Carrier-Grade Eco-Systems: The Business Need for International Open Standards

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FUJITSU COMPUTERS
SIEMENS

The Leading European Computer Manufacturer
Facts and Figures

- Founded: 1. October 1999

- Active in all key markets in Europe, Middle East and Africa

- Turnover 5,4 Billion Euro (March 02)

- 7.200 Employees

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Fujitsu Siemens Computers Strategic Focus

Integration of the mobile World …

Mobility und Business Critical Computing

… with reliable IT Infrastructures

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Converged Networks and Wireless Networks Key Technologies till 2007

- **"Western Europe's online sales will reach $2.5 trillion.** 19% of Western Europe's trade will occur via the Internet by 2006.
  Forrester: DECEMBER 26, 2001. Global Online Trade Will Climb to 18% Of Sales

- Speech Recognition,
  Web Services,
  Always-on Wireless Data and Communications Devices,
  Converged Networks
  J. Fenn: "Ten Technologies for 2002 to 2007". Gartner Research Note T-15-0205. 21 December 2001

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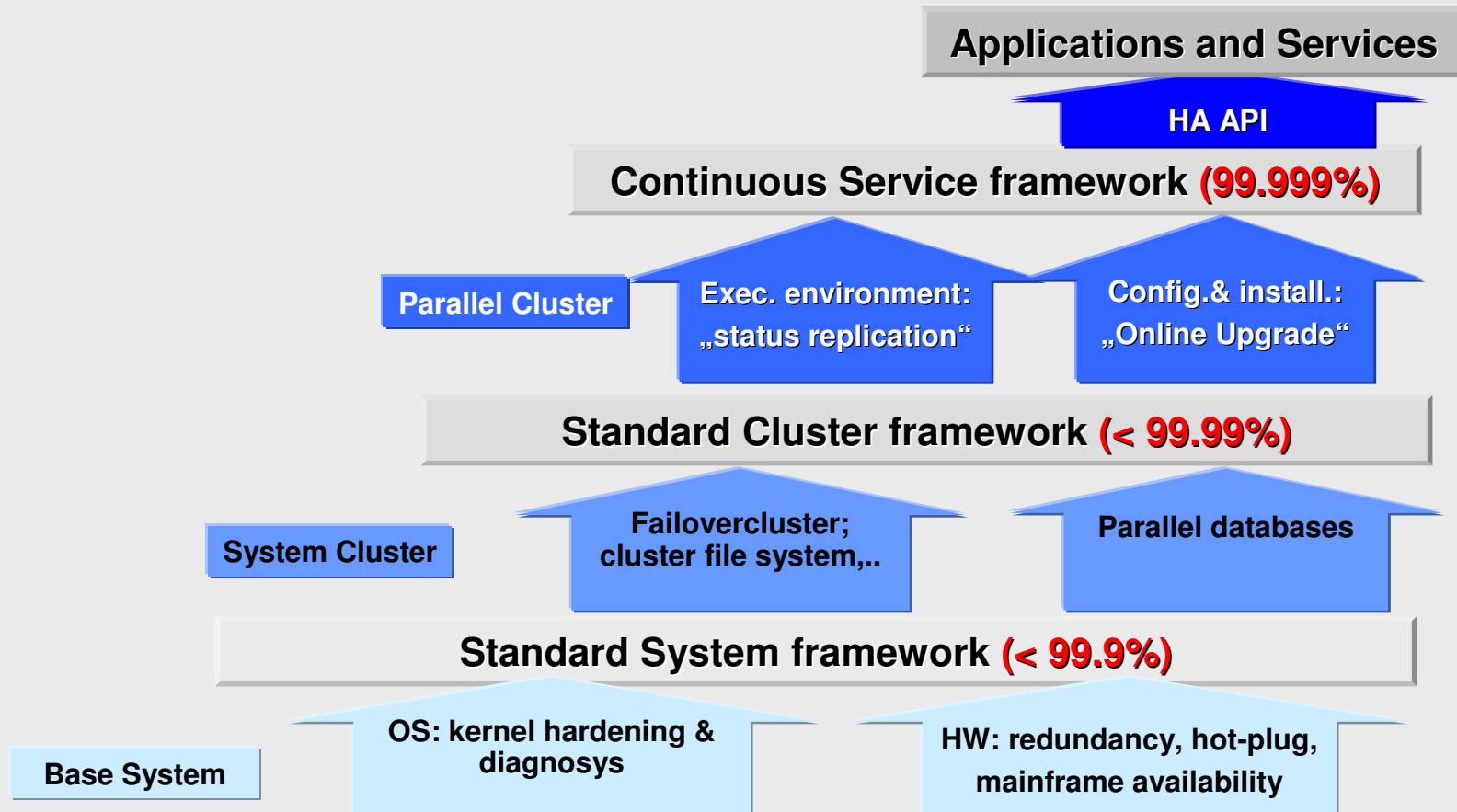10

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Characteristics of a Mobile Society ...

■ Converged networks and wireless networks will be key technologies in the foreseeable future

■ A plentitude of services will drive the telecom business

■ The complexity of services will increase

■ Future application scenarios will include multi-modality and ubiquity

■ A paradigm change is ongoing in the telecom value chain

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... Require the Specification of New Standards

- Domain specific interfaces (finance, telco, manufacturing ...)

- Application level development standards (e.g. W3C, OMA)

- Domain level interoperation (e.g. Java beans)

- Device abstraction (e.g. XML, OMA)

- Evolution of platform interfaces (e.g. SAForum, OSDL)

- System and hardware components (e.g. OSDL, PICMG)

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Pyramid of Availability Layers

Applications and Services

HA API

Continuous Service framework (99.999%)

Parallel Cluster

Exec. environment: „status replication"

Config.& install.: „Online Upgrade"

Standard Cluster framework (< 99.99%)

System Cluster

Failovercluster; cluster file system,..

Parallel databases

Standard System framework (< 99.9%)

Base System

OS: kernel hardening & diagnosys

HW: redundancy, hot-plug, mainframe availability

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Industry is Working on High-Availability APIs with a Strong Focus on Linux

SERVICE AVAILABILITY FORUM

29 Companies defining M/W AP interfaces
(e.g. Fujitsu Siemens, IBM, HP/Compaq, Intel, Sun, Nokia, Motorola…)
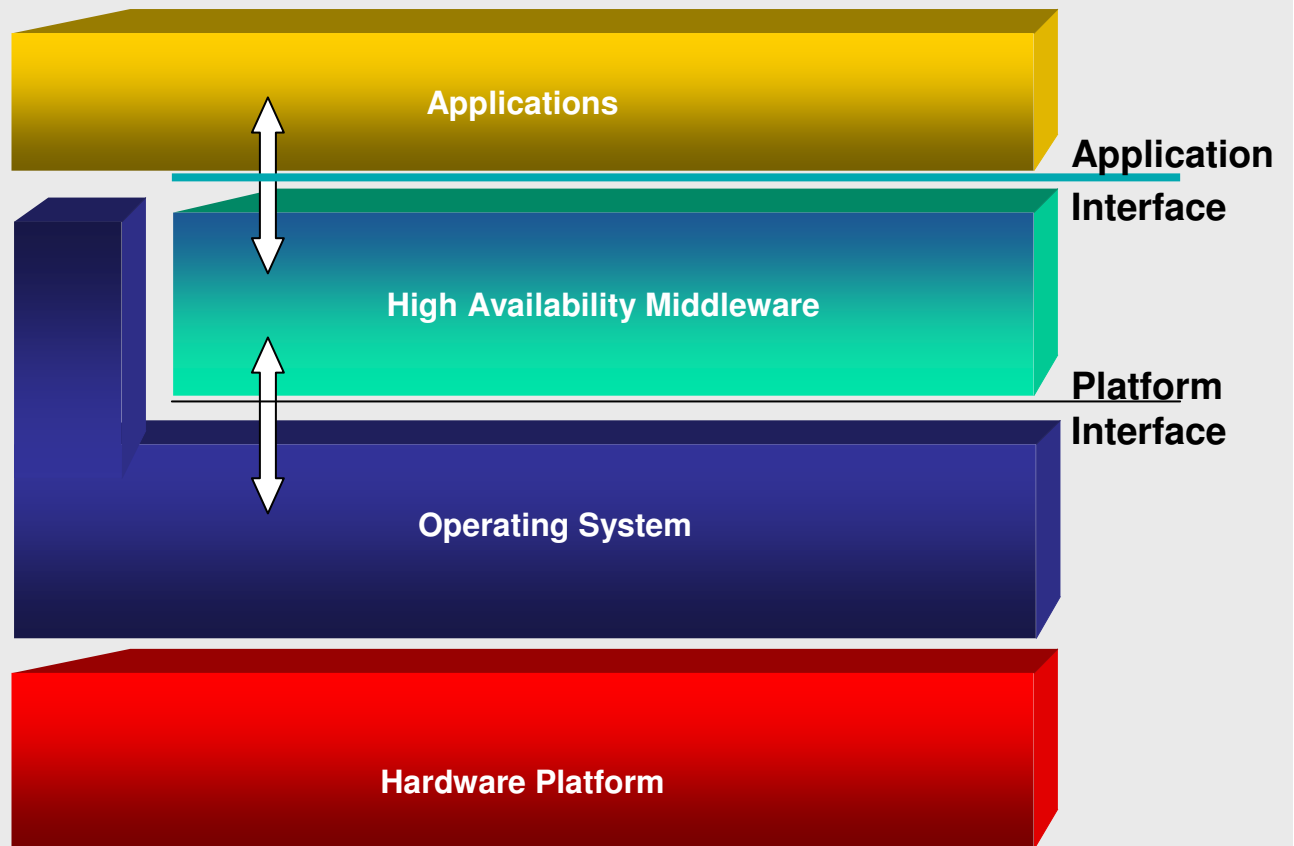
OSDL

10+ companies defining OS needs & architecture
(e.g. Alcatel, Cisco Systems, Ericsson, Force Computers, HP, IBM, Intel, MontaVista Software, NEC, Nokia, Red Hat and SuSE)

PICMG PCI INDUSTRIAL COMPUTERS

105 companies defining HW reqs & architecture
(e.g. Aculab, IBM, HP, Intel, Kontron, LSI, Lucent, Microsoft, MontaVista, Motorola, NMS; Nortel, NTT, Siemens, Sun)

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SAForum Addresses Hardware and Application Layer

Applications

Application Interface

High Availability Middleware

Platform Interface

Operating System

Hardware Platform

SERVICE AVAILABILITY FORUM ™

www.saforum.org

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Carrier-Grade Infrastructure Standardization Success Factor for Mobile Society

- Ubiquitous computing based on a wide number of services for business and residential customers

- Spread of service generation capabilities required

- Service complexity growing

- Eco system approach creates economic scale

- Service portability and interoperability need standards

- Platform level standards are available now (e.g. SAForum, OSDL)

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