ctys-plugins(1)
for verification of current install status

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ctys-plugins - verifies current install status of ctys

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ctys-plugins

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<list-of-target-acounts>
```

3   DESCRIPTION

ctys-plugins is a test-tool for verification and analysis of the current status of the installation of ctys and present plugins.
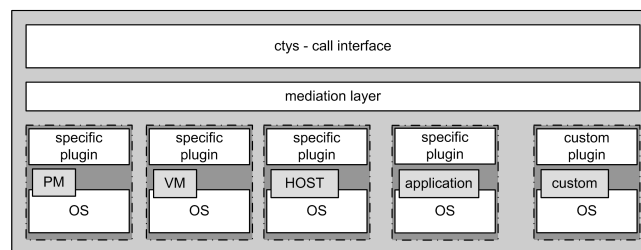

Figure 1: ctys SW-Layers and plugins

Due to some restrictions it operates partly on a basic level, involving some specific pre-defined trace levels for output control. The required options are documented in the following sections. Extended trace-levels neccessarily require some deeper familiarity with internal design, which is normally not required for top-level handling.

The utility could be performed locall or remotel by full support of ctys-addressing but without context options on the command line. If for whatever reasons remote context options are reuqired, than could be applied to macro definitions only. For now the following main tasks are performed by ctys-plugin:

- Display of operational states and capabilities of plugins

- Distinguish the check-scope of verified features by "-E" for client-site call-RELAY and server-site final-EXECUTION

- Display of called system tools with the actual resolved path-prefix

- Display of the actual access permissions as configured by one of:

```
/etc/sudoers
$HOME/.k5users
$HOME/.k5login
```

- display of any level of system initialization traces during call bootstrap, refer to common ctys-standard "-d" option

The output is splitted into **3 sections**:

- The **first section** is the **bootstrap of the tool itself**, this includes the basic intialization of the framework, where only framework specific options are evaluated. Typical for this is the "-d" option, which is prefetched by the library itself.

- The **second section** contains the trace output during **initialisation of the plugins**. The content dependes on the choosen debug level. Error messages are displayed in any case.

```
Checking PLUGINS-STATEs now...
-----------------------------
<trace-output>
-----------------------------
...results to:
```

- The **third section** contains the **processed results** of the evaluated raw component states. Therefore an basic overview of the hosting system is given, followed by a sum-up of the variuos sets of plugings related to the different operational states. The final list contains the operational details for each inidividual plugin.

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4 OPTIONS

-d <common-debug-option>

This option is the common analysis and debugging facility of the UnifiedSessionsManager. Due to the wide scope it is maybe somewhat "like a developer interface".

Anyhow, the **most important application** is for installation and first time systems configuration by **analysis of the called system utilities**. The difficulties with the bunch of utilized systems calls frequently leads to some trouble, which becomes immediately obvious, once the output of the following call is displayed:

"ctys-plugins -d 64,P -T all -E"

This call checks all system calls for the **current node as a final execution location**. The availability as well as (some) access permissions are evaluated. When things don't work, this call is the first instance to "ask". The "-d" option activates a bit-pattern style debug-level by "P" suboption. Than the bit "64" is set, which is the predefined variable "D_SYS", tracing the internal call-wrapper, almost exclusively used for system calls. When not appropriate, the workaround is implemented in a seamless style. The "-T" option sets simply "all" plugings to be loaded and initialized. The "-E" option executes a final destination call, instead of an initial or intermediary RELAY-call.

The following call performs almost the same, but as **the current node as a client or RELAY**.

"ctys-plugins -d 64,P -T all"

-E

Check for **local host as final execution target**, this forces full verification. If "-E" is not set, only required functionality for a client role is validated, which could be for some packages almost the same and though treated as.

- This is e.g. the case for PM.

- This is e.g. not the case for XEN, which obviously requires a completly different runtime environment for it's clients than within the server as Dom0/DomU

- This e.g. could be or not the case for VMW, depends on type of product + version + requested type of client.

-h
  Print help, refer to "-H" for additional information.

-H <help-option>
  The extended help option is based on system interfaces for display of manpages, PDF and HTML documents. This comprises the man pages and installed manuals.

  For additional help refer to the documents or type **ctys -H help**.

-l <remote-user>
  The remote user.

–quick-list
  Displays a short list of overall states for selected plugins on each target.

```
ctys-plugins -E -T all --quick-list localhost
```

```
Hostname Plugin Accelerator Version       MAGIC-ID    State
-----------------------------------------------------------------
acue@ws2 CLI                 01.06.001a09  CLIBASH     ENABLED
acue@ws2 RDP                 01.11.007alpha RDPRD      ENABLED
acue@ws2 VNC                 01.10.013     VNCR4       ENABLED
acue@ws2 X11                 01.06.001a09  X11         ENABLED
acue@ws2 QEMU    QEMU        01.10.013     QEMU_091    DISABLED
acue@ws2 VBOX                01.11.006alpha NOLOC      DISABLED
acue@ws2 VMW                 01.11.005     VMW_GENERIC DISABLED
acue@ws2 XEN                 01.10.013     DISABLED    DISABLED
acue@ws2 PM      VMX         01.10.008     PM_Linux    ENABLED
```

–quick-tab
  Displays a short table of overall states for selected plugins.

  The following call contains the 'ctys-groups' call for stripping off context arguments, which in some cases are valid, thus could not be dropped in general. When this is not done, some might be detected as valid and lead to execution. In future releases a new scanner and parser are foreseen to be provided, which will clear this specific.

```
ctys-plugins -T all -E --quick-tab $(ctys-groups -X -m 8 netscan/all)
```

  For limitation of error messages and some ssh info the error channel should be redirected.

```
ctys-plugins -T all -E --quick-tab $(ctys-groups -X -m 8 netscan/all)\
  2>/dev/null
```

  This results to the following list, where the output order may vary call-by-call due to parallel execution.

```
Hostname            | PM  | CLI X11 VNC RDP | KVM   QEMU   VBOX VMW  XEN
--------------------+-----+-----------------+------------------------------
root@lab05.soho     | PAE | x   x   x   x   | -     -      -    S2   -
root@lab02.soho     | VMX | x   x   x   x   | -     QEMU   V    -    -
root@hydra.soho     | VMX | x   x   x   x   | -     -      -    -    -
root@delphi.soho    | VMX | x   x   x   x   | -     -      -    S1   -
root@olymp.soho     | VMX | x   x   x   x   | -     -      -    -    -
root@app1.soho      | VMX | x   x   x   x   | -     -      -    -    -
root@app2.soho      | VMX | x   x   x   x   | -     -      -    -    -
root@lab04          | VMX | x   x   x   x   | -     -      -    W7   -
acue@lab04          | VMX | x   x   x   x   | -     QEMU   -    W7   -
vadmin@delphi.soho  | VMX | x   x   x   x   | -     -      -    S1   -
acue@lab05.soho     | PAE | x   x   x   x   | -     -      -    S2   -
acue@lab02.soho     | VMX | x   x   x   x   | -     QEMU   V    -    -
acue@delphi.soho    | VMX | x   x   x   x   | -     -      -    S1   -
root@lab03          | PAE | x   x   x   x   | -     -      -    -    HVM
root@lab01.soho     | PAE | x   x   x   -   | -     -      -    -    PAR
5000@lab01.soho     | PAE | x   x   x   -   | -     -      -    -    -
acue@lab03          | PAE | x   x   x   x   | -     -      -    -    -
acue@app1.soho      | VMX | x   x   x   x   | KVM   KVM    -    -    -
acue@app2.soho      | VMX | x   x   x   x   | KVM   KVM    -    -    -
```

Where the fields have the semantics as given by following list, the values are foreseen to be expanded for more details:

1. PM: Type of CPU support
   - VMX: Intel VT-X
   - SVN: AMD SVN
   - PAE: Extended Mem by PAE
2. HOSTS: CLI, X11, VNC, RDP
   - x: ENABLED
   - else: DISABLED
3. VMs: KVM, QEMU, VBOX, VMW, XEN
   - Common:
     - V: ENABLED
     - -: DISABLED
   - KVM: Fully ENABLED, else check
     - Module
     - VDE-Switch
   - QEMU: ENABLED without KVM-Support, else check
     - Module
     - VDE-Switch
   - VMW
     - P[123]: Player
     - S[12]: Server
     - W[67]: Workstation
     - C2: Client only with standalone remote console VMRC.
   - XEN
     - HVM: Fully ENABLED, else check
       * Kernel
       * Access: sudo, ksu
     - PARA: ENABLED with para-virtualisation only, else check
       * Kernel

∗ Access: sudo, ksu
The output display shows e.g. that:
- On app1+app2: The user acue has access to KVM and QEMU, but not root. This is due to missing VDE-switch for root, which has to be setup by 'ctys-setupVDE'
- On lab03: The user acue has no access to XEN, but root has. This is due to access permission by sudo for user acue.

-t <plugin-type>

The type of plugin to be set to BUSY(4), this is any SINGLE plugin as applicable by "ctys -t ..." call.

-T <plugin-preload-typelist>

The prefetch list of plugins to be set to IDLE(2), before performing, this is any comma seperated LIST of plugins as applicable by "ctys -T ..." call.

-V

Version.

-X

Terse output format, effects "-V" when set left-of.

-Z <set-sudo-ksu>

Sets appropriate **access permissions by sudoers and/or kerberos/ksu**. For additonal information refer to Z-OPTION.

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5   ARGUMENTS

An optional list of <execution-target>. When the "-P" option is choosen, the remote files will be updated, when suffitient permissions are available, else the output is collected locally. The call is simply mapped to a call of the CLI plugin with the option CMD, thus works syncronuous and sequential.
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6   EXIT-VALUES

0: OK: Result is valid.

1: NOK: Erroneous parameters.

2: NOK: Missing an environment element like files or databases.

7   SEE ALSO

ctys plugins   PMs *ctys-PM(7)*

      VMs *ctys-KVM(7), ctys-QEMU(7), ctys-VMV(7), ctys-XEN(7), ctys-VBOX(7)*

      HOSTS *ctys-CLI(7), ctys-PM(7), ctys-VNC(7), ctys-X11(7)*

ctys executables *ctys-genmconf(1)*

system executables *dmidecode(8)*

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