D1.1d - VISHNU Command-line interface specifications

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	TITLE : D1.1d - VISHNU Command-line interface specifications		
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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

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, a required flag and a user option flag. When the user option flag is true, the environment variable can be defined as a user option stored in the database.

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	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 UMS connect

Access

This command line can be used by any VISHNU user

Description

The connect command line opens a session

Example of use

```
connect [-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	The sessionInactivityDelay is the maximum delay in seconds between two API commands when the CLOSE_ON_TIMEOUT option is set	NO
substituteUserId	string	s	is an option which allows an admin to open a session as if he/she was a specific user identified by his/her userId	NO

Environment variables

This command defines no environment variables.

2.1.2 UMS reconnect

Access

This command line can be used by any VISHNU user

Description

The reconnect command line returns the sessionKey of a session in which the user was disconnected previously without closing it

Example of use

```
reconnect 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 UMS addVishnuUser

Access

This command line can be used by ADMIN users only

Description

The addVishnuUser command line adds a new VISHNU user

Example of use

```
addVishnuUser privilege firstname lastname 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.4 UMS updateUser

Access

This command line can be used by ADMIN users only

Description

The updateUser command line updates the user information except the userId and the password

Example of use

```
updateUser [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.5 UMS deleteUser

Access

This command line can be used by ADMIN users only

Description

The deleteUser command line removes a user from VISHNU

Example of use

```
deleteUser 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.6 UMS close

Access

This command line can be used by any VISHNU user

Description

The close command line closes the session identfied by the session key

Example of use

```
close
```

Parameters

This command defines no arguments.

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.7 UMS changePassword

Access

This command line can be used by any VISHNU user

Description

The changePassword command line changes the password

Example of use

```
changePassword 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 UMS resetPassword

Access

This command line can be used by ADMIN users only

Description

The resetPassword command line resets the password of a user

Example of use

```
resetPassword 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.9   UMS addLocalAccount

Access

This command line can be used by any VISHNU user

Description

The addLocalAccount command line adds a new local user configuration

Example of use

addLocalAccount *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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.10   UMS updateLocalAccount

Access

This command line can be used by any VISHNU user

Description

The updateLocalAccount command line updates a local user configuration

Example of use

```
updateLocalAccount [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.11 UMS deleteLocalAccount

Access

This command line can be used by any VISHNU user

Description

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

Example of use

```
deleteLocalAccount 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.12 UMS saveConfiguration

Access

This command line can be used by ADMIN users only

Description

The saveConfiguration command line saves the configuration of VISHNU

Example of use

```
saveConfiguration
```

Parameters

This command defines no arguments.

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.13 UMS restoreConfiguration

Access

This command line can be used by ADMIN users only

Description

The restoreConfiguration command line restores the configuration of VISHNU

Example of use

```
restoreConfiguration 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.14 UMS addMachine

Access

This command line can be used by ADMIN users only

Description

The addMachine command line adds a new machine in VISHNU

Example of use

```
addMachine  name site language
```

Parameters

Parameter	Type	Option	Description	Required
name	string		represents the name of the machine	YES
site	string		represents the location of the machine	YES
machineDescription	string		represents the description of the machine, it is an interactive parameter	YES
language	string		represents the language in which the description of the machine has been done	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.15 UMS updateMachine

Access

This command line can be used by ADMIN users only

Description

The updateMachine command line updates machine description

Example of use

```
updateMachine [-n name] [-s site] [-d] [-l language] [-t status] 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, it is an interactive parameter	NO
language	string	l	represents the language in which the description of the machine has been done	NO
status	StatusType	t	represents the status of the machine	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.16 UMS deleteMachine

Access

This command line can be used by ADMIN users only

Description

The deleteMachine command line removes a machine from VISHNU

Example of use

```
deleteMachine machineId
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.17 UMS listLocalAccount

Access

This command line can be used by any VISHNU user

Description

The listLocalAccount command line lists the local user configurations

Example of use

```
listLocalAccount [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.18   UMS listMachine

Access

This command line can be used by any VISHNU user

Description

The listMachine command line lists the machines in which the local user configurations are defined for the given user

Example of use

listMachine [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.19   UMS listHistoryCmd

Access

This command line can be used by any VISHNU user

Description

The listHistoryCmd command line lists the commands

Example of use

listHistoryCmd [-a][-u *userId*][-i *sessionId*][-s *startDateOption*][-e *endDateOption*]

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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.20   UMS listOptions

Access

This command line can be used by any VISHNU user

Description

The listOptions command line lists the options of the user

Example of use

```
listOptions [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

2.1.21   UMS listUsers

Access

This command line can be used by ADMIN users only

Description

The listUsers command line lists VISHNU users

Example of use

```
listUsers [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

2.1.22   UMS listSessions

Access

This command line can be used by any VISHNU user

Description

The listSessions command line lists all sessions of the user

Example of use

```
listSessions  [-t status ] [-p sessionClosePolicy ] [-d sessionInactivityDelay ] [-m machineId ] [-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
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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.23   UMS configureDefaultOption

Access

This command line can be used by ADMIN users only

Description

The configureDefaultOption command line configures a default option value

Example of use

configureDefaultOption *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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.1.24   UMS configureOption

Access

This command line can be used by any VISHNU user

Description

The configureOption command line configures an option of the user

Example of use

configureOption *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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the encrypted identifier of the session generated by VISHNU	YES	NO

2.2 Parameters definitions

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 TMS submitJob

Access

This command line can be used by any VISHNU user

Description

The submitJob command line submits job on a machine through the use of a script (scriptFilePath). The script is a shell script which will be executed by a command shell such as sh or csh

Example of use

```
submitJob [-n name ][-p priority ][-q queue ][-t wallTime ][-m memory ][-P nbCpu ][-N nbNodesAndC-
puPerNode ][-o outPutPath ][-e errorPath ] machineId scriptFilePath
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Is the id of the machine where 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
priority	JobPriority	p	Assigns priority of the 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.2 TMS getJobInfo

Access

This command line can be used by any VISHNU user

Description

The getJobInfo command line gets information on a job from its id

Example of use

```
getJobInfo machineId jobId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string		The id of the job	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.3 TMS getJobProgress

Access

This command line can be used by any VISHNU user

Description

The getJobProgress command line gets the progression status of jobs

Example of use

```
getJobProgress [-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	Represents the id of the job that the user wants to see the progression of.	NO
jobOwner	string	u	Represents the owner of the job.	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.4 TMS listQueues

Access

This command line can be used by any VISHNU user

Description

The listQueues command line gets queues information

Example of use

```
listQueues machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.5 TMS listJobs

Access

This command line can be used by any VISHNU user

Description

The listJobs command line gets a list of all submitted jobs

Example of use

```
listJobs [-i jobId ][-P nbCpu ][-d fromSubmitDate ][-D toSubmitDate ][-u owner ][-s status ][-p pr-
iority ][-o outPutPath ][-e errorPath ][-q queue ] machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string	i	To list job which has this id.	NO
nbCpu	int	P	To list jobs which have this number of cpu.	NO
fromSubmitDate	long	d	List jobs submitted after this date (unix timestamp).	NO
toSubmitDate	long	D	List jobs submitted before this date (unix timestamp)	NO
owner	string	u	To list all jobs submitted by this owner.	NO
status	JobStatus	s	To list jobs which have this status.	NO

Parameter	Type	Option	Description	Required
priority	JobPriority	p	To list jobs which have this priority	NO
outPutPath	string	o	Gets the path and file for each job output.	NO
errorPath	string	e	Gets the path and file for each job error.	NO
queue	string	q	To list jobs which have this queue name.	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.6 TMS getJobOutPut

Access

This command line can be used by any VISHNU user

Description

The getJobOutPut command line gets outputPath and errorPath of a job from its id

Example of use

```
getJobOutPut machineId jobId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string		The Id of the job	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.7 TMS getAllJobsOutPut

Access

This command line can be used by any VISHNU user

Description

The getAllJobsOutPut command line dynamically gets outputPath and errorPath of completed jobs

Example of use

```
getAllJobsOutPut machineId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.8 TMS cancelJob

Access

This command line can be used by any VISHNU user

Description

The cancelJob command line cancels a job from its id

Example of use

```
cancelJob machineId jobId
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Machine hash key	YES
jobId	string		The Id of the job	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.9 TMS setMachineEnv

Access

This command line can be used by ADMIN users only

Description

The setMachineEnv command line sets environment variables on a remote machine

Example of use

```
setMachineEnv machineId listEnv
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		Represents the machine id	YES
listEnv	string		Represents the list environement variables	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.1.10 TMS setMachineRefreshPeriod

Access

This command line can be used by ADMIN users only

Description

The setMachineRefreshPeriod command line sets the refresh period of output and error files contents

Example of use

```
setMachineRefreshPeriod machineId value
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
value	int		Is the refresh interval value (in seconds)	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The sessionKey is the identifier of the session generated by VISHNU	YES	NO

3.2 Parameters definitions

Enumeration TMS::JobPriority Type

Name	Value
VERY_LOW	100
LOW	200
NORMAL	300
HIGH	400
VERY_HIGH	500

Enumeration TMS::JobStatus Type

Name	Value
RUNNING	0
WAITING	1
COMPLETED	2
CANCELED	3
HELD	4
QUEUED	5
FAILED	6
NOT_SUBMITTED	7

Enumeration TMS::QueuePriority Type

Name	Value
VERY_LOW	0
LOW	1
NORMAL	2
HIGH	3
VERY_HIGH	4

Enumeration TMS::QueueStatus Type

Name	Value
STARTED	0
RUNNING	1
NOT_STARTED	2
NOT_AVAILABLE	3

Chapter 4

Commands specification for Information Management Service (IMS)

4.1 Command definitions

4.1.1 IMS exportCommands

Access

This command line can be used by any VISHNU user

Description

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

Example of use

```
exportCommands oldSessionKey
```

Parameters

Parameter	Type	Option	Description	Required
oldSessionKey	string		The key of the session to export (session has ended)	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command (current session key)	YES	NO

4.1.2 IMS getMetricCurrentValue

Access

This command line can be used by any VISHNU user

Description

The getMetricCurrentValue command line retrieve the current value of a metric on a machine

Example of use

`getMetricCurrentValue` *machineId metricType*

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
metricType	MetricType		Type of metric	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.3 IMS getMetricHistory

Access

This command line can be used by any VISHNU user

Description

The getMetricHistory command line retrieve the history of values of a metric on a machine

Example of use

`getMetricHistory` *machineId startTime endTime metricType*

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
startTime	long		Start time of metric history	YES
endTime	long		End time of metric history	YES
metricType	MetricType		Type of metric	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.4 IMS getProcesses

Access

This command line can be used by ADMIN users only

Description

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

Example of use

`getProcesses` *machineId*

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine the user wants the running processes	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.5 IMS setSystemInfo

Access

This command line can be used by ADMIN users only

Description

The setSystemInfo command line updates the system information of a machine

Example of use

`setSystemInfo` [-m *memory*] [-d *diskSpace*]

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.6 IMS setSystemThreshold

Access

This command line can be used by ADMIN users only

Description

The setSystemThreshold command line sets a threshold on a machine of a system

Example of use

`setSystemThreshold` *machineId thresholdType value*

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
thresholdType	MetricType		The type of the metric to set	YES
value	double		The threshold value	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.7 IMS getSystemThreshold

Access

This command line can be used by ADMIN users only

Description

The getSystemThreshold command line gets a System threshold on a machine

Example of use

```
getSystemThreshold machineId type
```

Parameters

Parameter	Type	Option	Description	Required
machineId	string		The id of the machine	YES
type	MetricType		The threshold type desired	YES

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.8 IMS defineUserIdentifier

Access

This command line can be used by ADMIN users only

Description

The defineUserIdentifier command line defines the shape of the identifiers automatically generated for the users

Example of use

```
defineUserIdentifier format
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.9   IMS defineMachineIdentifier

Access

This command line can be used by ADMIN users only

Description

The defineMachineIdentifier command line defines the shape of the identifiers automatically generated for the machines

Example of use

```
defineMachineIdentifier format
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.10   IMS defineJobIdentifier

Access

This command line can be used by ADMIN users only

Description

The defineJobIdentifier command line defines the shape of the identifiers automatically generated for the jobs

Example of use

```
defineJobIdentifier format
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.11 IMS defineTransferIdentifier

Access

This command line can be used by ADMIN users only

Description

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

Example of use

```
defineTransferIdentifier format
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.12 IMS loadShed

Access

This command line can be used by ADMIN users only

Description

The loadShed command line load sheds a machine

Example of use

```
loadShed 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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.13   IMS setUpdateFrequency

Access

This command line can be used by ADMIN users only

Description

The setUpdateFrequency command line sets the update frequency of the IMS tables

Example of use

```
setUpdateFrequency freq
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.14   IMS getUpdateFrequency

Access

This command line can be used by any VISHNU user

Description

The getUpdateFrequency command line gets the update frequency of the IMS database

Example of use

```
getUpdateFrequency
```

Parameters

This command defines no arguments.

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.1.15 IMS restart

Access

This command line can be used by ADMIN users only

Description

The restart command line restarts the whole VISHNU infrastructure. Actions are saved and restarted from the beginning once the infrastructure has been restarted

Example of use

```
restart [-n componentName ][-m machineId ][-f file] type
```

Parameters

Parameter	Type	Option	Description	Required
type	RestartType		The type of restart	YES
componentName	string	n	If not restarting all, the name of the component to restart	NO
machineId	string	m	The id of the machine where the component is to be relaunched	NO
file	string	f	The config file to use to restart	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The key of the session of the user that submits the command	YES	NO

4.2 Parameters definitions

Enumeration IMS::LoadShedType Type

Name	Value
SOFT	0
HARD	1

Enumeration IMS::MetricType Type

Name	Value
CPUNBR	0
CPUUSE	1
DISKSPACE	2
FREEDISKSPACE	3
MEMORY	4
FREEMEMORY	5

Enumeration IMS::RestartType Type

Name	Value
ALL	0
SED	1

Name	Value
AGENT	2
DAEMON	3

Chapter 5

Commands specification for File Management Service (FMS)

5.1 Command definitions

5.1.1 FMS createFile

Access

This command line can be used by any VISHNU user

Description

The createFile command line creates files on remote machines.

Example of use

```
createFile [-m mode] path
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.2 FMS createDir

Access

This command line can be used by any VISHNU user

Description

The createDir command line creates directories on remote machines.

Example of use

```
createDir [-m mode] path
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.3 FMS removeFile

Access

This command line can be used by any VISHNU user

Description

The removeFile command line removes files from remote hosts.

Example of use

```
removeFile path
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.4 FMS removeDir

Access

This command line can be used by any VISHNU user

Description

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

Example of use

```
removeDir path
```

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.5 FMS chGrp

Access

This command line can be used by any VISHNU user

Description

The chGrp command line changes group owner of remote files/directories.

Example of use

chGrp *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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.6 FMS chMod

Access

This command line can be used by any VISHNU user

Description

The chMod command line changes access rights of remote files/directories.

Example of use

chMod *path mode*

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.7 FMS headOfFile

Access

This command line can be used by any VISHNU user

Description

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

Example of use

```
headOfFile [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.8 FMS tailOfFile

Access

This command line can be used by any VISHNU user

Description

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

Example of use

```
tailOfFile [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.9 FMS contentOfFile

Access

This command line can be used by any VISHNU user

Description

The contentOfFile command line displays content of files located on remote machines

Example of use

`contentOfFile` *path*

Parameters

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

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.10 FMS listDir

Access

This command line can be used by any VISHNU user

Description

The listDir command line displays the content of a remote directory.

Example of use

`listDir` [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.11 FMS copyFile

Access

This command line can be used by any VISHNU user

Description

The copyFile command line executes a synchronous copy of file.

Example of use

```
copyFile [-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_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.12   FMS copyAsyncFile

Access

This command line can be used by any VISHNU user

Description

The copyAsyncFile command line executes an asynchronous copy of file.

Example of use

```
copyAsyncFile [-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_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.13   FMS moveFile

Access

This command line can be used by any VISHNU user

Description

The moveFile command line executes a synchronous move of file.

Example of use

```
moveFile [-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_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.14 FMS moveAsyncFile

Access

This command line can be used by any VISHNU user

Description

The moveAsyncFile command line executes an asynchronous move of file.

Example of use

```
moveAsyncFile [-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_SESSION_KEY	sessionKey	string	The session key	YES	NO
VISHNU_TRANSFER_CMD	trCommand	TransferCommand	the command to use to perform file transfer.	NO	YES

5.1.15 FMS stopFileTransfer

Access

This command line can be used by any VISHNU user

Description

The stopFileTransfer command line stops an execution of a set of file transfers.

Example of use

```
stopFileTransfer [-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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.16 FMS listFileTransferStatus

Access

This command line can be used by any VISHNU user

Description

The listFileTransferStatus command line displays the status of all file transfers submitted by User.

Example of use

```
listFileTransferStatus [-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 the admin to list file transfers initiated by a specific user	NO

Environment variables

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

5.1.17 FMS listFileTransfers

Access

This command line can be used by any VISHNU user

Description

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

Example of use

```
listFileTransfers [-m fromMachineId ][-u userId ][-s status ]
```

Parameters

Parameter	Type	Option	Description	Required
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

Name	Parameter	Type	Description	Required	User option
VISHNU_SESSION_KEY	sessionKey	string	The session key	YES	NO

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
INPROGRESS	0
COMPLETED	1
CANCELLED	2
FAILED	3

Enumeration FMS::TransferCommand Type

Name	Value
SCP	0
RSYNC	1