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# SAP Operating System and Data Base Migrations to Red Hat Enterprise Linux

Jan Marteen Beyen  
Delivery Manager, REALTECH  
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presented by



# Agenda

- Introduction REALTECH
- Linux Trends in the SAP Market
- Why OS/DB Migration?
- What is an OS/DB Migration?
- Questions



# Who We Are: Facts, Figures, Dates

- Founded in 1994 by four SAP consultants
- Focus SAP Technology Consulting with several SAP partnerships
- International headquarters: Walldorf, Germany
- Worldwide presence (United States, Spain, Portugal, Italy, Germany, New Zealand, Japan, Singapore)
- Publicly traded since April 1999 (Frankfurt Stock Exchange)
- 2008 revenues: about \$92MM USD
- Profitable and growing
- 700 employees at the end of 2008
- Over 2,000 customers worldwide



# REALTECH Migration History

- **OS/DB Migration Course offered by SAP 3<sup>rd</sup> Qtr 1997**
- **Performed the first productive migration worldwide in early 1998**
- **REALTECH was the first company to use the now supported 'migration toolkit' methodology**
- **REALTECH has completed over 400 migration projects worldwide**
- **Migrations to and from all SAP Supported Platforms**
- **Founding Member of SAP LINUX Lab in Walldorff**

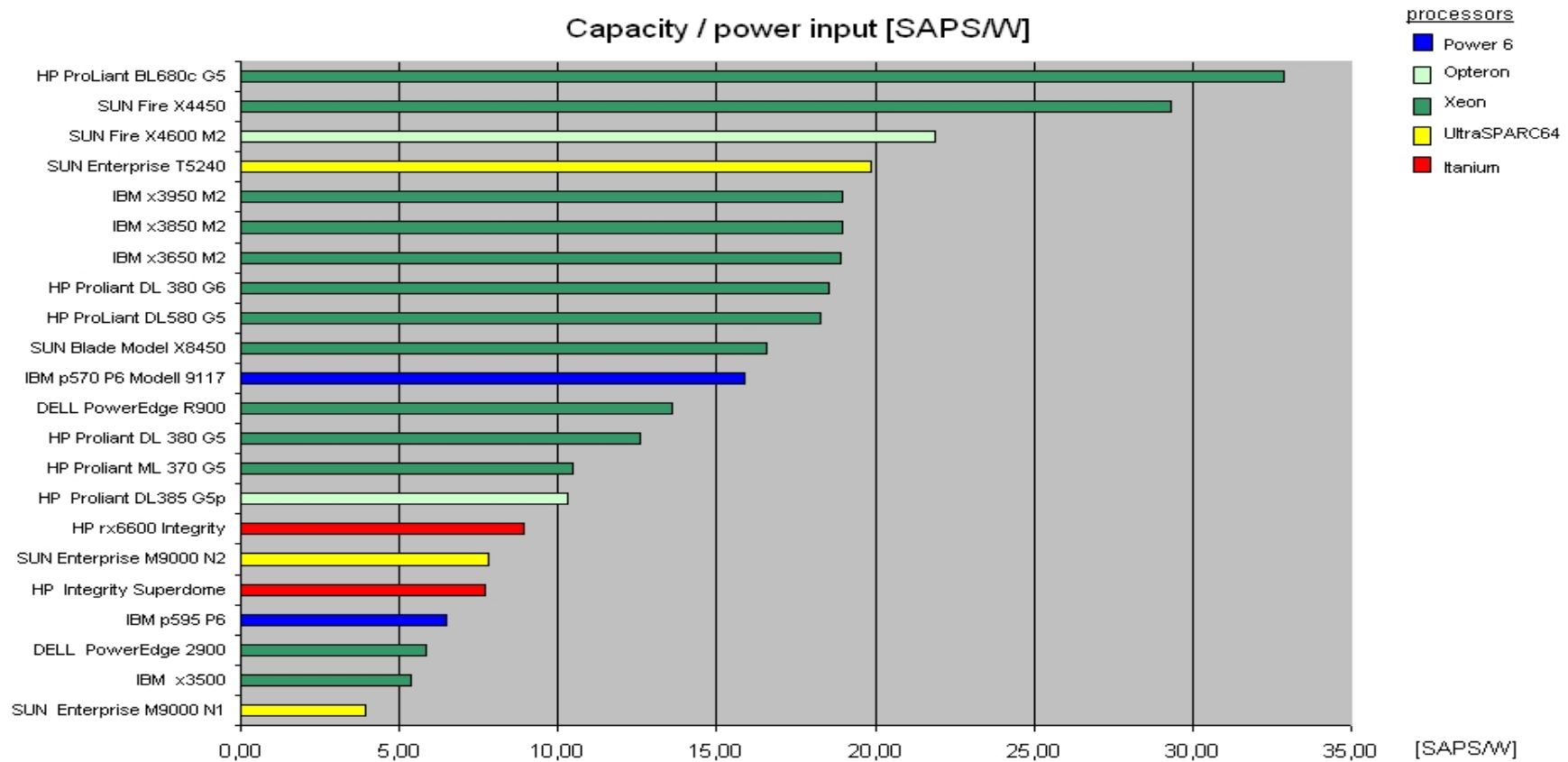
# Linux Trends in the SAP Market

- Why Migrate to INTEL x64?
  - Price/Performance Ratio
  - High Availability
  - Performance Improvement

Server Vendor	Processor Name & Type	Server Type	Maximum number of CPUs in configuration	Maximum Performance per Server [SAPS, normalized]	Undiscounted EURO/SAPS p.a.
HP	Opteron 2384	HP ProLiant DL385 G5p	2	13780	€ 0,37
HP	XEON X5570	HP ProLiant DL 380 G6	2	25000	€ 0,37
DELL	XEON X7460	DELL PowerEdge R900	4	21430	€ 0,37
DELL	XEON X5460	DELL PowerEdge 2900	2	10850	€ 0,42
HP	Opteron 8356	HP ProLiant DL385 G5	2	10520	€ 0,48
DELL	XEON X7350	DELL PowerEdge R900	4	16680	€ 0,48
HP	Opteron 8360 SE	HP ProLiant DL385 G5	2	9510	€ 0,53
DELL	XEON X5355	DELL PowerEdge 2900	2	8180	€ 0,55
SUN	UltraSPARC64 T2 Plus (Victoria Falls)	SUN Enterprise T5440	4	41800	€ 0,56
HP	XEON X7460	HP ProLiant DL580 G5	4	25830	€ 0,73
IBM	XEON X5570	IBM x3650 M2	2	25530	€ 0,74
HP	XEON X5470	HP ProLiant DL 380 G5	2	12600	€ 0,74
HP	XEON X5460	HP ProLiant ML 370 G5	2	12250	€ 0,75
IBM	XEON X5355	IBM x3500	2	9270	€ 2,29
IBM	XEON X7460	IBM x3850 M2	16	106200	€ 4,52
SUN	UltraSPARC64 T2 (Niagara 2)	SUN Enterprise M9000	32	350400	€ 5,16
IBM	XEON X7460	IBM x3950 M2	32	212400	€ 5,50
IBM	XEON X7350	IBM x3850 M2	16	75680	€ 6,31
HP	Itanium 9140M (Montvale)	HP rx6600 Integrity	4	11700	€ 6,33
SUN	UltraSPARC64 T1 (Niagara 1)	SUN Enterprise M9000 N1	32	176960	€ 10,34
IBM	Power6	IBM p570 P6 Modell 9117	16	88975	€ 12,00
IBM	Power6	IBM p595 P6	32	177950	€ 19,20
HP	Itanium 9140M (Montvale)	HP Integrity Superdome	64	187200	€ 19,91
SUN	SPARC64 VI	SUN Enterprise M9000	32	73140	€ 25,02

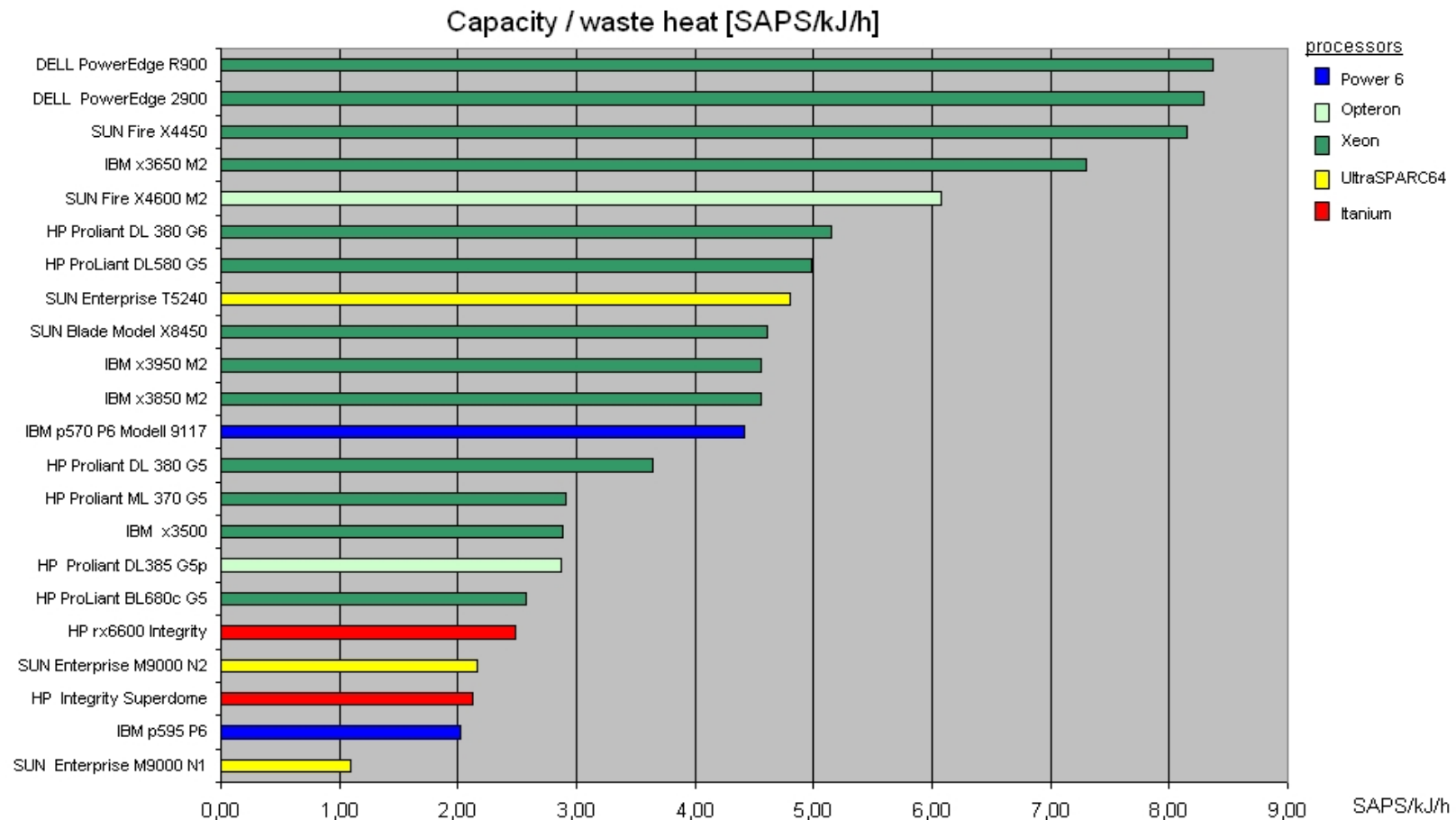
# Environmental Aspects

- Performance per energy input



# Environmental Aspects

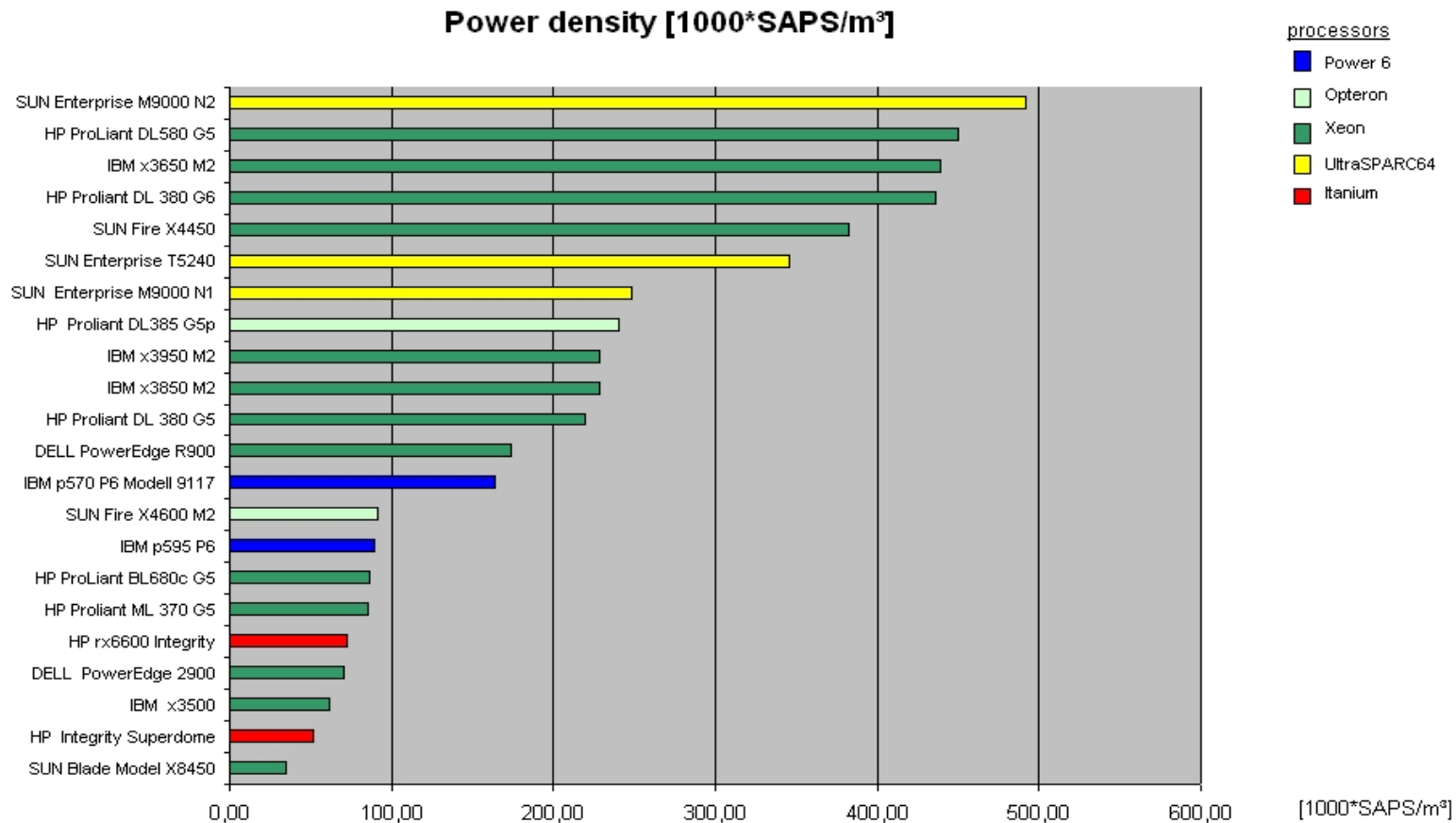
- Heat Wasted





# Environmental Aspects

- Power Density



# Why do customers migrate?

- **Additional hardware requirements**
  - Upgrade
  - Unicode
  - AS400 EBCDIC customer (Must migrate to ASCII to support multiple languages)
  - Unplanned growth of company
- **Increasing hardware and/or software licensing costs**
- **Reduced or no availability of support for current Operating System or Database, i.e. Informix**
- **Merger with another company**
- **Standardization of systems**
- **Total Cost of Ownership (TCO)**

# Building a Business Case

- **Look at current hardware costs for purchase or lease and licensing**
- **Look at annual maintenance costs**
- **Now look at Intel based hardware and maintenance costs**
- **Figure in actual migration and consulting costs**
- **Create spreadsheet to show ROI**

# Migration Key Success Factors

- **Create strong business case with facts and figures**
- **Build project team and timeline**
- **Secure budget, migration partner and SAP's approval**
- **Determine roll-out strategy**
- **Determine regression testing strategy including business owners buy-in and sign-off**
- **Plan Go-live downtime window very early in the process**
- **Provide training for new technologies such as OS and DB where needed**

# What is a Migration?

- **Technical name is OS/DB Migration or Heterogeneous System Copy**
  - Involves change of SAP system's OS, RDBMS or both
  - Example: migration from Solaris & Oracle to REDHAT & MaxDB Server
  - Typically a 3 to 4 months project per SAP landscape
- **Similar in scope to a major SAP version upgrade with the same concerns around regression testing (6 to 8 weeks)**
- **Passive fallback ability must be maintained at all times!**
- **After go-live and productive operations begin, there is no going back except by another migration**
- **Go-live downtime window should be planned very early in process (2 to 3 days production down)**
- **SAP controlled process:**
  - Includes three checks and support by SAP during the project
  - Requires approval of project plan by SAP and SAP certified migration consultant
  - Guarantees the target system is supported



# What To Do?

- **SAP Migrations require highly specialized skills and experience and a SAP certified migration consultant**
- **Every SAP customer is different!**
- **The following information is needed to qualify a SAP migration project:**
  - Source and target OS and DB with versions
  - Number of SAP landscapes with versions (e.g. ERP, BI/BW, SCM, CRM, Portal, Solution Manager and so on)
  - Production database size per landscape (only production)
  - If possible, try to obtain a “SAP EarlyWatch Report” for each landscape
- **This information will help to qualify the migration and establish a price for the migration project**
  - Cost of migration is an important part of Total Cost of Ownership and ROI analysis

# Customer References

Altersversorgung für die Finanzwirtschaft



KarstadtQuelle  
Versicherungen

**NORTHROP GRUMMAN**

Electronic Systems  
Navigation Systems Division

# Hardware Pricing Comparison

<b>Vendor</b>	<b>Vendor- Model</b>	<b>RA</b>	<b>CPU Type</b>	<b>Cores #</b>	<b>HW Price</b>
DELL	Dell PowerEdge Model R900	128	2.6 (Xeon x7460)	4	\$30,000
HP	HP Integrity BL860C	24	1.6 (Intel Itanium)	2	\$200,000
HP	HP ProLiant BL680c G5	64	2.4 (Xeon E7450)	4	\$30,000
IBM	IBM BladeCenter LS42	64	2.7 (AMD 8384)	4	\$30,000
IBM	IBM p570	32	4.7 (Power6)	2	\$200,000
IBM	IBM System p 570	65	4.7 (Power6)	4	\$200,000
IBM	IBM System x3850 M2	64	2.6 (Xeon x7460)	4	\$30,000
DELL	PowerEdge M605	32	2.3 (AMD 2356)	2	\$15,000
Fujitsu	PRIMERGY Model TX300 S5 / RX300 S5	49	2.9 (Xeon X5570)	2	\$40,000
SUN	Sun Blade Model X8440	65	2.3 (AMD 8356)	4	\$200,000

**QUESTIONS?**

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