

# YaST Architecture

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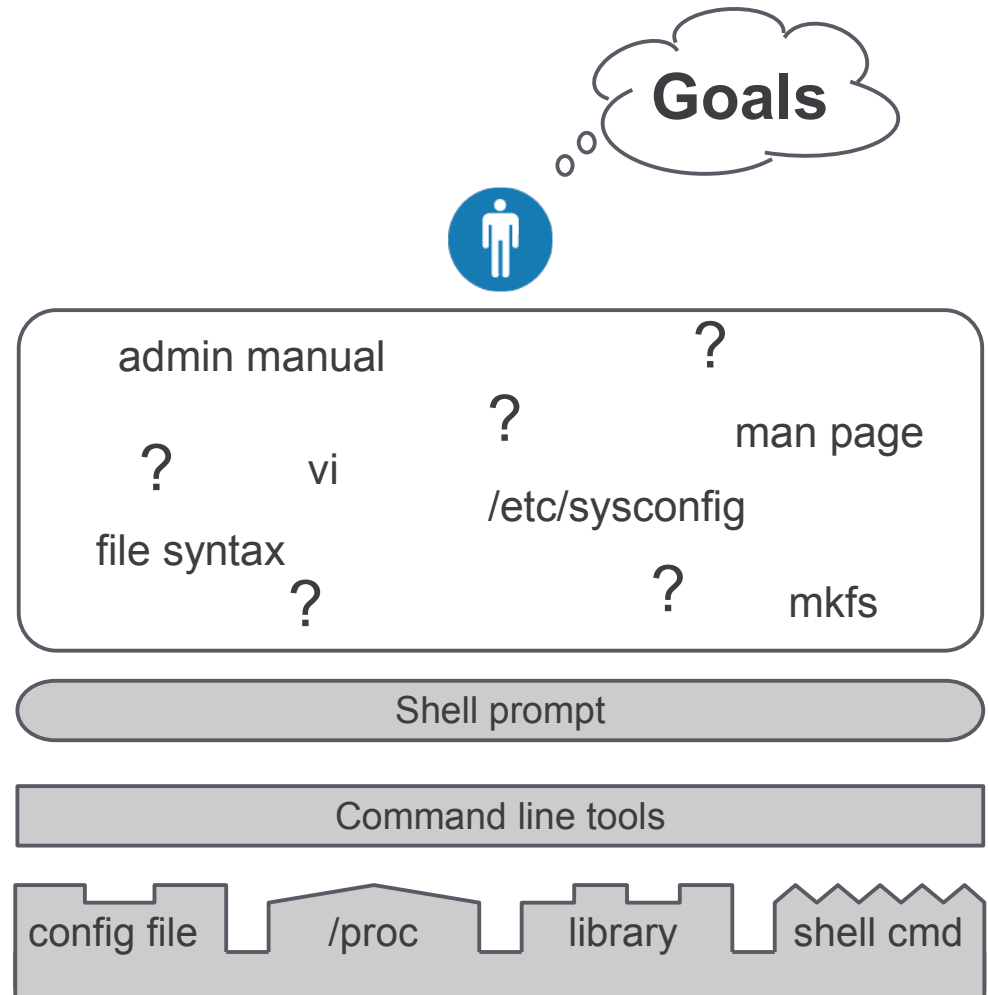
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# YaST introduction

- Areas for application
  - The Novell® Linux product installation
  - System administration
  - Hardware device configuration
  - System service configuration
- Design principles
  - Fill the knowledge gap between user's goals and system rules
  - Multiple User Interfaces
  - For beginners and advanced users
  - Free choice of programming language

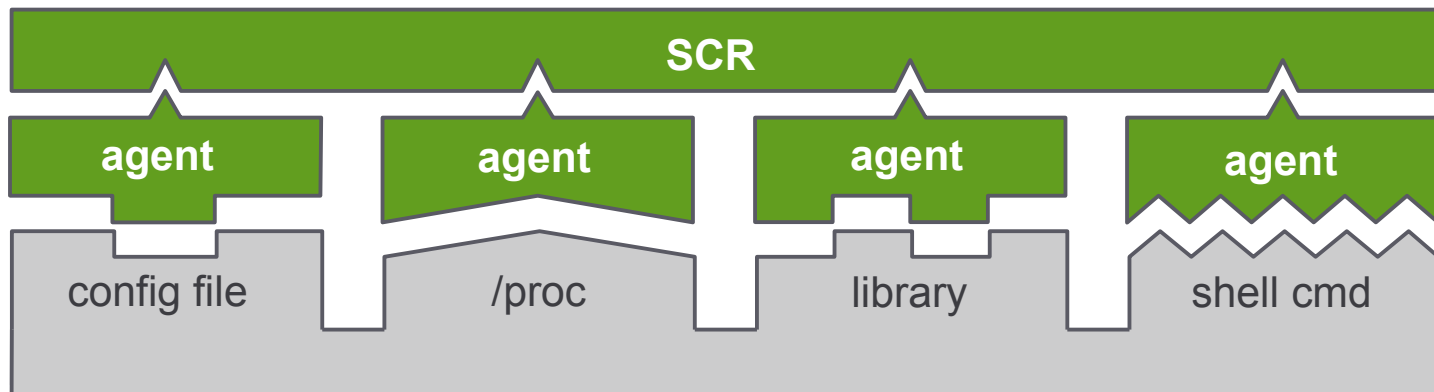
# Filling the knowledge gap

User **goals**



# System Interface

- SCR – System Configuration Repository
  - abstraction of system details
  - translates data from/to common format (YCP)
  - one interface to whole system
  - agents can be implemented in different languages (C++, Perl, bash,...)
  - Simple commands - Read, Write, Execute



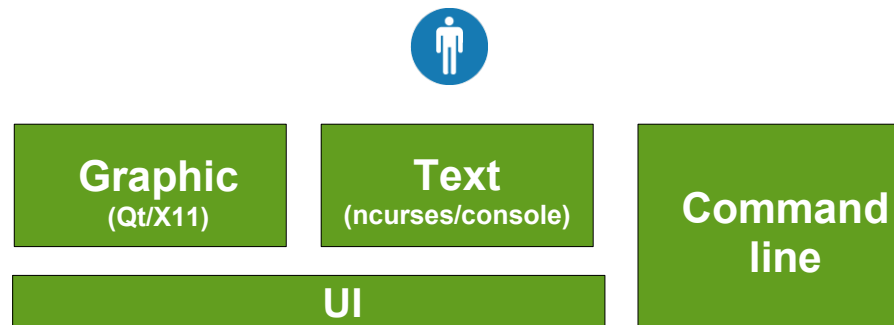
# System Interface

## Examples

- Reading the system architecture (probe agent)
  - `string architecture = (string)SCR::Read (.probe.architecture);`
- Setting the time zone (sysconfig agent)
  - `SCR::Write (sysconfig.clock.TIMEZONE, "Europe/Prague");`
- Creating a directory (target agent)
  - `SCR::Execute (.target.mkdir, "/var/lib/YaST2");`
- Executing system commands (target agent)
  - `SCR::Execute (.target.bash, "touch /tmp/YaST2");`

# User Interface

- Abstraction of details and differences (X11, Ncurses,...)
- Common set of widgets
- Single interface to user (but for command line)



# User Interface

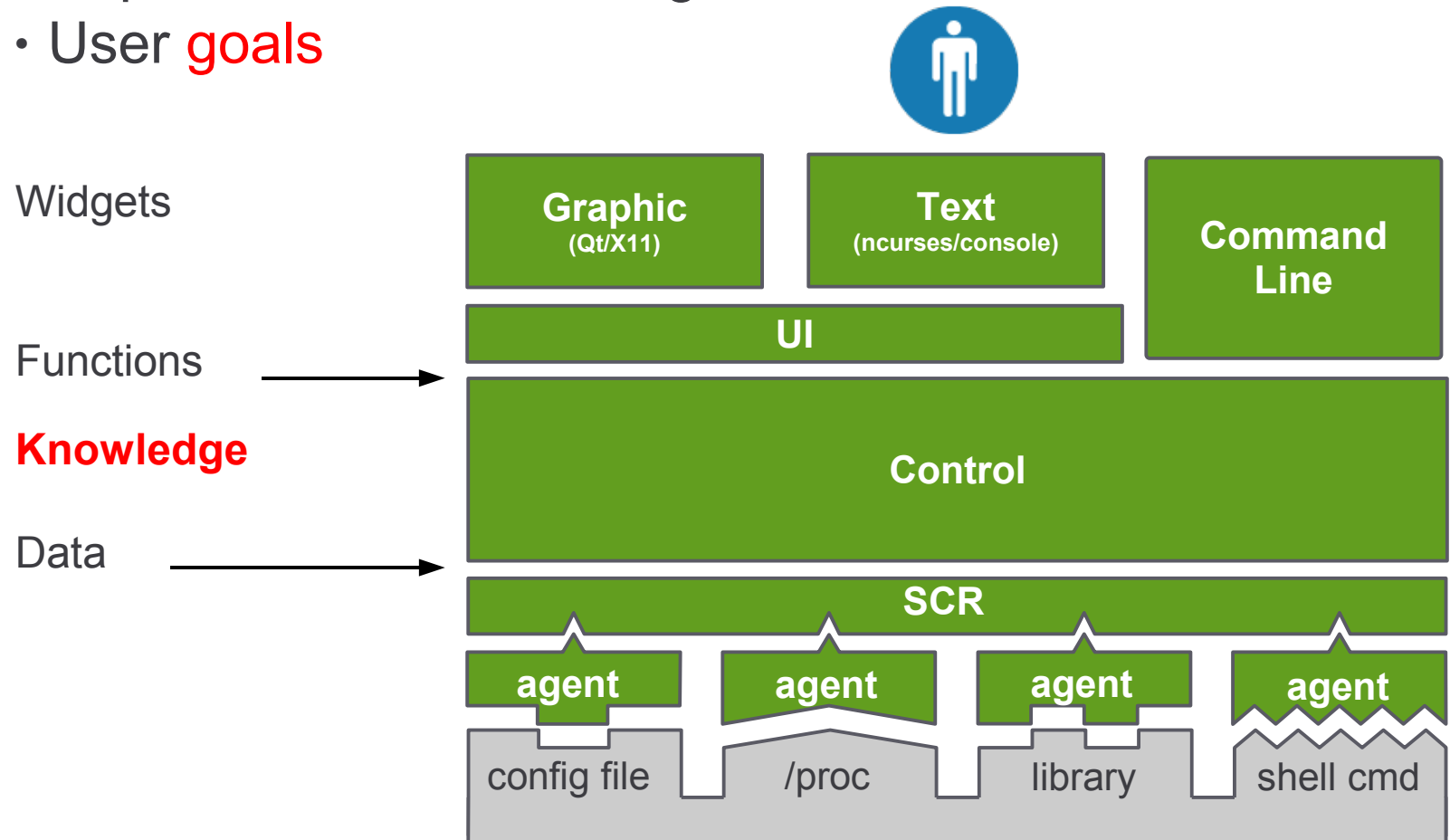
## Example

- `Popup::Message("Hello Brainshare");`



# Modules

- Represents the knowledge
- User **goals**





# Programming Language

- Core Libraries
  - mostly C++
- UI logic
  - YCP
- Modules
  - YCP, Perl, C++
- Agents
  - C, C++, Perl, bash,...

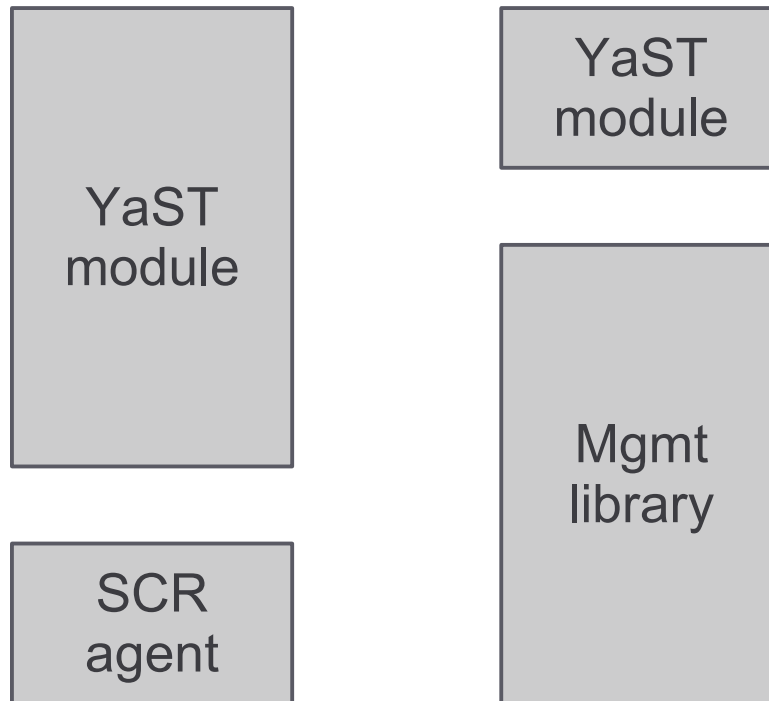
The Future

# Management Libraries

- Current YaST
  - Self-contained management application
  - Limited set of programming interfaces
  - Written in interpreted programming language (YCP)
- Future YaST
  - Management platform
  - Accessible from a variety of programming languages
  - YaST functionality accessible for scripting languages

# Management Libraries

- Libraries consist of both the control level and system access level



# Management libraries

- Libraries build a client-side backend for
  - YaST
  - scripting applications
  - CIMOM Providers
  - ZENworks® (Mono®, C#)
  - ....

**YaST  
Modules**

**Perl/Python  
Scripts**

**Mono  
C#**

**CIMOM  
Providers**

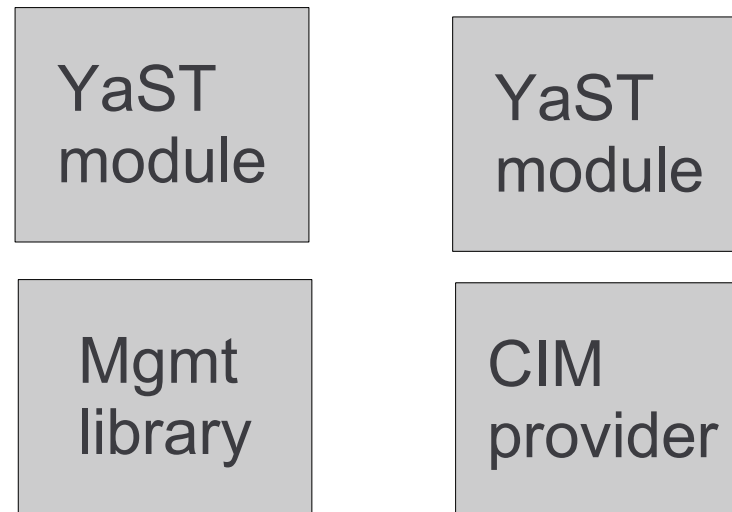
**Management Libraries**

# Existing Management Libraries

- Package and Patch management
- Storage (partitioning)
- Bootloader
- X11
- others in development

# CIM Enablement

- Use CIM (Common Information Model) for access to the system via WBEM industry standard
- Network transparency for remote management
- Mass management (manage multiple computers at once)



# Add-on Products

- Use YaST for installing 3<sup>rd</sup> party products
  - to be integrated when installed together with the base system
  - to be installed standalone in already installed system
- Add-on products can have
  - Packages, selections, etc.
  - Installation workflow changes
  - Workflow for standalone installation



# Future outlook

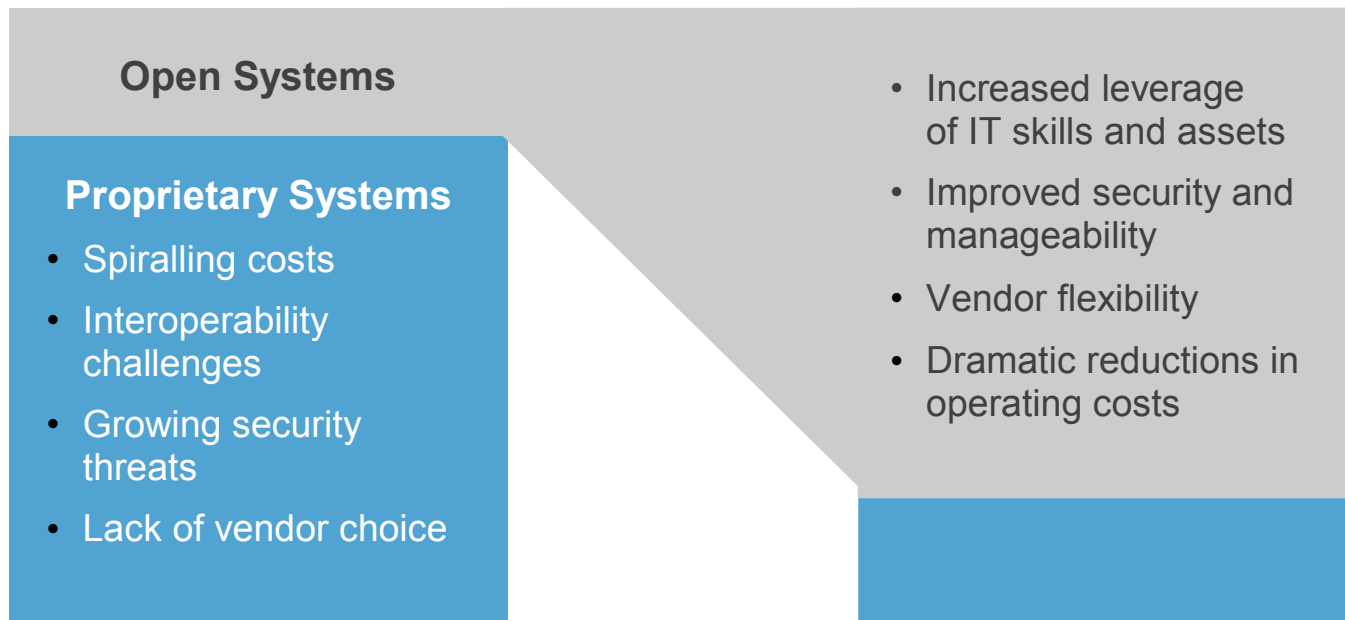
- Management Libraries
  - Extend the set of available libraries
- CIM
  - Model complete system
  - Use management libraries with CIM providers
- Web based UI
  - Theming via CSS
- Scripting
  - Command line support

# Development Resources

- YaST on [forge.novell.com](http://forge.novell.com)
  - <http://forge.novell.com/modules/xfmod/project/?yast>
  - Full source codes for released products
  - Documentation (YaST, AutoYaST)
  - FAQ
  - Mailing lists
- YaST on [www.opensuse.org](http://www.opensuse.org)
  - <http://www.opensuse.org/YaST>

# Enterprises are Shifting to Open

- Today's Enterprise:  
**Multiple platforms, proprietary technologies, management and security challenges**
- Tomorrow's Open Enterprise:  
**Performance, reliability, and world-class support on standards-based, open platforms**



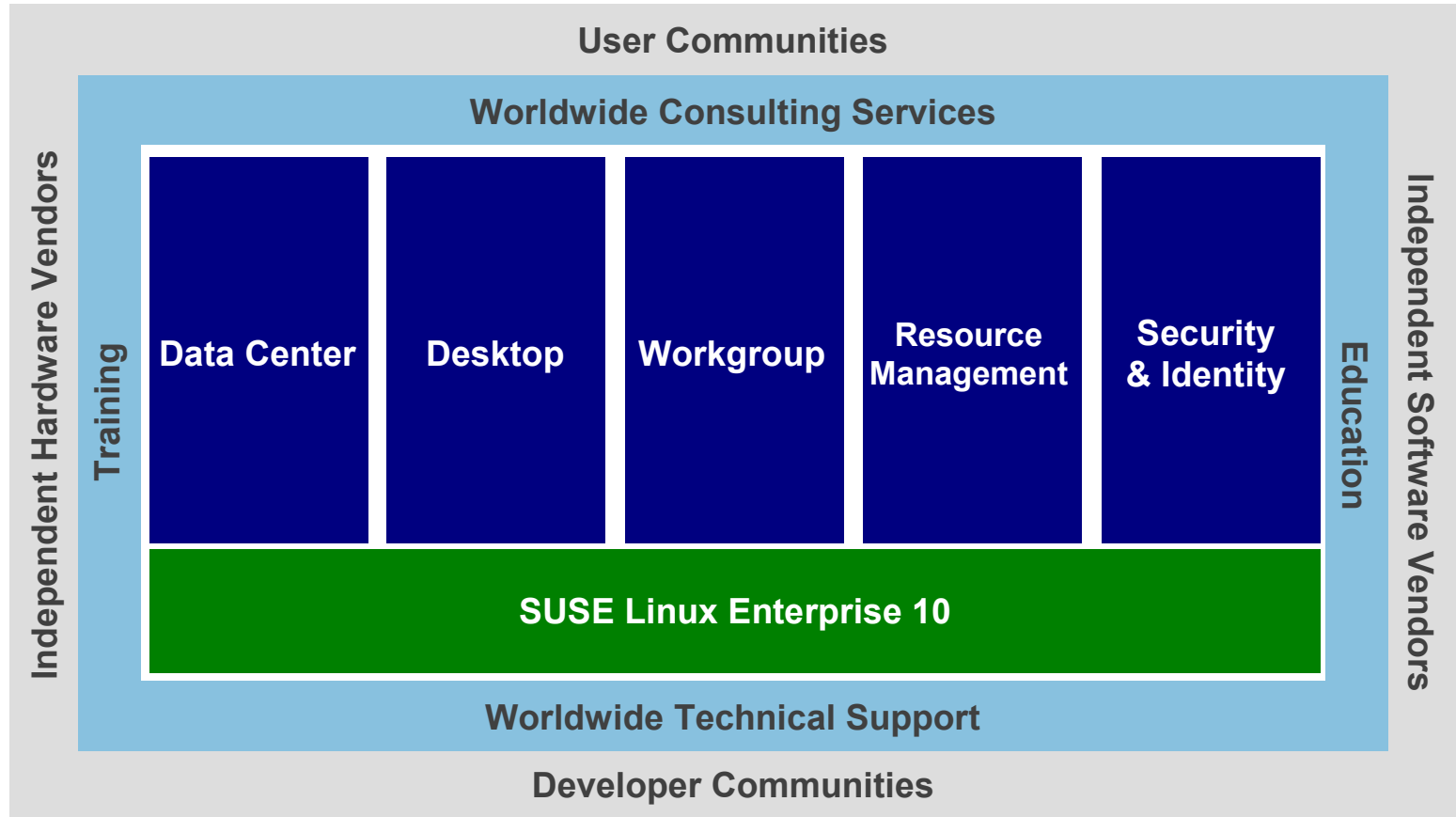
# Introducing: SUSE Linux Enterprise 10

The platform for the open enterprise.

- Built-in application security
- Virtualization
- integrated systems management
- Supported on the full range of hardware architectures.



# Novell's Comprehensive Ecosystem



# New in SUSE Linux Enterprise Server 10

- **Enhanced data center deployment and management**
  - Xen 3 virtualization
  - Support for Intel Vanderpool and AMD Pacifica dramatically improves system utilization and optimizations for multi-core processors
  - Improved performance and SMP scalability
  - Advanced management, instrumentation, and monitoring tools
- **Expanded hardware support**
  - Support for latest hardware: storage, networking, platform management, graphics, audio, Bluetooth and USB devices
  - Enhanced storage capabilities: Storage foundation for HA-clusters integrating Oracle Cluster File System (OCFS), EVMS and Heartbeat; NFS v4; iSCSI
- **Unmatched security**
  - Only Linux server with built-in application security

SUSE Linux Enterprise Server is the best-engineered Linux server, the best choice for mission-critical workloads.

# New in SUSE Linux Enterprise Desktop 10

- **New levels of end user productivity**
  - Powerful desktop productivity tools: E-mail, desktop search, Firefox Web browser, Instant messaging, multi-media
  - OpenOffice.org 2.0 office suite and Visual Basic macro conversion
  - Easy-to-learn desktop environment with advanced animations and rendering
- **Seamless integration with enterprise systems**
  - Enhanced hardware support for USB and Bluetooth devices
  - Seamless connectivity to mixed networks, including Novell eDirectory and Active Directory
  - Printer support including auto driver download and installation, MS printer support
- **Flexible deployment options**
  - Thin and thick-client deployment
  - Easy deployment and desktop lock-down

Novell is #1 on the Linux desktop, providing vendor choice and dramatic costs savings for basic office workers

# Novell Customer Center

- **Subscription and update service**
  - One tool to manage purchase, renewal, expirations.
  - Easy reporting on compliance and forecast future purchasing needs
  - Integrated patch management and update service, powered by ZENworks
- **Access to Novell Support**
  - Easy-to-use portal for support
  - One location for access to knowledge base, electronic support requests, and downloads.
- **Intuitive management console**
  - One console to discover, update and manage Linux systems

Novell Network makes it easy to register, update, secure and monitor all Linux systems on the network, from the desktop to the data center



Questions?



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