

Novell SUSE® Linux Enterprise Server as a Design and Development Platform

Mentor Graphics Incorporated

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Novell®

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Agenda

- Why Linux for Electronic Design Automation?
 - Switching from UNIX to Linux
 - Drivers of Linux adoption in the enterprise
- Why Novell for Linux?
 - SUSE Linux Enterprise Server 9
 - Novell AppArmor
 - ZENworks® Linux Management
 - Why Novell for EDA?
 - SUSE Linux Enterprise Server: Advantages for Developers
 - Customer Success: Mentor Graphics

Why Linux for Electronic Design Automation?

Benefits of Linux for Your EDA Environment



Dramatically Lower Costs

- 40-percent hardware savings over UNIX*

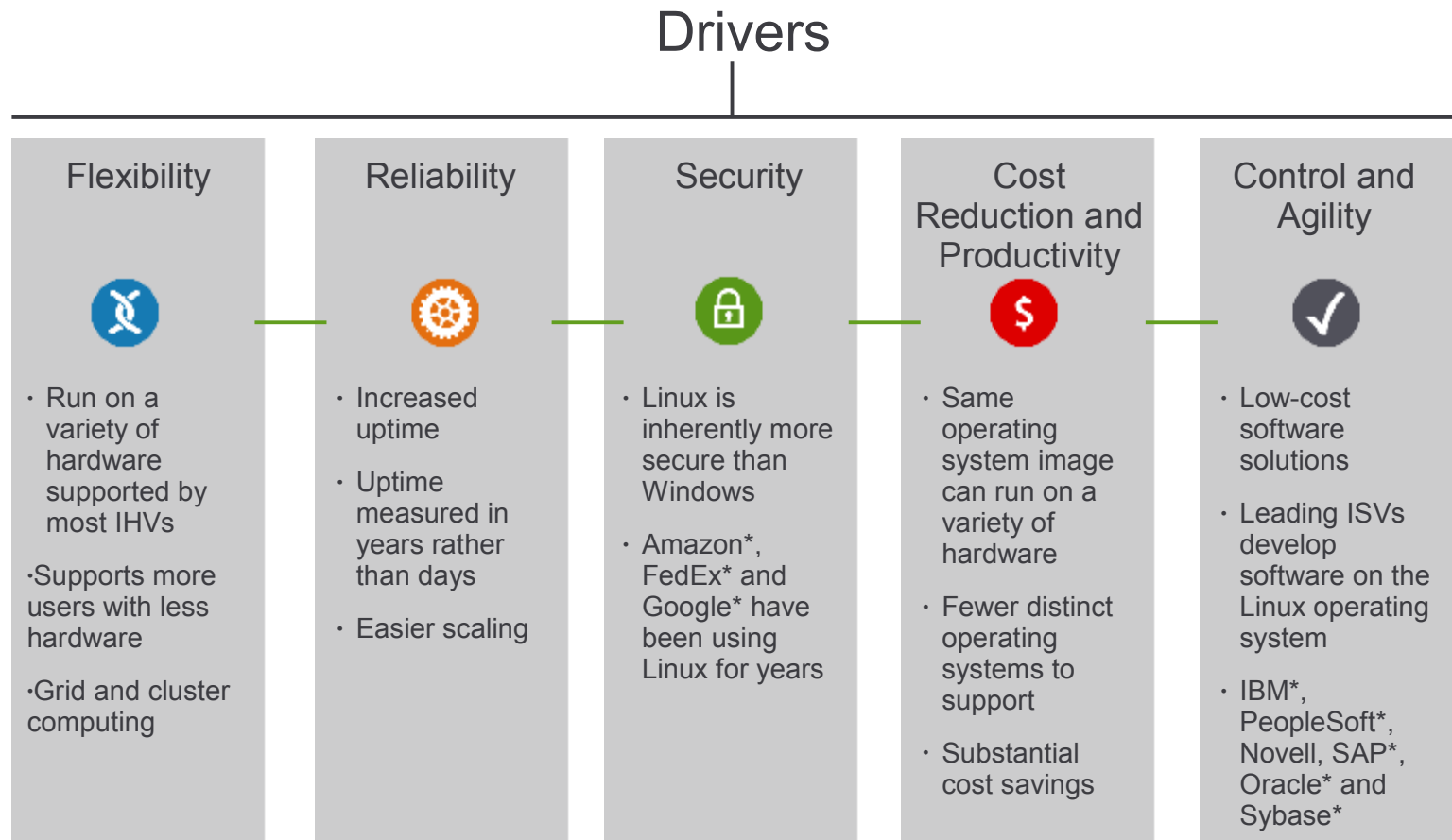
Greater Choice

- Open source and open standards
- Choice leads to competition among vendors

Enhanced IT Flexibility

- Average server utilization less than 20 percent on x86
- Utility computing will deliver real-time management of resources on demand

What's Driving Linux Adoption?



The Foundation — Open Source and Linux

Why Novell for Linux?

A Complete Linux Solution

SUSE™ Linux Enterprise Server 9

- The world's most secure, scalable enterprise Linux environment

Novell® AppArmor

- The most effective and easy-to-use Linux application security system available today

ZENworks® Linux Management

- The only solution that uses Policy-driven Automation to deploy, manage and maintain Linux resources

Novell Technical Support

- The only software vendor to provide enterprise support for the entire Linux environment

SUSE Linux Enterprise Server 9

A secure, reliable platform for Linux* and open source computing in the enterprise:

- **Unmatched manageability** lowers the cost of ownership
- **Strongest security capabilities** ensure data privacy
- **Industry-leading scalability and reliability** enable mission-critical deployments
- **Robust application support** for third-party and line-of-business applications
- **Novell backing** empowers businesses to deploy Linux with confidence





Novell AppArmor

Powered by Immunix

Novell AppArmor is an easy-to-use Linux application security solution. Designed to keep your Linux servers safe from malicious threats, AppArmor allows you to deploy security policy in hours—not days.

“[AppArmor] provides intrusion rejection of computer criminals by hardening both the Linux host operating system and the applications that run on it ...against Internet attacks.”

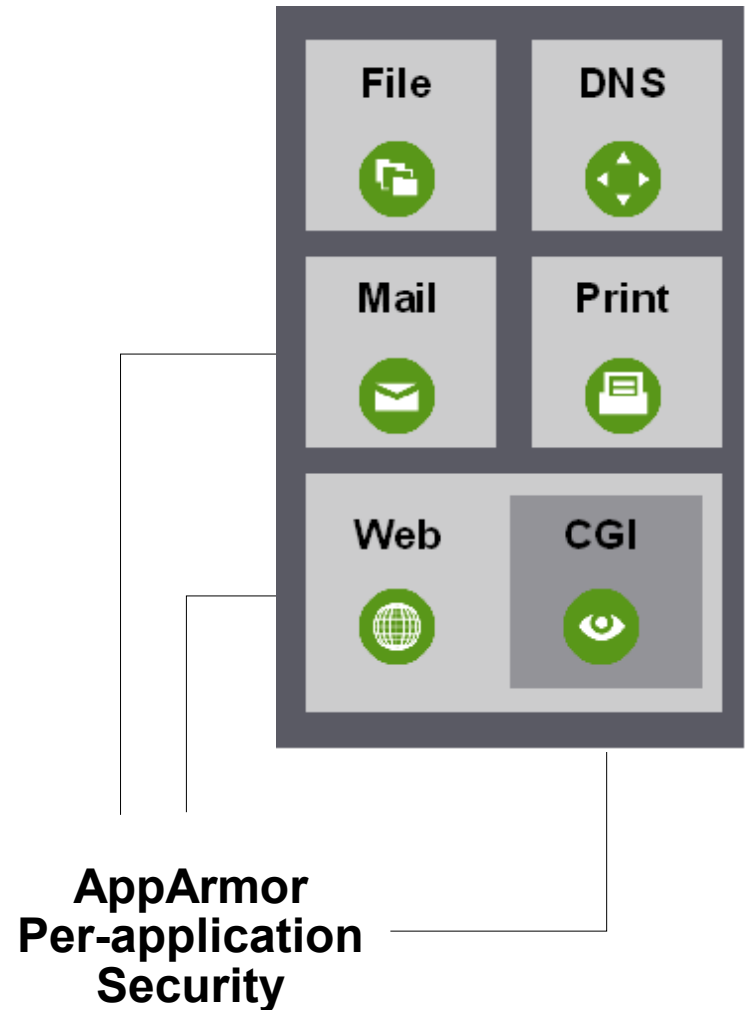
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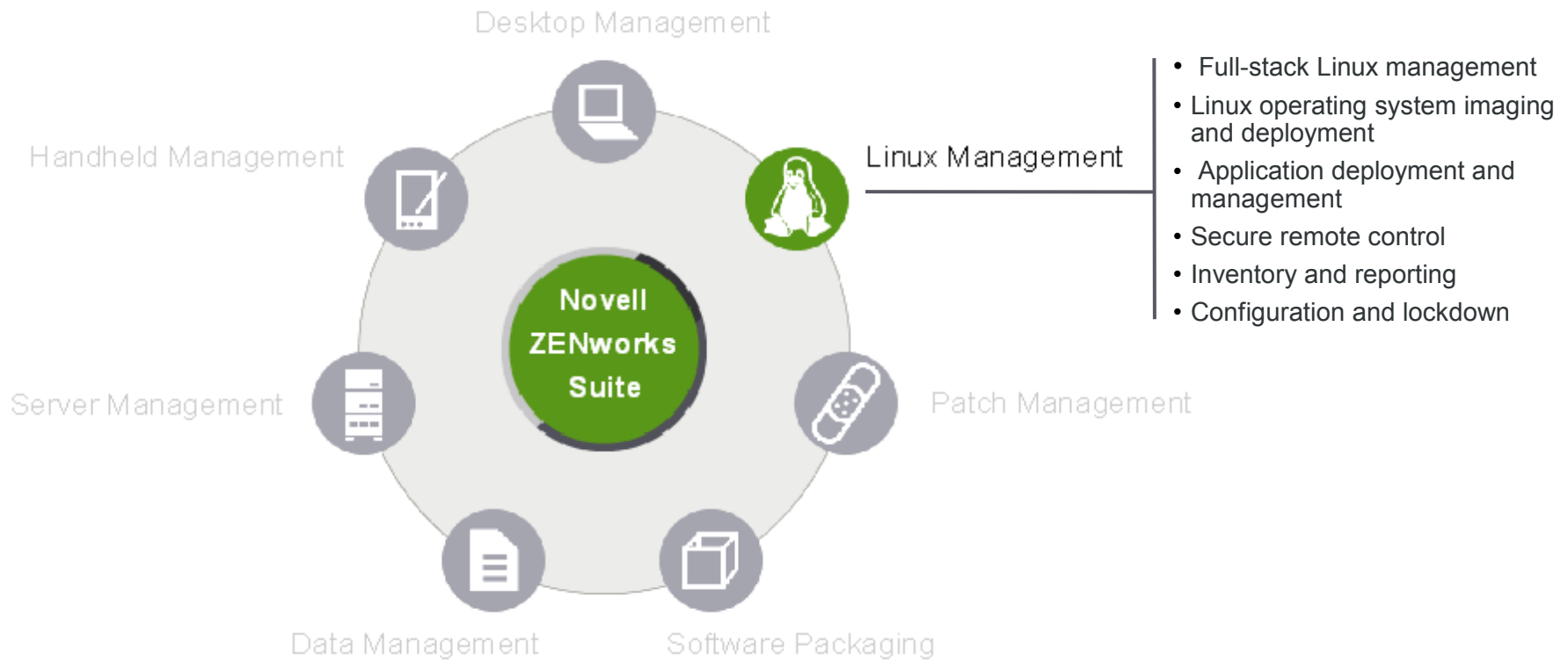
Novell AppArmor

Linux Application Security

- Creates firewall around any Linux program (custom, open source or third-party)
- Protects system from application vulnerabilities and undiscovered flaws
- Prevents unauthorized access to all system resources
- Doesn't rely on attack signature database
- Ensures applications do only what they're supposed to do (but nothing else)



Novell ZENworks 7 Linux Management



ZENworks Linux Management Benefits

- Decrease time needed for software updates
- Increase security and reliability
- Ensure software standards
- Reduce software complexity



Reduce the total cost of managing and maintaining Linux systems!

Why Novell for EDA?

Why Novell for EDA?

- High-tech, EDA-dedicated team
- Global partner for enterprise support and software solutions
- Flexible technical-support options
- Cross-platform solutions
- Efficient, scalable systems management through ZENworks Linux Management
- SUSE Linux Enterprise Server on EDAC operating system roadmap

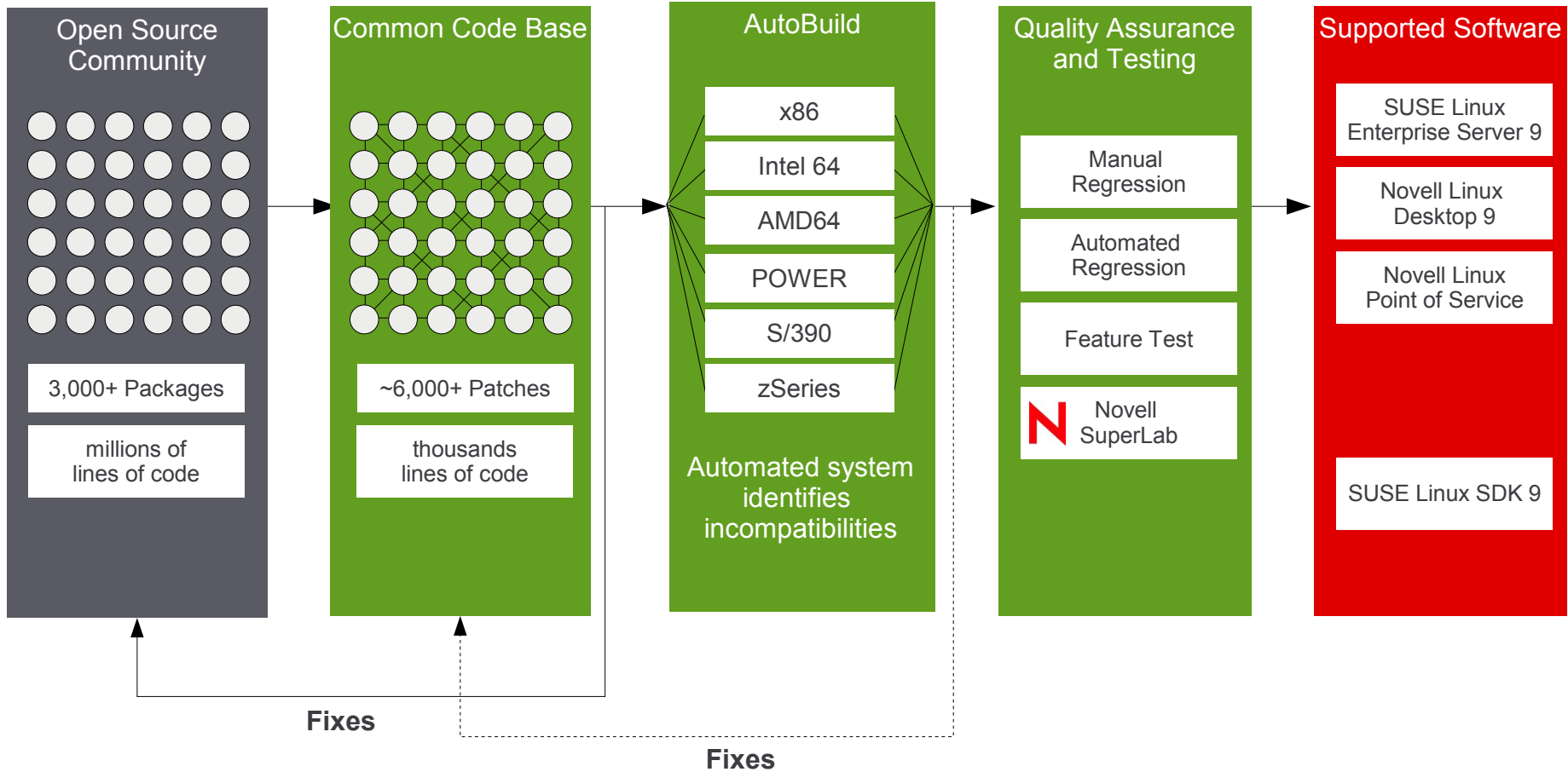
SUSE Linux Enterprise Server Advantages for Developers

SUSE Linux Enterprise Server 9

Advantages for Developers

- The most integrated, stable and secure Linux platform on which to develop applications
- Integrated software development kit
- Flexibility and efficiency options that provide a more agile development environment

Novell Linux Development Process



SUSE Linux Enterprise Server 9

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Obtaining the SDK

- Get the SUSE Linux Enterprise Server 9 SDK by visiting http://developer.novell.com/wiki/index.php/SLES_SDK.
 - Learn how to get an evaluation copy
 - Download the ISO CD images for all major hardware platforms.

Mentor Graphics

Ron Howard

Engineering Manager, IT Engineering Tools

Mentor Graphics

Mentor Graphics

- World leader in electronic hardware and software design solutions
- Annual revenues over \$700 million
- Market Share ~19-percent of worldwide EDA market
- Third ranking in EDA industry
- Growth through internal development



Mentor Graphics Worldwide

- Australia
- Canada
- China
- Denmark
- Egypt
- Finland
- France
- Germany
- India
- Indonesia
- Ireland
- Israel
- Italy
- Japan
- Korea
- Netherlands
- Pakistan
- Singapore
- Spain
- Sweden
- Switzerland
- Taiwan
- United Kingdom
- United States



Mentor Graphics Worldwide



- 300,000 square feet of office & lab space
- 3,950 employees worldwide
 - 1,000 at Wilsonville, Ore. headquarters

Challenges We Faced

- Developing complex software requires a high-performance, stable operating platform.
- Our customers were asking us to support our products on SUSE Linux Enterprise Server.
- We also needed to reduce the amount of time it takes for testing/design cycles to ensure quality of product and speed to market.

MGC Development Environment

- Four years ago:
 - Proprietary UNIX operating systems (and Windows)
SunOS, Solaris, HP-UX and some AIX
 - Mostly leased desktops and a few large SMP machines
- Today:
 - More purchased commodity hardware running Linux
 - More compute clusters (rack mount—one or two u)
- > Issues encountered:
 - » Commodity hardware vendors change components within a computer model from time to time
 - » Hardware driver compatibility problems

MGC Linux Development Environment



- Enterprise versions—SUSE Linux Enterprise Server and Red Hat Enterprise Linux

Development Platforms

- Servers, workstations, and laptops

Development Tools

- gcc, gdb, CVS, ClearCase, ClearQuest, Pure tools and Valgrind

Access and Support to 30 Development Sites Worldwide

- Multiple versions, distributions, and hardware platforms

The Value of Enterprise Linux

- Support lifetime long enough for development, qualification and support of EDA tools in the customer environment
- Instigate a predictable release cycle (18-24 months)
- Forward compatibility of updates
 - Patch existing environment



Meet customer expectations by providing the freedom to update their design environments according to their business needs and schedules.

Value of Partnering with Novell

We turned to Novell to help our worldwide engineering team deliver our products on SUSE Linux Enterprise Server.

- Partner-level relationship
 - Global enterprise support agreements
 - Processes that support dispersed development environments
- Strong ecosystem to support enterprise Linux
 - Hardware and software vendor relationships
- Technology-Market Focus
 - EDA, High-performance computing and digital content

Conclusion–Linux Platform in EDA

- Requires enterprise versions
 - Provides longevity, continuity and supportability
 - Manages the complexity (and cost) of all flavors
- Provides excellent, cost effective performance
 - Combines hardware and software

Importance of EDAC Roadmap

- EDA Consortium Linux Roadmap
 - **Guidance**
 - > Matches multiple EDA-vendor tools to the same Linux distribution
 - **Possible timeline**
 - > Looks forward to new Linux releases and tool availability from ISVs
 - **Driven by customer demand**
 - > SUSE Linux and Red Hat
 - > Enterprise Linux only

Next Steps

Want to Learn More?

- Visit www.novell.com/linux to learn more about deploying Linux in your enterprise.
- Go to www.novell.com/switch to read more about making the switch from UNIX to Linux.
- Read about other success in the Manufacturing Industry by visiting www.novell.com/industries/manufacturing.

Questions

Thank you for attending

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