SUE: Standard Unix Environment at CERN

L. Cons, R. Többicke,

A. Lovell, I. Reguero

Presented by I. Reguero

ignacio.reguero@cern.ch

Distributed Computing Infrastructure Group
Information Technology Division
CERN, European Laboratory for Particle Physics.

Geneva. Switzerland

Agenda

UNIX System Management problems

SUE Requirements

Structure of SUE

Cluster Administrators View

Users View

Project Status

Future Developments

Other Information

UNIX System Management problems

More and more UNIX boxes.

Of various brands.

Less and less full time system administrators.

Partially replaced with

- Part time system administrators.
- Contract personel.

UNIX System Management problems

Lots of things can be configured:

- Clustering mechanisms.
- Filesystems.

Lots of repetitive work:

- Per workstation.
- Per UNIX flavour.

UNIX System Management problems

Wildly different configurations on a mixed vendor environment drive to:

- Variety of system installation and maintenance procedures.
- Lots of system support required.

This is very expensive!!

SUE Requirements

To improve both sysadmin and users productivity:

- Standardized system configurations.
- Coherency across UNIX flavours.
- Integration with automated system installation.
- Continuous automated system management.

Structure of SUE

Basic concepts: **Feature:** Object that represent a unit of configuration or functionality.

- install Installs (o reinstalls) the feature.
- update Checks the feature.
- daily/weekly/monthly Periodic housekeeping.
- init To be invoked at system boot.

Structure of SUE

A feature contains **Configuration Data**:

- Parameter Definitions
- Defaults
- Dependencies
- Documentation

Structure of SUE

Examples of SUE features:

network	mail	hepix
services	gman	zephyr
asis	ssh	f77
xdm	purge	sudo
arc	sds	krb

Structure of SUE

Profile: Set of features.

Implemented as an ”empty” feature.

Examples of **profiles:**

- **base**
- **cern**
- **project_atlas**

Cluster Administrators View

SUE helps to have automated repoductible installations:

```
OK boot net - install
```

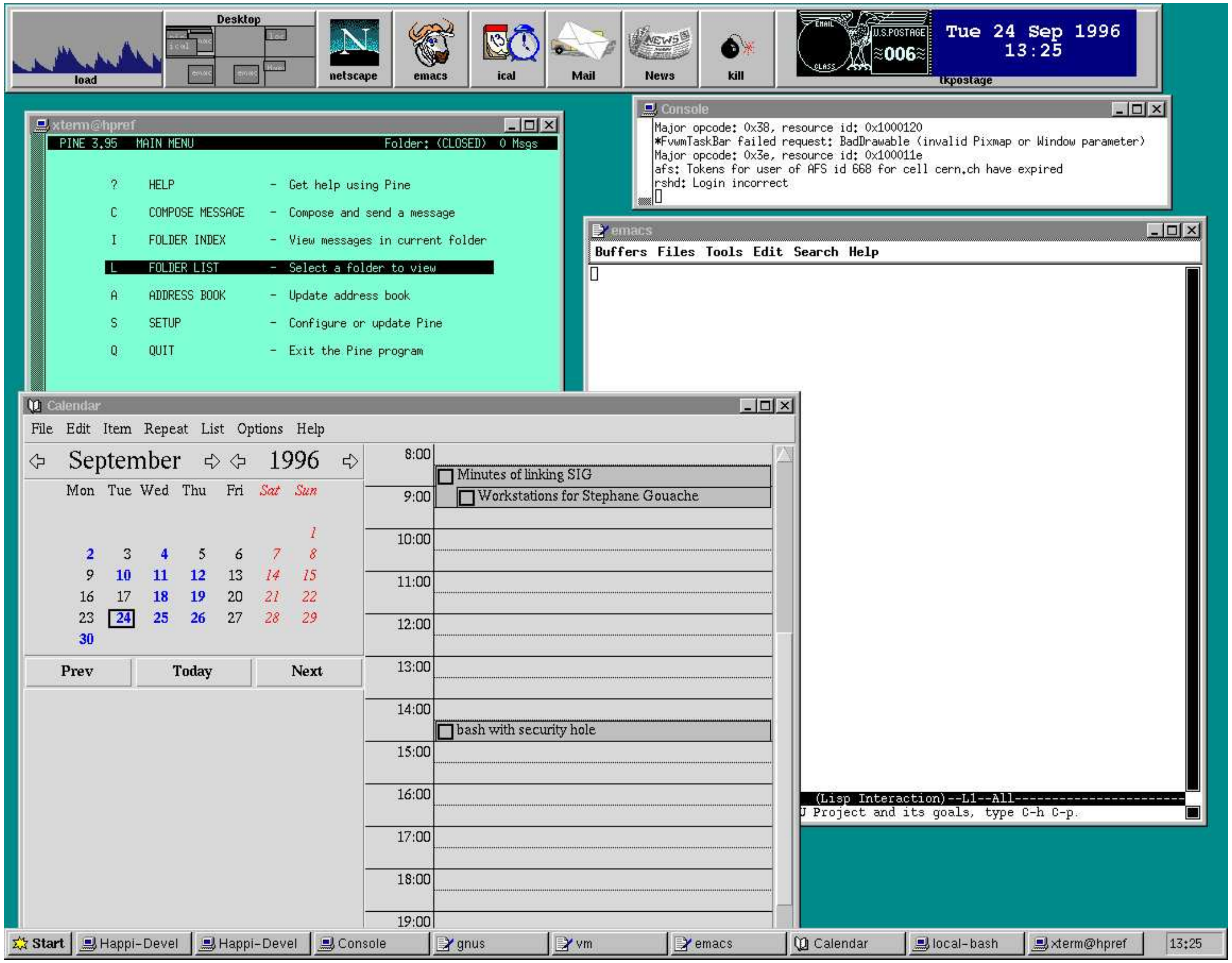
SUE provides a simple command interface to operate on the features:

```
# sue.install -l
# sue.install -v project_atlas
# sue.daily asis
# sue.update ssh
```

Cluster Administrators View

SUE monitors the system configuration with the update operation.

SUE helps hiding differences among UNIX flavours.



Users View of SUE.

SUE: Project Status

SUE is used at CERN on ≈ 700 Unix nodes. The platforms currently supported are:

- 298 Solaris 2.4 and 2.5.1.
- 180 HP-UX 9 and 10
- 200 AIX 3.2 and 4.1
- 30 DEC-Unix 3.2B-G and 4.0B

SUE

SUE: Future Developments

SUE may have further developments in the following domains:

- Independence of network file system.
- Standalone System Support.
- New Platform support.
- Deinstallation of features.

SUE: Other Information

SUE has the URL: http://wwwcn.cern.ch/dci/sue that points to:

- SUE Users Guide
- SUE Definition Document
- Other related documents