Managing software packages in large distributed systems

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Software Categories

Operating System	/ /usr/bin /usr/ucb
Common	/usr/local/bin
Specialist	????
Individual and Development	~/bin ~/bin.sparc

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Software Lifecycle

Operating System upgrades

New versions of packages

Patches

Change of package status

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Issues to consider

All software should work on all machines

Availability and replication

Disk space

Command-name clashes

User environment

The user environment

csh for all

All ‘dot files’ source global files in /usr/local

Global dot files set $PATH etc and define aliases

‘.’ is at the END of $PATH

User may append or prepend to $PATH

Packages

All kept under /vol (an automount point)

Names of the form: /vol/PACK/ISODE_8.0

.../bin .../lib .../man .../etc subdirectories

/usr/local is really /vol/local

Packages can be replicated (Amd, track, sup, rdist)

Activating Packages

Must be selective to avoid name clashes

‘use’ command is a csh alias

Prepend to $PATH and source a script

Driven by a NIS map called ‘attach’

‘packages’ command provides a catalogue

Version Control

Versions are independent:

`/vol/PACK/ISODE_7.3`

`/vol/PACK/ISODE_8.0`

`/vol/PACK/ISODE_ICR1`

Virtual symbolic link to default version:

`/vol/PACK/ISODE -> ISODE_8.0`

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Who Does What

System Manager:

Controls namespace and allocates disk using amd.vol and attach NIS maps

Arranges replication using track or SUP

Any delegated user:

Installs and tests package

More details

`src.brunel.ac.uk`
`/pub/managing-software.tar.Z`

Contains slides, paper, sample maps

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