any VISHNU user

Description

The vishnu_change_password command changes the password

Example of use

```
vishnu_change_password [-h] userId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier	YES
password	string		password represents the password of the user, it is an interactive parameter	YES
passwordNew	string		passwordNew represents the new password of the user, it is an interactive parameter	YES

Environment variables

This command defines no environment variables.

2.1.8 vishnu_reset_password

Access

This command line can be used by ADMIN users only

Description

The vishnu_reset_password command resets the password of a user

Example of use

```
vishnu_reset_password [-h] userId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier of the user whose password will be reset	YES

Environment variables

This command defines no environment variables.

2.1.9 vishnu_add_local_account

Access

This command line can be used by any VISHNU user

Description

The vishnu_add_local_account command adds a new local user configuration

Example of use

```
vishnu_add_local_account [-h] userId machineId acLogin sshKeyPath homeDirectory
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		The userId represents the VISHNU user identifier of the user of the local user configuration	YES
machineId	string		The MachineId represents the identifier of the machine associated to the local user configuration	YES
acLogin	string		accLogin represents the login of the user on the associated machine	YES
sshKeyPath	string		sshKeyPath is the path of the ssh key of the user on the associated machine	YES
homeDirectory	string		HomeDirectory is the path of the home directory of the user on the associated machine	YES

Environment variables

This command defines no environment variables.

2.1.10 vishnu_update_local_account

Access

This command line can be used by any VISHNU user

Description

The vishnu_update_local_account command updates a local user configuration

Example of use

```
vishnu_update_local_account [-h][-l acLogin][-s sshKeyPath][-d homeDirectory] userId machineId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		The userId represents the VISHNU user identifier of the user of the local user configuration	YES
machineId	string		The MachineId represents the identifier of the machine associated to the local user configuration	YES
acLogin	string	l	accLogin represents the login of the user on the associated machine	NO
sshKeyPath	string	s	sshKeyPath is the path of the ssh key of the user on the associated machine	NO
homeDirectory	string	d	HomeDirectory is the path of the home directory of the user on the associated machine	NO

Environment variables

This command defines no environment variables.

2.1.11 vishnu_delete_local_account

Access

This command line can be used by any VISHNU user

Description

The vishnu_delete_local_account command removes a local user configuration (for a given user on a given machine) from VISHNU

Example of use

```
vishnu_delete_local_account [-h] userId machineId
```

Parameters

Parameter	Type	Option	Description	Required
userId	string		userId represents the VISHNU user identifier of the user whose local configuration will be deleted for the given machine	YES
machineId	string		machineId represents the identifier of the machine whose local configuration will be deleted for the given user	YES

Environment variables

This command defines no environment variables.

2.1.12 vishnu_save_configuration

Access

This command line can be used by ADMIN users only

Description

The vishnu_save_configuration command saves the configuration of VISHNU

Example of use

```
vishnu_save_configuration [-h]
```

Parameters

This command defines no arguments.

Environment variables

This command defines no environment variables.

2.1.13 vishnu_restore_configuration

Access

This command line can be used by ADMIN users only

Description

The vishnu_restore_configuration command restores the configuration of VISHNU

Example of use

```
vishnu_restore_configuration [-h] filePath
```

Parameters

Parameter	Type	Option	Description	Required
filePath	string		The filePath is the path of the file used to restore VISHNU configuration	YES

Environment variables

This command defines no environment variables.

2.1.14 **vishnu_add_machine**

Access

This command line can be used by ADMIN users only

Description

The vishnu_add_machine command adds a new machine in VISHNU

Example of use

```
vishnu_add_machine [-h] name site language sshPublicKeyFile machineDescription
```

Parameters

Parameter	Type	Option	Description	Required
name	string		represents the name of the machine	YES
site	string		represents the location of the machine	YES
language	string		represents the language used for the description of the machine	YES
sshPublicKeyFile	string		contains the path to the SSH public key used by VISHNU to access local user accounts	YES
machineDescription	string		represents the description of the machine	YES

Environment variables

This command defines no environment variables.

2.1.15 **vishnu_update_machine**

Access

This command line can be used by ADMIN users only

Description

The vishnu_update_machine command updates machine description

Example of use

```
vishnu_update_machine [-h][-n name][-s site][-d machineDescription][-l language][-t status][--
k sshPublicKeyFile] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		represents the identifier of the machine	YES
name	string	n	represents the name of the machine	NO
site	string	s	represents the location of the machine	NO
machineDescription	string	d	represents the description of the machine	NO
language	string	l	represents the language used for the description of the machine	NO
status	StatusType	t	represents the status of the machine	NO
sshPublicKeyFile	string	k	contains the path to the SSH public key used by VISHNU to access local user accounts	NO

Environment variables

This command defines no environment variables.

2.1.16 vishnu_delete_machine

Access

This command line can be used by ADMIN users only

Description

The vishnu_delete_machine command removes a machine from VISHNU

Example of use

```
vishnu_delete_machine [-h] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		machineId represents the identifier of the machine	YES

Environment variables

This command defines no environment variables.

2.1.17 vishnu_list_local_account

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_local_account command lists the local user configurations

Example of use

```
vishnu_list_local_account [-h] [-a] [-u userId] [-i machineId]
```

Parameters

Parameter	Type	Option	Description	Required
adminListOption	boolean	a	is an admin option for listing all local configurations of all users	NO
userId	string	u	is an admin option for listing the local configurations of a specific user	NO
machineId	string	i	is an option for listing local user configurations on a specific machine	NO

Environment variables

This command defines no environment variables.

2.1.18 vishnu_list_machine

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_machine command lists the machines that are accessible through VISHNU

Example of use

```
vishnu_list_machine[-h][-u userId][-a][-m machineId]
```

Parameters

Parameter	Type	Option	Description	Required
userId	string	u	is an admin option for listing machines in which a specific user has a local configuration	NO
listAllmachine	boolean	a	is an option for listing all VISHNU machines	NO
machineId	string	m	is an option for listing information about a specific machine	NO

Environment variables

This command defines no environment variables.

2.1.19 vishnu_list_history_cmd

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_history_cmd command lists the commands

Example of use

```
vishnu_list_history_cmd[-h][-a][-u userId][-i sessionId][-s startDateOption][-e endDateOpti-
on]
```

Parameters

Parameter	Type	Option	Description	Required
adminListOption	boolean	a	is an admin option for listing all commands of all users	NO
userId	string	u	is an admin option for listing commands launched by a specific user identified by his/her userId	NO
sessionId	string	i	lists all commands launched within a specific session	NO
startDateOption	long	s	allows the user to organize the commands listed by providing the start date (the UNIX timestamp of the start date is used)	NO
endDateOption	long	e	allows the user to organize the commands listed by providing the end date (the timestamp of the end date is used). By default, the end date is the current day	NO

Environment variables

This command defines no environment variables.

2.1.20 vishnu_list_options

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_options command lists the options of the user

Example of use

```
vishnu_list_options [-h][-a][-u userId][-n optionName]
```

Parameters

Parameter	Type	Option	Description	Required
listAllDeftValue	boolean	a	is an option for listing all default option values defined by VISHNU administrator	NO
userId	string	u	is an admin option for listing the options of a specific user	NO
optionName	string	n	allows the user to get the value of a specific option identified by its name	NO

Environment variables

This command defines no environment variables.

2.1.21 vishnu_list_users

Access

This command line can be used by ADMIN users only

Description

The vishnu_list_users command lists VISHNU users

Example of use

```
vishnu_list_users [-h][-i userIdOption]
```

Parameters

Parameter	Type	Option	Description	Required
userIdOption	string	i	allows an admin to get information about a specific user identified by his/her userId	NO

Environment variables

This command defines no environment variables.

2.1.22 vishnu_list_sessions

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_sessions command lists all sessions of the user

Example of use

```
vishnu_list_sessions [-h][-t status][-p sessionClosePolicy][-d sessionInactivityDelay][-m ma-
chineId][-a][-u userId][-i sessionId][-s startDateOption][-e endDateOption]
```

Parameters

Parameter	Type	Option	Description	Required
status	StatusType	t	specifies the status of the sessions which will be listed	NO

Parameter	Type	Option	Description	Required
sessionClosePolicy	SessionCloseType	p	specifies the closure mode of the sessions which will be listed (CLOSE_ON_TIMEOUT or CLOSE_ON_DISCONNECT)	NO
sessionInactivityDelay	int	d	specifies the inactivity delay in seconds of the sessions which will be listed	NO
machineId	string	m	allows the user to list sessions opened on a specific machine	NO
adminListOption	boolean	a	is an admin option for listing all sessions of all users	NO
userId	string	u	is an admin option for listing sessions opened by a specific user	NO
sessionId	string	i	allows the user to list all commands launched within a specific session	NO
startDateOption	long	s	allows the user to organize the commands listed by providing the start date (the UNIX timestamp of the start date is used)	NO
endDateOption	long	e	allows the user to organize the commands listed by providing the end date (the timestamp of the end date is used). By default, the end date is the current day	NO

Environment variables

This command defines no environment variables.

2.1.23 vishnu_configure_default_option

Access

This command line can be used by ADMIN users only

Description

The vishnu_configure_default_option command configures a default option value

Example of use

```
vishnu_configure_default_option [-h] optionName value
```

Parameters

Parameter	Type	Option	Description	Required
optionName	string		represents the name of an option	YES
value	string		represents the value of an option	YES

Environment variables

This command defines no environment variables.

2.1.24 vishnu_configure_option

Access

This command line can be used by any VISHNU user

Description

The vishnu_configure_option command configures an option of the user

Example of use

`vishnu_configure_option` `[-h]` *optionName value*

Parameters

Parameter	Type	Option	Description	Required
optionName	string		represents the name of an option	YES
value	string		represents the value of an option	YES

Environment variables

This command defines no environment variables.

2.2   Parameters definitions

Enumeration UMS::CommandStatusType Type

Name	Value
FAILURE	0
SUCCESS	1

Enumeration UMS::PrivilegeType Type

Name	Value
USER	0
ADMIN	1

Enumeration UMS::SessionCloseType Type

Name	Value
UNDEFINED	0
CLOSE_ON_TIMEOUT	1
CLOSE_ON_DISCONNECT	2

Enumeration UMS::StatusType Type

Name	Value
INACTIVE	0
ACTIVE	1

Chapter 3

Commands specification for Tasks Management Service (TMS)

3.1 Command definitions

3.1.1 vishnu_submit_job

Access

This command line can be used by any VISHNU user

Description

The vishnu_submit_job command submits a job on a machine through the use of a script (scriptFilePath)

Example of use

```
vishnu_submit_job[-h][-n name][-q queue][-t wallTime][-m memory][-P nbCpu][-N nbNodesAndCpu-
PerNode][-o outputPath][-e errorPath] machineId scriptFilePath
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine on which the job must be submitted	YES
scriptFilePath	string		The path to the file containing the characteristics (job command, and batch scheduler directive required or optional) of the job to submit.	YES
name	string	n	Assigns a job name. The default is the path of job	NO
queue	string	q	Assigns the queue or class of the job	NO
wallTime	int	t	The maximum wall-clock time during which the job can run	NO
memory	int	m	Is the memory size that the job requires	NO
nbCpu	int	P	The number of cpu that the job requires	NO
nbNodesAndCpuPerNode	string	N	The number of nodes and processors per node	NO
outputPath	string	o	Assigns the path and file for job output	NO
errorPath	string	e	Assigns the path and file for job error	NO

Environment variables

This command defines no environment variables.

3.1.2 **vishnu_get_job_info**

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_job_info command gets information on a job from its id

Example of use

```
vishnu_get_job_info [-h] machineId jobId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine on which the job is running	YES
jobId	string		The id of the job	YES

Environment variables

This command defines no environment variables.

3.1.3 **vishnu_get_job_progress**

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_job_progress command gets the progression status of jobs

Example of use

```
vishnu_get_job_progress [-h] [-i jobId] [-u jobOwner] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine to get the jobs progression	YES
jobId	string	i	Specifies the id of the job whose progression the user wants to see.	NO
jobOwner	string	u	Specifies the owner of the job.	NO

Environment variables

This command defines no environment variables.

3.1.4 **vishnu_list_queues**

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_queues command gets queues information

Example of use

```
vishnu_list_queues [-h] [-q queueName] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine that the user wants to list queues	YES
queueName	string	q	if it is given, listQueues gives information only of this queue	NO

Environment variables

This command defines no environment variables.

3.1.5 vishnu_list_jobs

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_jobs command gets a list of all submitted jobs

Example of use

```
vishnu_list_jobs [-h] [-i jobId] [-P nbCpu] [-d fromSubmitDate] [-D toSubmitDate] [-u owner] [-s s-
tatus] [-p priority] [-q queue] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine on which the jobs are running	YES
jobId	string	i	lists the job with the specified id	NO
nbCpu	int	P	lists the jobs with the specified number of CPUs	NO
fromSubmitDate	long	d	lists the jobs submitted after the specified date (UNIX timestamp)	NO
toSubmitDate	long	D	lists jobs submitted before the specified date (UNIX timestamp)	NO
owner	string	u	lists the jobs submitted by the specified owner	NO
status	JobStatus	s	lists the jobs with the specified status	NO
priority	JobPriority	p	lists the jobs with the specified priority	NO
queue	string	q	the jobs with the specified queue name	NO

Environment variables

This command defines no environment variables.

3.1.6 vishnu_get_job_output

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_job_output command gets standard output and error output files of a job given its id

Example of use

```
vishnu_get_job_output [-h][-o outDir] machineId jobId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		gets outputPath and errorPath of a job from its id	YES
jobId	string		The Id of the job	YES
outDir	string	o	The output directory where the files will be stored (default is current directory)	NO

Environment variables

This command defines no environment variables.

3.1.7 vishnu_get_completed_jobs_output

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_completed_jobs_output command gets standard output and error output files of completed jobs (applies only once for each job)

Example of use

```
vishnu_get_completed_jobs_output [-h][-o outDir] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine on which the jobs are been submitted	YES
outDir	string	o	Specifies the output directory where the files will be stored (by default, the current directory).	NO

Environment variables

This command defines no environment variables.

3.1.8 vishnu_cancel_job

Access

This command line can be used by any VISHNU user

Description

The vishnu_cancel_job command cancels a job from its id

Example of use

```
vishnu_cancel_job [-h] machineId jobId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine on which the job is running	YES
jobId	string		The Id of the job	YES

Environment variables

This command defines no environment variables.

3.2   Parameters definitions

Enumeration TMS::JobPriority Type

Name	Value
UNDEFINED	-1
VERY_LOW	1
LOW	2
NORMAL	3
HIGH	4
VERY_HIGH	5

Enumeration TMS::JobStatus Type

Name	Value
UNDEFINED	-1
SUBMITTED	1
QUEUED	2
WAITING	3
RUNNING	4
TERMINATED	5
CANCELLED	6
ALREADY_DOWNLOADED	7

Enumeration TMS::QueuePriority Type

Name	Value
UNDEFINED	-1
VERY_LOW	1
LOW	2
NORMAL	3
HIGH	4
VERY_HIGH	5

Enumeration TMS::QueueStatus Type

Name	Value
NOT_STARTED	0
STARTED	1
RUNNING	2

Chapter 4

Commands specification for Information Management Service (IMS)

4.1 Command definitions

4.1.1 vishnu_export_commands

Access

This command line can be used by any VISHNU user

Description

The vishnu_export_commands command exports all the commands made by a user during a session

Example of use

```
vishnu_export_commands [-h] [-t exportType] oldSessionId
```

Parameters

Parameter	Type	Option	Description	Required
oldSessionId	string		The id of the session to export (session has ended)	YES
exportType	ExportType	t	The type to export	NO

Environment variables

This command defines no environment variables.

4.1.2 vishnu_get_metric_current_value

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_metric_current_value command retrieve the current value of a metric on a machine

Example of use

```
vishnu_get_metric_current_value [-h] [-t metricType] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
metricType	MetricType	t	The type of the metric	NO

Environment variables

This command defines no environment variables.

4.1.3 vishnu_get_metric_history

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_metric_history command retrieve the history of values of a metric on a machine

Example of use

```
vishnu_get_metric_history [-h] [-s startTime] [-e endTime] [-t type] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
startTime	long	s	The start time to get the history	NO
endTime	long	e	The end time to get the history	NO
type	MetricType	t	The type of metric searched	NO

Environment variables

This command defines no environment variables.

4.1.4 vishnu_get_processes

Access

This command line can be used by ADMIN users only

Description

The vishnu_get_processes command gets the list of the processes running over a front machine

Example of use

```
vishnu_get_processes [-h] [-p machineId]
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string	p	The id of the machine	NO

Environment variables

This command defines no environment variables.

4.1.5 vishnu_set_system_info

Access

This command line can be used by ADMIN users only

Description

The vishnu_set_system_info command updates the system information of a machine

Example of use

`vishnu_set_system_info [-h] [-m memory] [-d diskSpace] []`

Parameters

Parameter	Type	Option	Description	Required
memory	long	m	Amount of RAM memory available on the machine (in Bytes)	NO
diskSpace	long	d	Amount of disk space available on the machine (in Bytes)	NO
machineId	string		The id of the machine	NO

Environment variables

This command defines no environment variables.

4.1.6 vishnu_set_system_threshold

Access

This command line can be used by ADMIN users only

Description

The vishnu_set_system_threshold command sets a threshold on a machine of a system

Example of use

`vishnu_set_system_threshold [-h] [] [] [] []`

Parameters

Parameter	Type	Option	Description	Required
value	long		The value of the threshold	NO
machineId	string		The machine ID the threshold is available	NO
type	MetricType		The type of the threshold	NO
handler	string		The userId of the admin responsible for handling the threshold problems	NO

Environment variables

This command defines no environment variables.

4.1.7 vishnu_get_system_threshold

Access

This command line can be used by ADMIN users only

Description

The vishnu_get_system_threshold command gets a System threshold on a machine

Example of use

`vishnu_get_system_threshold [-h] [-m machineId] [-t metricType]`

Parameters

Parameter	Type	Option	Description	Required
machineId	string	m	The id of the machine where the metric is defined	NO
metricType	MetricType	t	The type of the metric	NO

Environment variables

This command defines no environment variables.

4.1.8 vishnu_define_user_identifier

Access

This command line can be used by ADMIN users only

Description

The vishnu_define_user_identifier command defines the shape of the identifiers automatically generated for the users

Example of use

```
vishnu_define_user_identifier [-h] format
```

Parameters

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

Environment variables

This command defines no environment variables.

4.1.9 vishnu_define_machine_identifier

Access

This command line can be used by ADMIN users only

Description

The vishnu_define_machine_identifier command defines the shape of the identifiers automatically generated for the machines

Example of use

```
vishnu_define_machine_identifier [-h] format
```

Parameters

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

Environment variables

This command defines no environment variables.

4.1.10 vishnu_define_job_identifier

Access

This command line can be used by ADMIN users only

Description

The vishnu_define_job_identifier command defines the shape of the identifiers automatically generated for the jobs

Example of use

`vishnu_define_job_identifier` [-h] *format*

Parameters

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

Environment variables

This command defines no environment variables.

4.1.11 vishnu_define_transfer_identifier

Access

This command line can be used by ADMIN users only

Description

The vishnu_define_transfer_identifier command defines the shape of the identifiers automatically generated for the file transfers

Example of use

`vishnu_define_transfer_identifier` [-h] *format*

Parameters

Parameter	Type	Option	Description	Required
format	string		The new format to use	YES

Environment variables

This command defines no environment variables.

4.1.12 vishnu_load_shed

Access

This command line can be used by ADMIN users only

Description

The vishnu_load_shed command load sheds a machine

Example of use

`vishnu_load_shed` [-h] *machineId loadShedType*

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine to stop	YES
loadShedType	LoadShedType		Selects a load shedding mode (SOFT: stops all services and they can be restarted, HARD: stops all services, they cannot be restarted)	YES

Environment variables

This command defines no environment variables.

4.1.13 **vishnu_set_update_frequency**

Access

This command line can be used by ADMIN users only

Description

The vishnu_set_update_frequency command sets the update frequency of the IMS tables

Example of use

```
vishnu_set_update_frequency [-h] freq
```

Parameters

Parameter	Type	Option	Description	Required
freq	int		Frequency the data are updated, in second	YES

Environment variables

This command defines no environment variables.

4.1.14 **vishnu_get_update_frequency**

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_update_frequency command gets the update frequency of the IMS database

Example of use

```
vishnu_get_update_frequency [-h]
```

Parameters

This command defines no arguments.

Environment variables

This command defines no environment variables.

4.1.15 **vishnu_stop**

Access

This command line can be used by ADMIN users only

Description

The vishnu_stop command to stop (and do not try to relaunch) a SeD

Example of use

```
vishnu_stop [-h] [] [] [-d dietId] [-s state] [-t timestamp] [-l script]
```

Parameters

Parameter	Type	Option	Description	Required
processName	string		The name of the process (the name of the executable)	NO
machineId	string		The id of the machine	NO
dietId	string	d	The diet id of the process	NO

Parameter	Type	Option	Description	Required
state	ProcessState	s	THe state of the process	NO
timestamp	long	t	The timestamp corresponding to the moment the process has been updated	NO
script	string	l	The content of the script used to launch the sed	NO

Environment variables

This command defines no environment variables.

4.1.16 vishnu_get_system_info

Access

This command line can be used by any VISHNU user

Description

The vishnu_get_system_info command to get the system info on a machine

Example of use

```
vishnu_get_system_info[-h][-m machineId]
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string	m	The machine id	NO

Environment variables

This command defines no environment variables.

4.1.17 vishnu_restart

Access

This command line can be used by any VISHNU user

Description

The vishnu_restart command to restart a SeD or a MA

Example of use

```
vishnu_restart[-h][-v vishnuConf][-t sedType]machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine where to restart	YES
vishnuConf	string	v	The path to the vishnu configuration file	NO
sedType	SeDType	t	The type of the vishnu sed	NO

Environment variables

This command defines no environment variables.

4.2   Parameters definitions

Enumeration IMS::ExportType Type

Name	Value
UNDEFINED	0
SHELL	1

Enumeration IMS::LoadShedType Type

Name	Value
UNDEFINED	0
HARD	1
SOFT	2

Enumeration IMS::MetricType Type

Name	Value
UNDEFINED	0
CPUUSE	1
DISKSPACE	2
FREEDISKSPACE	3
MEMORY	4
FREEMEMORY	5
CPUNBR	6
ALL	-1

Enumeration IMS::ProcessState Type

Name	Value
UNDEFINED	0
RUNNING	1
DOWN	2
DELETED	3

Enumeration IMS::SeDType Type

Name	Value
UNDEFINED	0
UMS	1
TMS	2
FMS	3
IMS	4

Chapter 5

Commands specification for File Management Service (FMS)

5.1 Command definitions

5.1.1 vishnu_create_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_create_file command creates files on remote machines.

Example of use

```
vishnu_create_file[-h][-m mode] path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The file to create following the pattern [host:]file path.	YES
mode	mode_t	m	The file access permissions in octal numeral system.	NO

Environment variables

This command defines no environment variables.

5.1.2 vishnu_create_dir

Access

This command line can be used by any VISHNU user

Description

The vishnu_create_dir command creates directories on remote machines.

Example of use

```
vishnu_create_dir[-h][-m mode] path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The directory to create following the pattern [host:]directory path.	YES
mode	mode_t	m	the new directories permission access in octal numeral system.	NO

Environment variables

This command defines no environment variables.

5.1.3 vishnu_remove_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_remove_file command removes files from remote hosts.

Example of use

```
vishnu_remove_file [-h] path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The file to remove following the pattern [host:]file path	YES

Environment variables

This command defines no environment variables.

5.1.4 vishnu_remove_dir

Access

This command line can be used by any VISHNU user

Description

The vishnu_remove_dir command removes directories (and subdirectories) from remote machines.

Example of use

```
vishnu_remove_dir [-h] path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The directory to remove following the pattern [host:]directory path	YES

Environment variables

This command defines no environment variables.

5.1.5 vishnu_ch_grp

Access

This command line can be used by any VISHNU user

Description

The vishnu_ch_grp command changes group owner of remote files/directories.

Example of use

`vishnu_ch_grp [-h] path group`

Parameters

Parameter	Type	Option	Description	Required
path	string		The file/directory following the pattern [host:]file path	YES
group	string		the new group owner of file/directory	YES

Environment variables

This command defines no environment variables.

5.1.6 vishnu_ch_mod

Access

This command line can be used by any VISHNU user

Description

The vishnu_ch_mod command changes access rights of remote files/directories.

Example of use

`vishnu_ch_mod [-h] path mode`

Parameters

Parameter	Type	Option	Description	Required
path	string		The file/directory following the pattern [host:]file path	YES
mode	mode_t		the access rigths of file/directory in octal system.	YES

Environment variables

This command defines no environment variables.

5.1.7 vishnu_head_of_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_head_of_file command displays a few first lines of files located on remote machines.

Example of use

`vishnu_head_of_file [-h] [-n nLine] path`

Parameters

Parameter	Type	Option	Description	Required
path	string		The file following the pattern [host:]file path	YES
nLine	int	n	Number of lines to display	NO

Environment variables

This command defines no environment variables.

5.1.8 vishnu_tail_of_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_tail_of_file command displays a few last lines of files located on remote machines

Example of use

```
vishnu_tail_of_file [-h][-n nLine] path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The file following the pattern [host:]file path	YES
nLine	int	n	number of lines to display	NO

Environment variables

This command defines no environment variables.

5.1.9 vishnu_content_of_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_content_of_file command displays content of files located on remote machines

Example of use

```
vishnu_content_of_file [-h] path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The file to display following the pattern [host:]file path	YES

Environment variables

This command defines no environment variables.

5.1.10 vishnu_list_dir

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_dir command displays the content of a remote directory.

Example of use

```
vishnu_list_dir[-h][-l][-a]path
```

Parameters

Parameter	Type	Option	Description	Required
path	string		The directory to list following the pattern [host:]directory path	YES
longFormat	boolean	l	It specifies the long display format (all available file informations)	NO
allFiles	boolean	a	Allows to display all files including hidden files	NO

Environment variables

This command defines no environment variables.

5.1.11 vishnu_copy_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_copy_file command executes a synchronous copy of file.

Example of use

```
vishnu_copy_file[-h][-r][-c trCommand]src dest
```

Parameters

Parameter	Type	Option	Description	Required
src	string		The source file to copy following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
isRecursive	boolean	r	It specifies when the copy is recursive (case of directory) or not.	NO
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.12 vishnu_copy_async_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_copy_async_file command executes an asynchronous copy of file.

Example of use

```
vishnu_copy_async_file[-h][-r][-c trCommand]src dest
```

Parameters

Parameter	Type	Option	Description	Required
src	string		The source file to copy following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
isRecursive	boolean	r	It specifies when the copy is recursive (case of directory) or not.	NO
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.13 vishnu_move_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_move_file command executes a synchronous move of file.

Example of use

```
vishnu_move_file [-h] [-c trCommand] src dest
```

Parameters

Parameter	Type	Option	Description	Required
src	string		The source file to move following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.14 vishnu_move_async_file

Access

This command line can be used by any VISHNU user

Description

The vishnu_move_async_file command executes an asynchronous move of file.

Example of use

```
vishnu_move_async_file [-h] [-c trCommand] src dest
```

Parameters

Parameter	Type	Option	Description	Required
src	string		The source file to move following the pattern [host:]file path	YES
dest	string		The path of the destination file	YES
trCommand	TransferCommand	c	the command to use to perform file transfer.	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.15 vishnu_stop_file_transfer

Access

This command line can be used by any VISHNU user

Description

The vishnu_stop_file_transfer command stops an execution of a set of file transfers.

Example of use

```
vishnu_stop_file_transfer [-h] [-i transferId] [-m fromMachineId] [-u userId]
```

Parameters

Parameter	Type	Option	Description	Required
transferId	string	i	a given transfer id	NO
fromMachineId	string	m	the machine that is the source of the file transfer	NO
userId	string	u	allows an admin to stop file transfers of a specific user	NO

Environment variables

This command defines no environment variables.

5.1.16 vishnu_list_file_transfers

Access

This command line can be used by any VISHNU user

Description

The vishnu_list_file_transfers command displays the history of all file transfers submitted by User.

Example of use

```
vishnu_list_file_transfers [-h] [-t transferId] [-m fromMachineId] [-u userId] [-s status]
```

Parameters

Parameter	Type	Option	Description	Required
transferId	string	t	a given transfer id	NO
fromMachineId	string	m	the machine that is the source of the file transfer	NO
userId	string	u	allows the admin to list file transfers initiated by a specific user	NO
status	Status	s	the file transfer status	NO

Environment variables

This command defines no environment variables.

5.2 Parameters definitions

Enumeration FMS::FileType Type

Name	Value
BLOCK	0
CHARACTER	1
DIRECTORY	2
SYMBOLICLINK	3
SCKT	4
FIFO	5
REGULAR	6

Enumeration FMS::Status Type

Name	Value
UNDEFINED	-1
INPROGRESS	0
COMPLETED	1
CANCELLED	2
FAILED	3

Enumeration FMS::TransferCommand Type

Name	Value
UNDEFINED	-1
SCP	0
RSYNC	1