

# "SL": Scientific Linux

Stephan Wiesand

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# What SL is

- the **recompiled source** packages of **RHEL 3 AS**
  - hence "SL3"
  - modified to comply with Red Hat EULA:
    - remove trademarks & copyrighted artwork (all those red hats)
  - plus a few reasonable enhancements
- done and kindly made available **by Fermilab** computing
  - Connie Sieh, Troy Dawson
  - <ftp://linux21.fnal.gov/linux/ls30rolling>
    - ISO images, installation repository
    - rsync access granted on request (see mailing list)
  - read the release notes for more information

# Why SL3 is interesting to us



- Red Hat provide **5 years of support** for their Enterprise Distributions
  - 2.5 years "full support"
    - enhancements, new drivers, updates, bug fixes ("errata")
  - 1/2 year "deployment support"
    - like "full", except w/o updates
  - 2 more years "maintenance support"
    - fixes for serious/security bugs only
- RHEL 3 was released fall '03
- has **3.5 years to live after** SuSE terminates support for 8.2
- freely available w/o licensing hassles NOW

# SL3 competitors



- **White Box Linux**
  - RHEL3 recompilation (from a public library in rural Indiana)
- **CERN Enterprise Linux 3 ("CEL3")**
  - yet another recompilation - certification has started
  - will be made available to HEP as well (in May ?)
- **Future CERN releases** will be governed by a **deal with RH**
  - "reasonable" fee per system and year
  - available to other European HEP institutes as well
  - details not disclosed before HEPiX spring meeting (late May)
- US DOE has a deal with Red Hat for their labs (I believe)

# HEPwide Linux: other candidates

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# SL 3: Looking Closer

- SL 3 is basically RHEL 3
- RHEL 3 is basically Red Hat Linux 9
  - with a few minor updates
  - and many packages moved to "unsupported"
- Red Hat Linux 9 is roughly equivalent to SuSE 8.2 ( -> DL5)
  - more on compatibility later
- Is SL 3 a DESY Linux 6 candidate?
  - no
    - DL6 should be a leap forward, SL3 is a small step sideward
  - let's call it a DL5.1 candidate

# SL3 <-> DL5 compatibility



- KDE 3.1 - just like DL5
  - can work on SL3 and DL5 with same KDE setup
  - slightly different look (bluecurve), but that's it
- default compiler: gcc 3.2.3
  - but more similar to 3.3.3 gcc release than to 3.2.3 release...
- glibc version: 2.3.2
  - just like DL5 - but with NPTL (see next slide)
- ALL software built for DL5 (I tried) just works!
  - including the gcc-3.3.3 compiled ROOT
  - including ssh, krb5afs PAM module, ...

# NPTL



- Native **POSIX Thread Library**
  - more **similar to Solaris**, **needs glibc & kernel support**
  - **backward compatible** - binary, but backward only!
  - **no more handler thread**, threads share a **single PID**, identification by **TID**, some **differences in signal handling**
    - => **different from programmer's point of view !**
    - => we'll likely start seeing **apps that work with NPTL only**
  - not supported by stock 2.4 kernel, no isolated patch
  - **NPTL will not become available on DL5**
  - can't use a stock kernel on SL (before 2.6)

# Compatibility: Observations



- **kickstart** <-> **autoyast2**
  - same **semantics**
  - same **features**
    - ... that matter
  - but different **syntax**
  - kickstart is mature
- **display manager**
  - gdm default
  - but kdm available & works
- **init scripts** need modifications
- **chkconfig** works differently
- we'll miss **SuSEconfig** !
- **/etc/sysconfig**
  - different files
  - different contents
- **pam** configuration/modules
  - pam\_unix2 <-> pam\_stack



# Conclusions

- RHEL3 is **what** most of **HEP** will use for years to come
  - or a derivative, with or without licensing
  - CERN, Fermilab are committed
  - signals from e.g. IN2P3, TRIUMF
- threaded apps developed on it may NOT work on DL5
- SL3 **freely available and working NOW**
- will outlive DL5 by more than three years
- **migration from DL5 to SL3 likely to be very smooth**
  - for users, that is ...
- Whatever may happen: **No reason to stop the DL5 rollout!**

# Possible Scenario



- keep an up to date SL3 mirror at DESY
- provide a (few) SL3 reference system(s)
  - fully integrated with NIS, LDAP, AFS, Kerberos
    - much cheaper to do than it seems at first glance
    - planned in Zeuthen RSN (did not quite make it for today)
- gain experience, assess value & cost of migration
- **if** we (YOU) like it:
  - gradually adapt our tools & methods
  - have it (DL5.1) ready well before SuSE 8.2 end of support
- this may or may not prevent us from looking at DL6

# The Question

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Would

**YOU**

like to see us pursue this?