Linux User Meeting 10/2013

(Hepix) environment

for (puppet deployed) SL6

What is the HEPIX environment

IT System Group

HEPiX ₀
HEP ENV
HEP X11

HEPiX sites like **DESY** and **CERN** support

HEP ENV — The Unix Shell Environment

HEP X11 — The Graphical X11 Login

Thomas.Finnern@desy.de
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http://www-it.desy.de/systems/hep/

Customized shell scripts for each of the following platforms: AIX, HP-UX, OSF/1, Solaris, IRIX, SunOS, ULTRIX, ConvexOS, Linux and virtually any platform which follows the main UNIX streams can be adapted easily.

HEPIX environment - benefits

- Very convenient at the time

- Customizes environment, key bindings, X11 settings and so on

- Fairly identical environment independent of UNIX flavor

- Group specific environment in /etc/local/group

  - Which actually resides in afs

HEPIX environment - problems

- Tends to ignore standard RedHat login environment

  - `/etc/profile.d`

  - `Modules` consequently won't work

- Key bindings and LANG≠C don't go well together

  - Spoils UTF8 in Xwin32 for some shells and OS

  - Not quite predictable behavior

- Not obvious to toggle group environment

- Essentially only running RH and Ubuntu at DESY

  - No hpux, aix, vms, osf, irix, convexOS

  - Those we have behave all slightly differently

HEPIX environment - changes

- Retire the Hepix environment
  - Use standard RHEL login script (like in Zn for many years)
  - Makes debugging and maintenance easier
  - Add customization in `/etc/profile.d` or provides `modules`

- Some pre-settings will disappear !
  - No `FCEDIT, SEDOPTS, RUBOUT, SYSTYPE, BINTYPE` etc
  - No prompt definition
  - No predefined completion rules via `compctl`
  - No predefined option settings via `setopt`
  - No predefined key-bindings
  - Some aliases like `con, cof, lc` .. Might disappear
  - Reduce login scripts from >1000 to <100 lines

HEPIX environment - changes

- Maintain group specific environment

  - Define a convenience command via `/etc/profile.d`

  - Name it `groupset` for the moment

  - On group-specific hosts automatically set group environment (customizable)

    - Can easily be customized to become a host specific environment via puppet

  - On multi-group/general nodes like PAL/BIRD leave it to the user setting the env

    - e.g. `groupset zm1`

- Might need some small adjustments in the group-environment

  - Path `/etc/local/group` → `/afs/desy.de/group`

  - No AFS → no Group environment (hasn't changed really)

    - If needed: `/etc/profile.d` or `/etc/modulefiles`

DESY

HEPIX environment – changes in detail

- Define `groupset` in `/etc/profile.d/01-afs.(c)sh`

  - Alias for csh, function for zsh/bash

  - Invokes `/etc/groupset.(c)sh`

  - That invokes group-specific env.(c)sh, aliases.(c)sh and login.(c)sh (for login shell)

  - Defines ENVIRONMENT and GROUPROOT so scripts won't fail

- Define a default group environment if needed

  - `groupset <default>` in `/etc/profile.d/99-<default>.(c)sh`

- User setup in $HOME/.cshrc (etc)

  - Avoid double invocation ala

    - if [[! -n $GROUPROOT || ! "$GROUPROOT" =~ "/atlas$"]]; then groupset atlas ; fi

- DESYspecific setup and modules in /etc/zshenv & /etc/csh.cshrc

  - sources `/etc/profile.d/[01-99]*.(c)sh` and `/etc/profile.d/modules`

  - Ensures proper env & commands even in batch-scripts etc

- Bash won't invoke /etc/bashrc in csh/zsh environment

  - `modules` & `groupset` won't be defined (never where)

  - User needs to make sure it's properly defined (e.g. `$HOME/.bashrc`)