

SUSE[®] Linux Enterprise Server 12

Modules And Backports

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Customer Expectations



- Change slowly



- Stay current



We'll get back to this

Agenda

- The world as we know it
 - Customer Expectations
 - SUSE Principals
 - The problem
- SLE 12 – a new approach
 - Divide And Conquer
 - Module deep dive
- We want more packages
 - openSUSE Build Service
 - Solid Driver Program Build Service
 - Backports project

The World As We Know It

Customer Expectations



- Stable interfaces
- Few bugs
- Targeted fixes
- No regressions
- Support many apps

- Latest hardware support
- Innovation
- New features
- Different form factors
- Stay current



Customer Expectations

- Support
 - Call, e-mail, fast response, bug fixes, security updates
- Easy migration
- Fast updates
 - Timely security fixes



SUSE Principals

For each distribution stream

- APIs/ABIs stability
 - Do not break existing APIs/ABIs
 - APIs/ABIs may be added
 - Feature enablement through backports
 - Bug fixes through targeted changes
- Everything is supported
 - Some packages require special support agreements
 - Even after upstream does no longer support it
 - Support term is 13 years
 - More on this later

SUSE Linux Enterprise 12

A New Approach

Divide and Conquer

- Define grouping of packages
 - Base group
 - Packages are on base product ISO
 - Contains binaries shared by other groups
 - Not a pattern, but contains patterns
 - Roughly 3300 binary packages
 - “Logical” functionality groups
 - Packages grouped by functional cohesion
 - Provide functionality not in the base (exceptions apply)
 - Do not have cross group dependencies
 - Called “Modules”
 - We currently have 6 modules

Divide and Conquer

- Same principals apply for Modules, but
 - Lifecycle of packages varies across modules, differs from base
 - Version changes can be expected
 - Conditions are defined

Module definition

- A module
 - is a collection of software packages,
 - has packages with logical functional cohesion
 - packages have L3 support, possibly scope limited
 - is independent of other modules,
 - delivered as a repository,
 - addition to a “base product” (SUSE Linux Enterprise Server),
 - considered part of the distribution,
 - may have different life-cycle than the core product
 - overall life-cycle
 - package life-cycle

Module - Implementation

- Delivered as repository, add
 - during installation or
 - to the installed system (YaST or SUSEConnect)
- Available online
 - Pool repository (state of packages at initial release)
 - Update repository
- Not
 - a pattern, but may provide patterns
 - a product with SKU for purchase

Modules - Overview

Module Name	Content (examples)	Lifecycle
Advanced Systems Management Module	The configuration management tools cfengine, puppet, and the new "machinery" tool	Continuous Integration
Container Module	Docker and container related functionality such as ECS integration	Continuous Integration
Legacy Module	Sendmail, old IMAP stack, old Java etc.	3 years
Public Cloud Module	Instance initialization code, command line tools for management	Continuous Integration
Toolchain Module	GCC	Yearly delivery
Web and Scripting Module	PHP, Python	3 years, 18 months overlap

Life-cycle details

- Continuous Integration

- Integration of new features through version upgrades
- Bug fixes possible through version upgrades
- Not “version of the day”, i.e. not a continuous stream
- Updates delivered through the update repository

- Yearly

- A new version is delivered once a year
- Once you start you need to keep moving

Advanced Systems Management Module

- Continuous Integration
- Includes configuration management tools
 - Puppet
 - CFEngine
- Dependencies unique to this module



Container Module

- Continuous Integration
- Container management tools
- Container integration tools
- Container images



SUSE Containers, Docker and Beyond
Thursday 2:15 P.M. – 5-Roland Holst kamer

The Mythical App Container
Thursday 3:30 P.M. – C-Lotenzaal

Legacy Module

- 3 year life-cycle
 - Module (packages within) will no longer be supported after 3 years
- Provide packages
 - to ease application migration
 - support “older” technology
 - functionality people should really not use anymore



Public Cloud Module

- Continuous Integration
- Packages for
 - instance initialization
 - Cloud management
 - CSPs
- Dependencies unique to this module



Tool Chain Module

- Yearly life-cycle
 - Delivers a new version once a year
 - Does not replace system compiler, it is additional
 - Once you start using it you need to continue to move forward with every release



Web and Scripting Module

- 3 Years with 18 month overlap
 - Works analogous to SLES life-cycle, just different timing
- Python 3 interpreter
 - Python 2.7 is in Base

Why?

- Bridge the gap between Turtle and Hare
 - Certain parts of the distribution move fast
 - Other parts move very slowly
- Provide new features faster



We want more packages

The Open Build Service

- System to build packages and distributions
- Open source project sponsored by SUSE
- Anyone can run it
- SUSE operates 3 instances
- <https://github.com/openSUSE/open-build-service>



openSUSE Build Service (OBS)

- Open to everyone
- Build packages for many distributions
- Used by openSUSE community to develop openSUSE
 - Tumbleweed
 - Leap
- Submission rules and quality are project dependent
- 3 Tiered model
 - Distribution project
 - Devel projects
 - Home projects
- Community help

SUSE Build Service (IBS)

- Only accessible to SUSE employees
- Same functionality
- Linked with OBS
- Used to develop SUSE products
 - SUSE Linux Enterprise
 - SUSE Manager
 - SUSE OpenStack Cloud
 - SUSE Enterprise Storage

SolidDriver Program Build Service

- Accessible to SUSE customers and Partners
- Build packages for SUSE Linux Enterprise
- Often used by partners to deliver kernel drivers
- Provides multiple repositories

Package Hub

- Project in the openSUSE Build Service
 - openSUSE:Backports:SLE-12
- Controlled submissions
 - Acceptance process similar to base Enterprise products
 - May not break supportability of base OS
 - Check-in approvals by SUSE
- Provides additional packages
 - Not a replacement for SLE packages, core, modules, or extensions

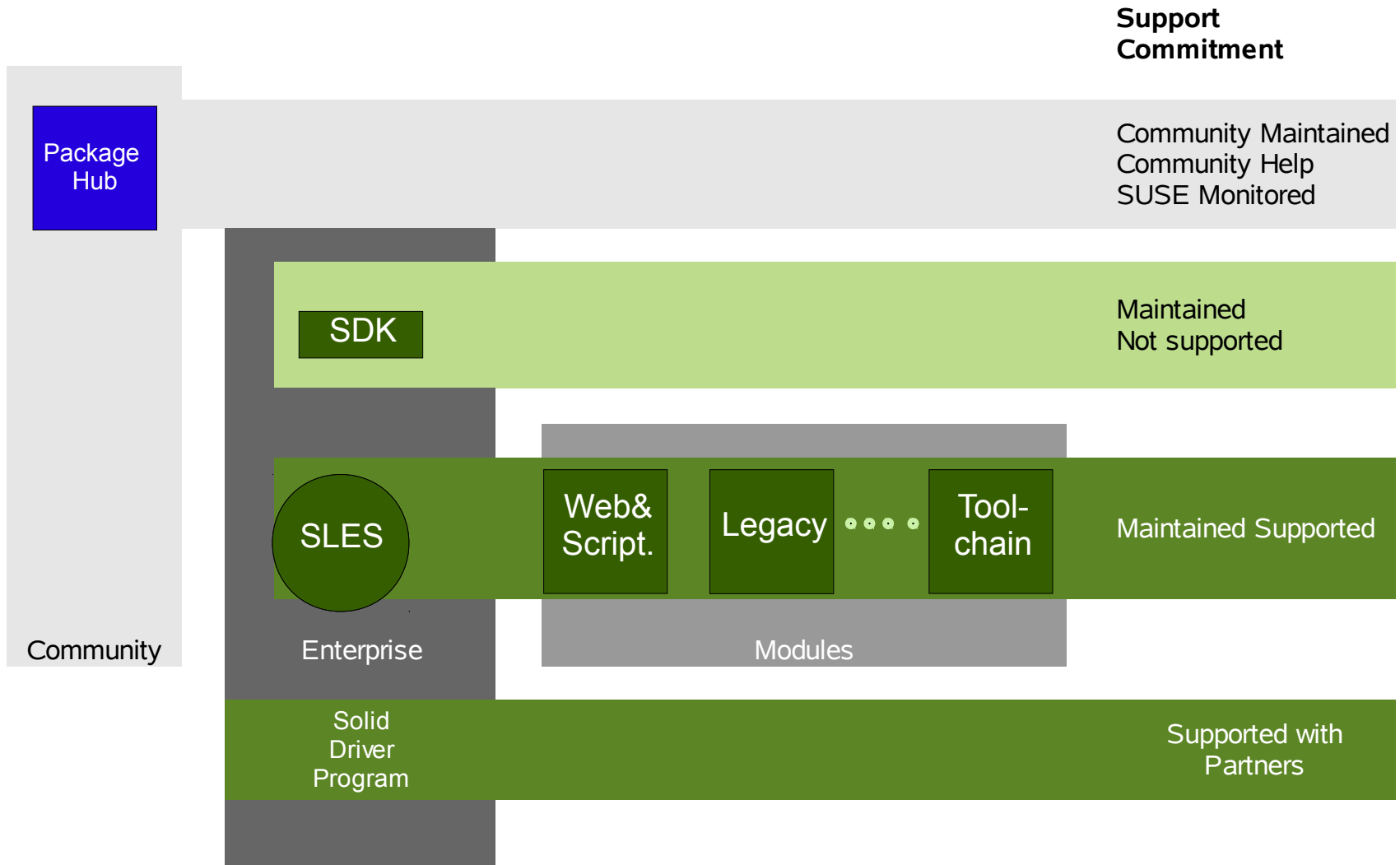
Package Hub

- Packages expected to be in openSUSE:Factory
- Only for SLE 12 at this point

Enhancing SUSE Linux Enterprise Server / Desktop / Workstation
with Community Contributions
Friday 10:15 A.M. – 9-Ontvangkamer

Putting it all together

Modules



Summary

- Base provides the stable foundation with the same compatibility and life-cycle promises made in previous SUSE Linux Enterprise distributions
- Modules provide an easy way to get updates for fast-changing components expanding the functionality of the base product
- Modules support life-cycle adjustments while providing fully supported functionality
- Solid Driver Build Service provides vendor supported enhancement/expansion of select functionality in SLE
- Package Hub provides additional functionality through community contributed packages for SLE

Thanks for your attention!
Questions?

Thank you.







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