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<http://www.i4p.com>
<http://www.UnifiedSessionsManager.org>

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Part I

Common Basics

- Seamless access to all types of sessions by the definition of an Extended Address Schema
- Support of encryption by SSH and authentication/authorisation based on one or more of the common approaches by SSH, Kerberos and SUDO.

5.4.3 Execution-Locations

The following options are related to control of clients execution, execution-location, and interconnection.

- L "CONNECTIONFORWARDING"** Executing a local client and forwarding its port from local access to the remote by SSH(`ssh -f -L`).
- L "DISPLAYFORWARDING"** Executing client and server on remote machine and just forwarding the display to local XServer by SSH(`ssh -f -X`).
- L "DisplayRedirection"** This case is similar to Display Forwarding, but redirects the display to another XServer running locally. Remote redirections are withdrawn. The primary intention is to concentrate consoles of multiple sessions started independently within the same PM on specified virtual desktops like VNC.

REMARK: This feature is currently under developement and might not yet be available.
- L "SERVERONLY"** Starts the server only, no client is started. A client could be attached later by `'-a connect=...'` option. This could be performed either by Display Forwarding or by Connection Forwarding.
- L "LOCALONLY"** Starts the server and the client on local callers machine. So no remote connections and thus no SSH is applied.

to implement the required features.

- `ctys-dnsutil`
- `ctys-extractARPlst`
- `ctys-extractMAClst`
- `ctys-genmconf`
- `ctys-macmap`
- `ctys-smbutil`
- `ctys-vdbgen`
- `ctys-vping`

Part II

Software Design

The whole application load including the access facilities such as the user desktop application is located on the server site. Local resources are required for basic screen display only. This mode suits particularly for thin clients.

CONNECTIONFORWARDING

The application server is located on the server, whereas the client services are based on the local machine. This includes the access such as a desktop application as well as specific client processing services of the application. This mode suits particularly for applications with increased autonomous client side processing with less communications requirements to server based services. In case of distributed clients with local data caches this might be the best approach.

10.4 Security Model

The main aspect for the UnifiedSessionsManager as a sessions management application is the protection of the inter node communications. Therefore the approach is similar to the basic idea of Kerberos, where for local security on the communications peers some additional measurements of the platform facilities are required.

By default a basic user based access and view model for local access is implemented, which relies on the access permissions of the local user account.

The communications supported are based on encryption only, in current version on OpenSSH. Therefore the authentication and authorisation could be varied by the means of Single-Sign-On provided by TLS/GSSAPI.

11.4.6 bash-Plugins and bash-Libraries

The main differences between libraries and plugins are the static load behaviour and fixed hardcoded load of libraries only. Therefore no init procedure despite the automatic processing of calls is performed. This is equivalent to the init-level 0 of plugins.

Another difference is the more conventional reason than technically, that libraries are designed as generic components to be used in any project. Whereas plugins are specifically designed in order to support a unique project primarily.

Plugins are loaded static and/or dynamically. They could be just default initialized when required.

Part III

User Interface


```
    <attr-name index=#field-idx>attr-val</attr-name>
    .....
</record>
```

.

<group-options> to each member of the group. The same is true for the special group **VMSTACK** that the global and context options are in case of groups just set for the last - topmost - stack element Figure??.

```

<group-member0>'(<glob-opts>)(<group-opts>)'
=> group expansion results to:
' [<vm0>] [vm1] [vm2] (<glob-opts>)(<group-opts>)'
=> host + stack expansion result to:
level-0: <vm0>
level-1: <vm0>' [<vm1>]'
level-2: <vm0>' [<vm1>]' ' [<vm2>]' ' ('<glob-opts>)' ('<group-opts>)'

```

Figure 15.9: Groups member option expansion

When entries within the stack require specific context-options, these has to be set explicitly within the group definition, or the stack has to be operated step-by-step. This behaviour is planned to be expanded within one of the next versions.

<ctys-command> -H html=CLI,X11,VNC,VMW

Displays the **manpage** for ctys-CLI, ctys-X11, ctys-VNC and ctys-VNM with

CTYS_HTMLVIEWER, by default **firefox** or **konqueror**. For incomplete names a search with **find** is utilized for name expansion.

<ctys-command> -H html=ctys-extractARPlst,extractMAClst

Displays the **manpage** for ctys-extractARPlst and ctys-extractARPlst with CTYS_HTMLVIEWER, by default **firefox** or **konqueror**. For incomplete names a search with **find** is utilized for name expansion.

Part IV

Appendices

wmctrl:wmctrl 1.07

CURRENT ARG-MEM-USAGE:

ArgList(bytes):"env|wc -c" => 3284

ArgList(bytes):"set|wc -c" => 810677

- [149] Minor editorial updates of 2008.08.12, by Arno-Can Uestuensoez: "*UnifiedSessionsManager*" <http://sourceforge.net/projects/ctys>
- [150] Enhanced documentation, 2008.08.16, by Arno-Can Uestuensoez: "*UnifiedSessionsManager*" <http://sourceforge.net/projects/ctys>
- [151] Major enhancements and feature updates, beginning 2010/02, by Arno-Can Uestuensoez: "*UnifiedSessionsManager*" <http://sourceforge.net/projects/ctys>

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