VISHNU Quick Start Guide

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Contents

1 Document presentation **1**

1.1 Document objectives 1

1.2 Document structure 1

2 User account configuration **2**

2.1 User account creation 2

2.2 Local user configuration 2

Chapter 1

Document presentation

1.1 Document objectives

This document is a quick start guide of VISHNU software for users. The main objective of this document is to describe the user account configuration procedure.

1.2 Document structure

- Chapter 1 presents the document structure.
- Chapter 2 describes the user account configuration in VISHNU.

Chapter 2

User account configuration

The VISHNU software is a part of SysFera-DS which is an open-source middleware developped by SysFera. VISHNU is primarly designed to facilitate the access to high-performance computing resources by providing the following services:

- User management services (UMS): authentication and session management.
- Information management services (IMS): monitoring and control services.
- Tasks management services (TMS): submission of tasks (jobs) on computing resources.
- File management services (FMS): display and transfer of files between storage resources.

The user account configuration is provided by the User Management Services.

2.1 User account creation

The first step to access VISHNU is to request a new account to a VISHNU administrator. The only information required to create a new account is your full name and email address. You will automatically receive an email containing your userId and password. When a new user account is added on VISHNU, it is possible for the user to define the mapping of her/his UNIX account by using the VISHNU local user configuration notion.

2.2 Local user configuration

To access a UNIX account on a specific machine defined on VISHNU, the user must create a local user configuration by using the **vishnu_add_local_account** command. The **vishnu_list_machines** command gives information about the machines in which a local user configuration can be created or where a local user configuration has already been created. The information required to create a new local user configuration are: the userId, the machineId, the login of the UNIX account on the specified machine, the absolute path to the user's private SSH key (used for file transfers) and the home directory path.

The ssh public key of the machine named *"userId-machineId"* is returned and stored in the $HOME/.vishnu/localAccountPublicKey/ directory and must be added by the user in the ssh authorized key directory of the UNIX account. Doing this allows VISHNU to be directly connected on this UNIX account, running tasks as if it was the owner of the UNIX account. With the command **vishnu_set_ssh_key**, the user can automatically configure the authorized_keys file of a remote account by using the ssh public key previously returned. This command uses the real hostname of the remote machine and not the VISHNU machine identifier. It also allows to remove a given public key from a remote authorized_keys file and it is possible to enable rollback in case of an inappropriate removal. Indeed, the command makes a backup of the authorized_keys file in a file named *"authorized_keys.bak"* before update it.

- To add a local account to the user user_1 on the machine_1 with the login toto and the private key ~/.ssh/id_dsa :

  vishnu_add_local_account user_1 machine_1 toto ~/.ssh/id_dsa /home/toto (after the success of the execution of this command, the public key associated to the machine whose VISHNU identifier is machine_1 is returned in the following path $HOME/.vishnu/localAccountPublicKey/user_1-machine_1).

- To add the public key located at $HOME/.vishnu/localAccountPublicKey/user_1-machine_1 to the authorized_keys of the user toto on the VISHNU machine identified by machine_1 whose real name is test.intranet.lan :

  vishnu_set_ssh_key -a $HOME/.vishnu/localAccountPublicKey/user_1-machine_1 toto@test.intranet.lan

- To remove the public key located at $HOME/.vishnu/localAccountPublicKey/userId-machineId to the authorized_keys of the user toto on the VISHNU machine identified by machine_1 whose real name is test.intranet.lan :

  vishnu_set_ssh_key -r $HOME/.vishnu/localAccountPublicKey/user_1-machine_1 toto@test.intranet.lan

  Warning: A unix login can be used for only one local account on a specific machine