

SUSE® Linux Enterprise on System z

A quick overview

Linux on z User Group inaugural meeting

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Market Overview of SUSE Linux Enterprise Server on System z

First enterprise Linux product in 2000

80-90% market share for SUSE Linux Enterprise on mainframe

Installed base of 1700+ customers worldwide

Long-standing engineering relationship with IBM (Nuremberg)

Companies like Boscovs Dept Stores, Renfe, Banca Popolare di Milano, Deutsche Bahn, HSBC, Audi, Endress+Hauser run mission critical applications on SLES for System z

First SAP-certified solution stack on mainframe 2002,
first productive customer (2002 OMV Austria, oil & gas)

740+ of certified applications from 260+ ISVs, including DB2, Oracle, Websphere, Lotus Domino, SAP

First implementation of Common Code Line on mainframe

First CC/CAPP-EAL security certification 2002

Novell Delivers

- World-class Linux technology & support services
- Comprehensive partner ecosystem
- Unique, strategic relationships with IBM, SAP, and Microsoft
- Wide range of services to help you succeed:
 - Flexible support options
 - Consulting and training
 - Significant experience of Linux adoption & porting
 - Linux Readiness Assessment
 - Access to strategic architects
 - Executive workshops & briefings
 - Business case development

SLES 11 — selected highlights

- Mono Extension — supporting .NET applications on z
- Cross-architecture crash dump analysis
- Improved software management stack
- Oracle Clustered Filesystem (OCFS2)
 - can span architectures, e.g. System z and x86_64
- Supportability infrastructure
- I/O enhancements
 - multi-pathing, async I/O, flexible pluggable scheduler

SLES 11 — selected highlights

- AF_IUCV Support
- Provide Linux filesystem and process data into z/VM monitor stream
- System z support for processor degradation
- In-Kernel crypto exploitation of new CP Assist functions
- Linux CPU Node Affinity
- Support for OSA 2 Ports per CHPID
- cpuplugd to automatic adapt CPU and/or memory
- Dynamic CHPID reconfiguration via SCLP - tools
- skb scatter-gather support for large incoming messages - QETH Exploitation
- Support for HiperSockets in Layer 2 mode (with IPv4 and IPv6)

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Workloads

SUSE® Linux Enterprise Server for System z IBM Solutions Support

- **DB2** – Content Manager, Connect, DB2 for Linux
- **Lotus** – Domino, Web Access, Workflow
- **Rational** – RequisitePro, Software Architect, Software Modeler
- **Tivoli** – Monitoring, Enterprise Console, Provisioning Manager
- **WebSphere** – Application Server, Studio, Commerce

www-306.ibm.com/software/os/linux/software/portf.html

SUSE® Linux Enterprise Server on System z

Major ISV Support

ERP, Production Planning, Logistics

- ABAS Software AG
- SAP
- IFS

Database

- Oracle 9i & 10g
- Software AG Tamino (XML Database)

Application & E-business Integration

- Tibco
- Iona
- BEA WebLogic
- Aeonware (B2B/B2C)

Systems Management

- BMC Patrol
- BMC Mail Server Knowledge Agent
- BMC Web Server Knowledge Agent
- Computer Associates
- Legato Networker for Linux
- LinuxCare (Levanta)
- Veritas Software Corp.

Windows Migration (ASP, .NET)

- Stryon Software

Print Server

- Macro4

Stock Tracking

- RTS Realtime Systems

Core Banking Applications

- Sanchez, M2M, S2, ...

Mail & Calendaring Server

- Sendmail (Mail)
- Bynari (Mail & Calendaring)
- Nexus Neon

Development & Testing Tools

- Logics Software
- Rational Software (now IBM)
- Rogue Wave Software
- Dignus
- ACTS (testing)
- Acucorp Inc. (Cobol solutions)
- MicroFocus

Firewall

- zGuard
- StoneSoft (Stonegate)

Grid Computing

- Platform
- Data Synapse
- Globus Toolkit

Which workloads fit best?

- Leverage classic strengths of the System z
 - High Availability
 - High I/O bandwidth capabilities
 - Flexibility to run disparate workloads concurrently
 - Requirement for excellent disaster recovery capabilities
 - Security
- Shortening end to end path length for applications
 - Co-location of applications
 - Consolidation of applications from distributed servers
 - Reduction in network traffic
 - Simplification of support model

Best Fit

- WebSphere MQ Series
- DB2 Connect
- CICS Transaction Gateway
- IMS Connect for Java
- Weblogic / Websphere and Java applications development
- Applications requiring top end disaster recovery model
- ComServer and Communications Controller for Linux
- LDAP security services

What Makes Good Fit

- Evaluate server choices
 - Correct application availability
 - Supporting applications
 - Total Cost of Ownership (TCO)
 - Politics within the organization
 - Porting issues
 - Shortening end to end path length for applications
 - Collocation of applications
 - Consolidation of applications from distributed servers
 - Reduction in network traffic
 - Simplification of support model

Good Fit

- Oracle Database
- UDB (DB2)
- Informix (IDS)
- WebSphere Application Server (WAS)
- Apache Web Serving
- SAMBA
- SAP
- Network Infrastructure
 - FTP, NFS, DNS etc...
- E-Mail Solutions

Potentially Difficult Candidates

- ISV and IBM applications that have not yet ported their application to run on Linux and System z
- Applications that by design run at VERY high sustained utilization (>95%)
- Standalone single applications as the only System z Linux applications
- Applications that are internally sensitive to a move

SUSE® Linux Enterprise Server on System z

Customer Success



The Novell Executive Briefing Center



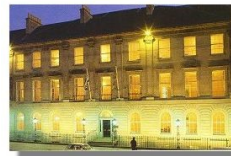
~ 40 briefings on Novell's data center strategy



T-Systems



Amadeus



Lloyds TSB



ING Bank



BMW



KLM



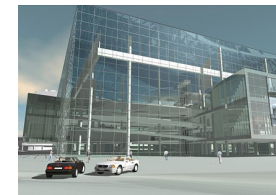
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Novell Services

Unmatched Linux Support



Novell Technical ServicesSM

- 11 Major support centers worldwide
- 24x7x365 availability
- 800 Linux trained engineers
- Dedicated support resources

- Service Level Agreements met for 99+% of incidents
- 65% of all calls resolved within five minutes
- 85-95% renewal rate (70% industry avg.)

Novell Consulting

- 1,500 experienced Consultants worldwide
- Linux Desktop-to-Data Center assessments and ROI models
- Fixed-fee “Linux Fast Tracks” for Roadmaps and Migration tools
- “Best Practices” for leveraging Linux Virtualization benefits

Novell Training Services

- Only vendor to offer full range of Linux training and certification
- Linux Technical Skills Assessments
- Comprehensive curriculum from end-users to engineers/architects
- Extensive performance certifications
- 900 Training Partners (enterprise delivery and academic courseware)

SLES 11 — hardware and z/VM

- Improved handling dynamic subchannel mapping
- Multipath IPL (IPL through IFCC)
- Decimal Floating Point and z10 instructions support
- Standby CPU activation/deactivation
- Vertical CPU Management
- Standby memory add via sclp
- Dynamic memory attach/detach (req. z/VM 5.4)
- Exploitation of DCSS above 2G (req. z/VM 5.4)
- Extra kernel parameter via VMPARM
- Provide CMS script for initial SUSE Linux Enterprise Server 11 intallation under z/VM

SLES 11 — storage and network

- FICON Hyper PAV exploitation
- FCP Automatic port discovery
- FCP LUN discovery tool
- Updated FCP HBA API
- Installation support on 2nd Ports with OSA Express-3 (with 2 port per CHPID=4 Ports)
- HiperSocket Layer3 support for Ipv6 (for z/OS communication)
- CTCMPC merge into CTC driver: ctcn