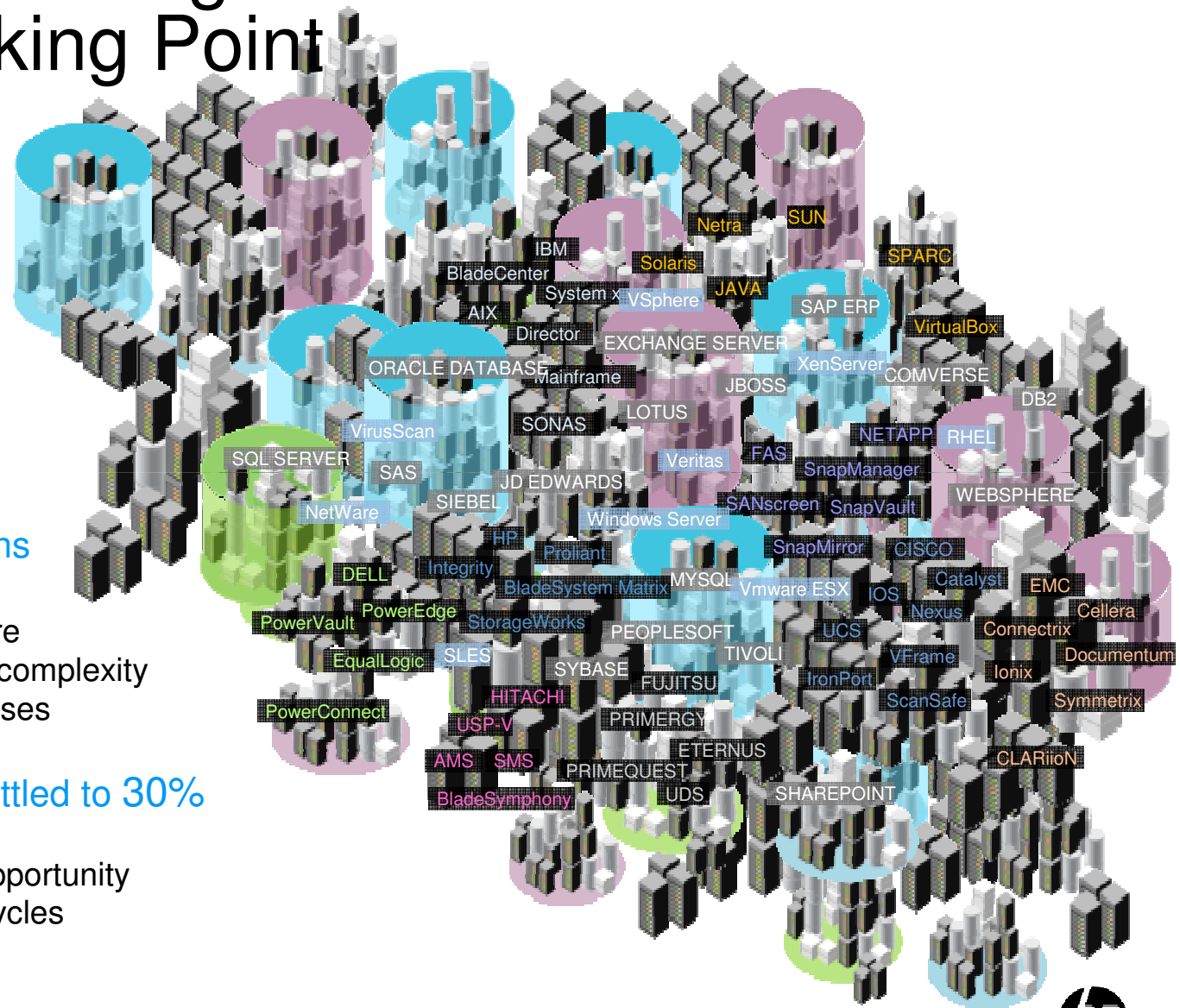# HP Converged Infrastructure

For the Data Center of the Future

Ulf Syvertsen, Industry Director, Communications, Media and Entertainment

NonStop Division, Europe, Middle East and Africa

Hewlett Packard Company

May 26th 2010

IT Sprawl is Taking Business Performance to The Breaking Point


70% captive in operations and maintenance
- Rigid & aging infrastructure
- Application & information complexity
- Inflexible business processes

Business innovation throttled to 30%
- Time to revenue
- Cost of lost time, effort, opportunity
- Unpredictable business cycles

The Data Center of the future will be built on a Converged Infrastructure

Storage

Servers

HP Converged Infrastructure

Power & cooling

Network

Management software
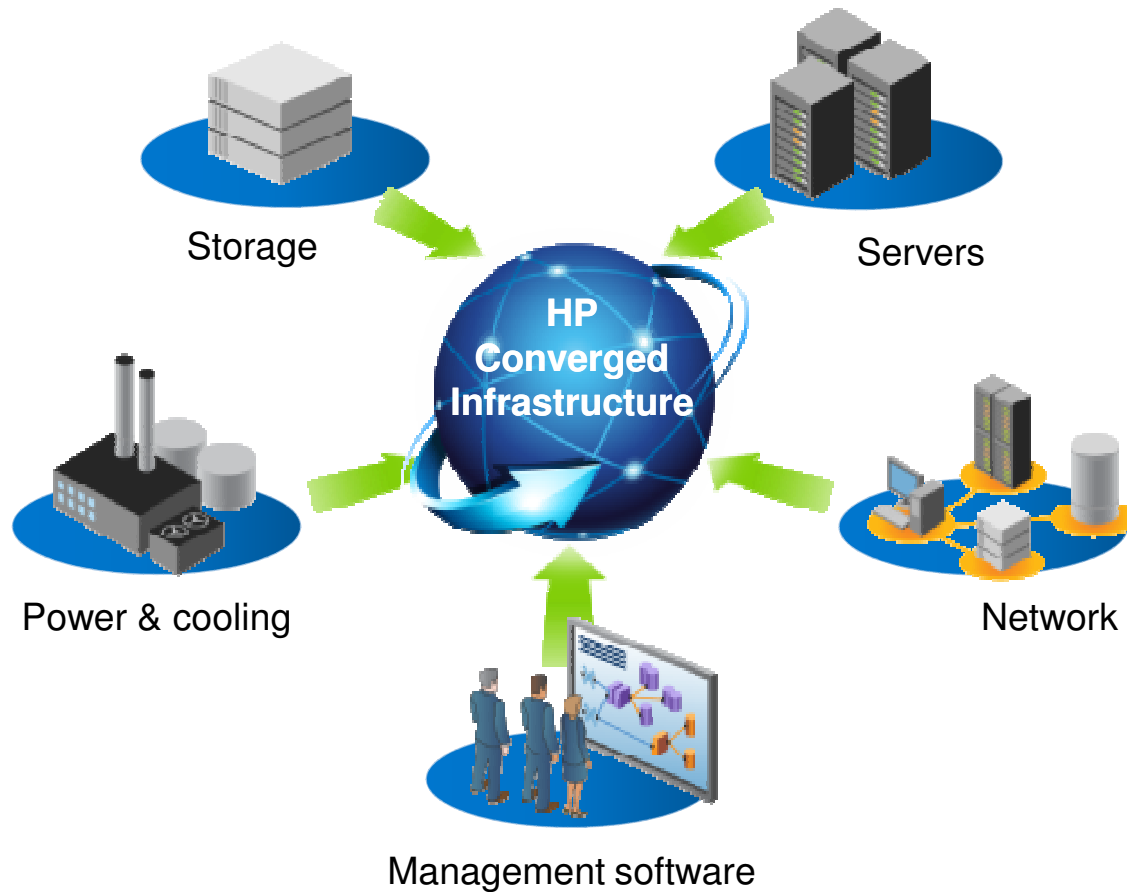
HP Converged Infrastructure

A blueprint for the data center

Eliminates silos and integrates technologies into pools of interoperable resources.

The result:

Delivers a new level of simplicity, integration, and automation to accelerate outcomes that matter:

- Faster Time to Revenue

- Lower Costs of acquisition and implementation

- Flexibly respond to business changes

- Lower Risks

Built on industry standards and choice

Delivering the data center of the future

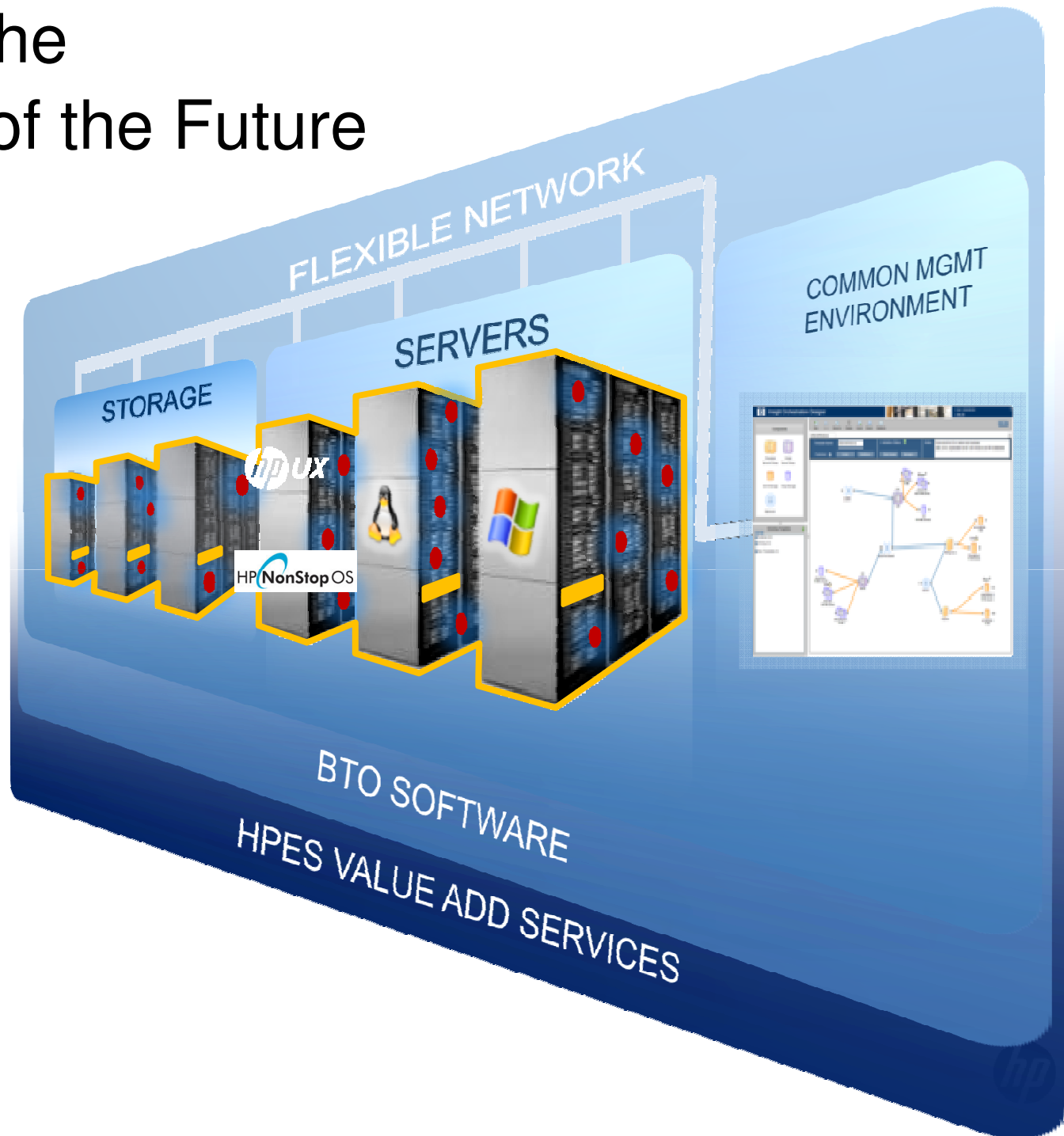# NonStop in the DataCenter of the Future

Shares Modular Building Blocks

Common Management

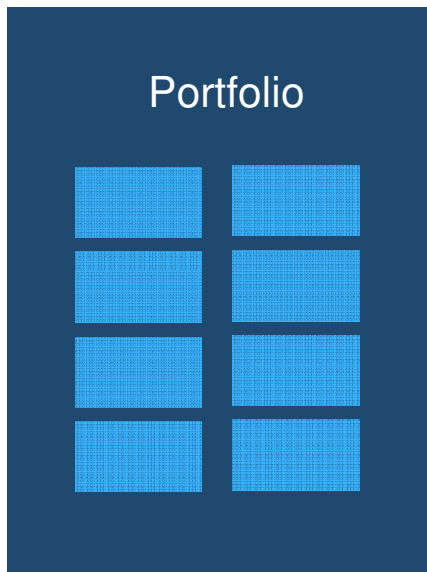Scalable/Reliable to any service level

Open Application Development

Rapid Programmer Productivity

Services to enhance ROI

FLEXIBLE NETWORK

COMMON MGMT ENVIRONMENT

STORAGE

SERVERS

BTO SOFTWARE

HPES VALUE ADD SERVICES

Only HP can bring it all together

Intellectual property

Portfolio

Open integration

Partner ecosystem

Existing infrastructure

Expertise
to deliver the way you want

In-house

Outsourced
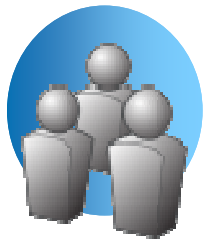
via Cloud

Desktop to NonStop, core switch to network edge

Accelerate your Business
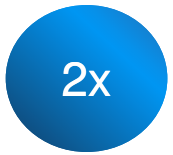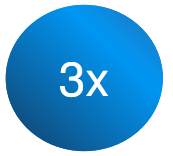
– Make 70/30 about innovation again

Wks to min	Improved productivity
2x	Utilization infrastructure capacity
3x	Reclaimed facility energy capacity

$	Faster time to business value
	Improve service-levels
	Support business innovation

Summary

– HP is leading the technology transformation

Only HP has the complete Converged Infrastructure portfolio

Open architecture, customer choice

More value for customers, now and in the future

Getting Started with HP Convergence

Assess where you stand

- Converged Infrastructure Maturity Assessment
- Visioning workshop
- Proof of Concept services

See it in action

Converged Infrastructure solution demos:

- Live at HP Solution Centers
- Virtually on-demand at your location

Plan for convergence

Data Center /Application:

– Transformation

– Modernization

– Design & Implementation

Vertical Industry Trends

Communication, media, and entertainment (CME)	Manufacturing and Distribution Industries (MDI)	Financial Services Industries (FSI)	Health and Life Sciences (HLS)	Public Sector (PS)
Today • >300M subscribers depend on HP Integrity for wireless mobility. • HP Integrity moves > 900M text messages per year. • HP Integrity handles Billing & CC for > 400M subs in AMS & WE.	**Today** • 45% of SAP runs on HP • HP runs 3 of the largest SAP instances • HP is the largest Siemens Teamcenter partner • 80% of the world's largest utilities run on HP-UX	**Today** • World's largest Open Core Banking App runs on HP-UX (SBI) • HP-UX is market leader in Oracle core banking shipments • HP NonStop is market leader in Payments	**Today** • All top Gartner Magic quadrant EMR solutions run on HPUX • Increasing number of other Healthcare apps moving to X86 Windows and Linux – HP loosing focus • Life Science riding ProLiant Success	**Today** • Defense, national security and BI in education & citizen services still value mission critical • Increasing number of PS apps moving to X86 Windows and Linux – Target DL785s and DL980s
Tomorrow • HP is market share leader in Long Term Evolution (LTE) HSS for mobile networks • One billion subscribers depend on BCS to provide services	**Tomorrow** • CI allows cost-effective mix of scale-up and scale-out in ERP • HP scale can manage massive smart grids • CI enables distributed PD+E archtecture	**Tomorrow** • Rampant re-evaluation of mainframe in core banking apps – UP-UX gains share • Payments become mobile and ubiquitous – HP and NonStop gain share	**Tomorrow** • Growth of EMR will drive to strengths of HP-UX backend • Work with (incent) smaller ISVs to work with HP as they move to Windows.	**Tomorrow** • Improve real-time info sharing on security and citizen protection – HP NonStop • CI allows quick adaption of new services to citizens and students

Key Solutions

– Value Added Services (ITS)

– Compliance Log Warehouse (CLW)

– Convergent Charging (CBOSS)

– Subscriber Data Management (HLR,HSS,PM)

– ZLE/ODS

NonStop in CME

VNUG Update

The Telco Market

– Pressure to lower Capex and Opex

– Requirement for infrastructure to be reliable, resilient

– Move away from custom made hardware to off the shelf components

– Future proof solution – meet tomorrows requirements such as converged billing, 4G, etc..

– Drive new revenue streams by developing new services quicker!

– Looking to consolidate applications

Some NonStop customers in CME

Deutsche Telekom, Telecom Italia Fix and Mobile, Telefónica de España
Fix a... ...O2, A-Cell,
Bate... ...elgacom,
Fran... ...doprima,
Mikr... ...General
Tele... ...E-Cell, A-Cell
Azer... ...AIS, Reliance,
Vimp... ...tro PCS, Rural
Cellu... ...eless,Dobson
Wire... ...cast,
Celu... ...USACELL,
Telel... ...nalog,
AirT... ...geria, Israel,
Kaza... ...and,
Arge... ...kistan,
Urug...

CME Industry

Industry Shift

HP is at the sweet-spot between Telco & IT
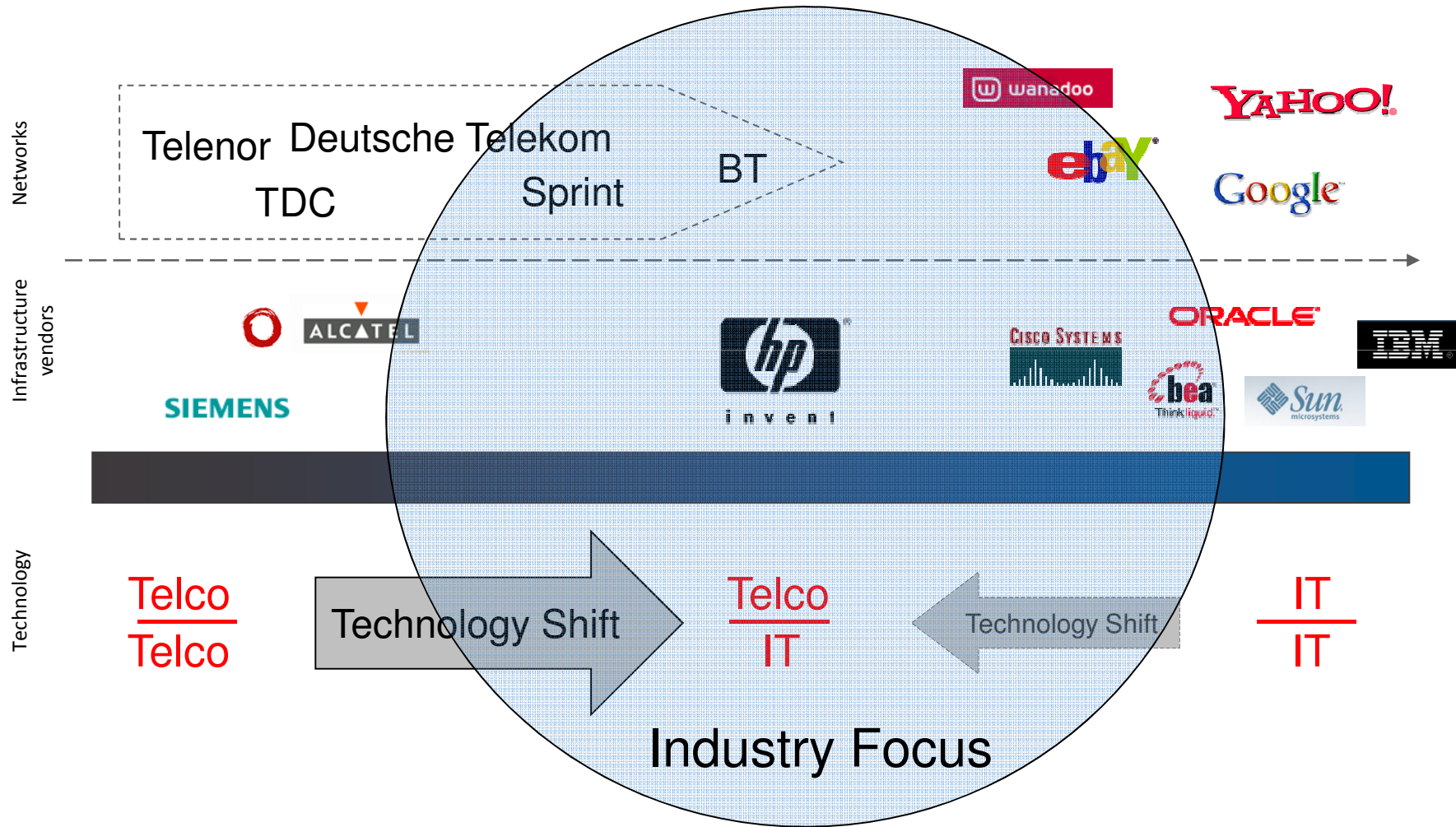
Networks

Telenor Deutsche Telekom
TDC Sprint BT

Infrastructure vendors

SIEMENS ALCATEL hp invent CISCO SYSTEMS ORACLE IBM bea Think liquid Sun microsystems

wanadoo YAHOO! ebay Google

Technology

Telco / Telco Technology Shift Telco / IT Technology Shift IT / IT

Industry Focus

Key Solutions

–Value Added Services (ITS)

–Compliance Log Warehouse (CLW)

–Convergent Charging (CBOSS)

–Subscriber Data Management (HLR,HSS,PM)
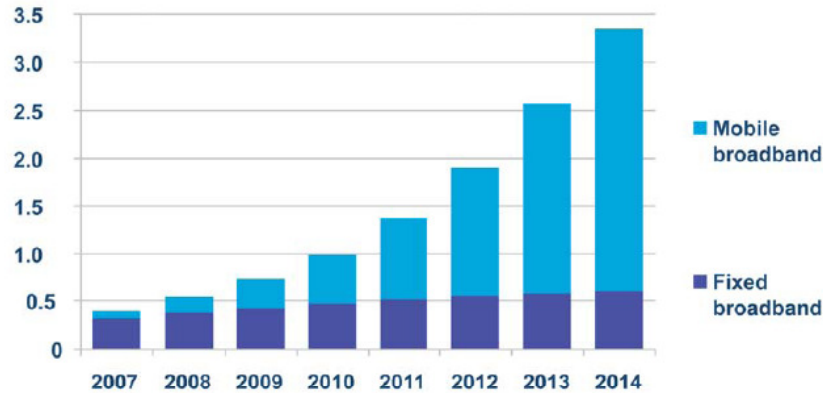
–ZLE/ODS

Market Trends
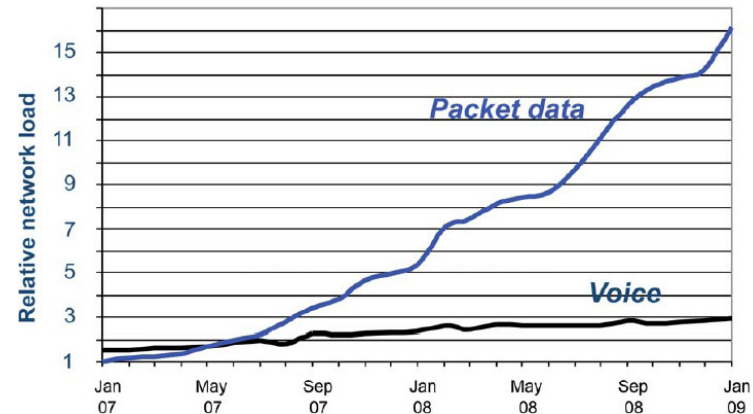
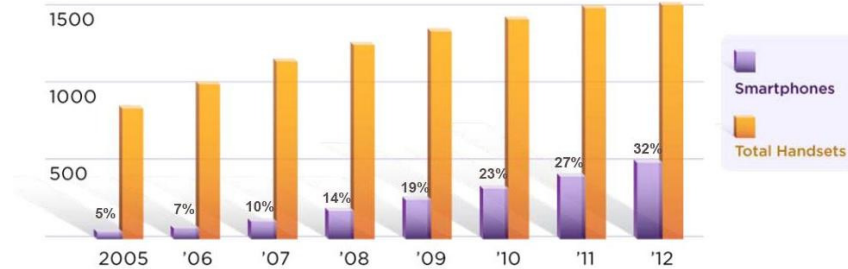**Bn people**

Figure 1: Broadband growth 2007–2014

Legend: Mobile broadband, Fixed broadband

Figure 2: Strong growth of data traffic in WCDMA networks worldwide

Smartphone's continue to grow

Legend: Smartphones, Total Handsets

Vodafone Global Data Revenues (millions)

£441 — June Qtr '07
£664 — June Qtr '08
£888 — June Qtr '09

Sources: Smartphone Forecast - ABI - Smartphone and OS Markets (Q1 2008)

Total Handsets: Average of Strategy Analytics (July 2008), Gartner (Dec 2007), IDC (June 2008), Ovum (Mar 2008), Yankee Group (June 2008), WCIS (May 2008) and Forward Concepts (June 2008)
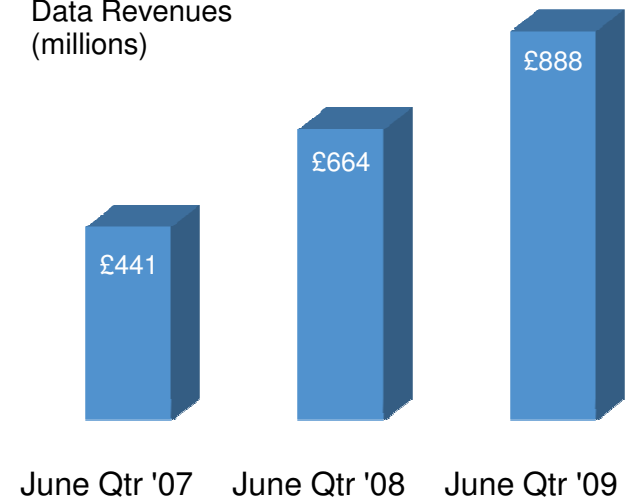
Open software speeds innovative solutions to new markets

Porting proof points

Diana Cortes, Manager, NonStop Marketing

Hewlett Packard Company

Stockholm, May 26th 2010

NonStop Development Modernization

You want:

- High developer productivity

- Leverage ubiqutous skills

- Common development environment for all platforms

- Workstation based development

NonStop Strength

- Our new development infrastructure is based on the industry leading Eclipse IDE

- Eclipse is open source

- Many industry extensions (plugins) available to support any phase of the development lifecycle

- NED offers commercial plugins– same look and feel

- Support for Java out of the box

- Eases development with Open Source Frameworks

Straightforward porting to NonStop

Some examples

Payment Systems

Workload Scenarios

- **Workloads need to scale**

  – HP Integrity NonStop offers near linear scalability

- **Workloads require continuous availability**

  – HP Integrity NonStop leads the industry in out-of-the-box continuous system and continuous application service

- **Workloads need to be sensitive to Total Cost of Ownership (TCO)**

  – Complexity and associated costs of configuring and managing clustered databases are very high

  – HP Integrity NonStop leads the industry with its lowest TCO for payment workloads

Porting proof points

About AJB

- 143 customers

- 85,000+ locations

- Focused on payment solutions

- Target market

  - Tier 1 and 2 merchants with greater than 50 locations

- 23 of the top 100 merchants in North America rely on AJB for their payment solutions

- 11 of the 50 fastest growing international retailers use AJB payment software

Business Usage Examples

- Full support for gift card programs
  - In-house gift card application
  - Gift card mall support
  - Gift card acceptance at the pump

- Loyalty
  - Loyalty rewards tracking – tied to pump discounts and or instant wins
  - Ability to route loyalty transactions based on branding of gas station
  - Working with lottery corporations on integrating lottery tickets into POS

About Lusis

An innovative provider of 24/7 payment transaction processing solutions, committed to modern technologies that reduce cost and time to market yet retain reliability, scalability and performance. Lusis core transaction engine is called Tango.

Founded in 1999, with HQ in Paris, Lusis is a privately-held company with strong payments leadership and expertise. FY09 turnover was €13m, with 110 employees, and customers in Finance, Retail, Utilities and Transport across EMEA and USA.

Lusis promotes flexible licensing and support of Tango including supply of source code. Add-on modules include Data Replication (Active-Active), Risk Management, and Loyalty. There is no capacity licence element in Tango pricing.

The Porting of Tango to HP NonStop: Key Principles

Principles of the Partnership:
- Based on OSS (POSIX) HP OS, using SQL/MX
- HP provided LUSIS with full HP NonStop training and technical education
- HP provided complete hardware/software platform for migration

A Professional and Successful Porting Project:
- Step 1: Technical Validation
  - Regeneration of low level technical Tango objects
  - SQL/MX Tango module development for database support
- Step 2: Full TANGO EFT Suite
  - Extensive functional validation
  - Performance validation : comparison with existing systems
- Full benchmark report for management, and decision to go to market
- Performance adequately meets Tier 1 F.I. requirements

An exceptionally quick project –
2.5 months from start to successful completion!

The Porting of Tango to HP NonStop: Benchmark Configuration

Extensive testing phase was completed in May 2009:

CPU in Germany. Testing loader in Paris.

The system used for testing is : H-Series HP Non-Stop

(NONSTOP_KERNEL ns2ka J06 06 NSE-W)

Tests consisted mainly of:

- running Tango processes on CPU #3 and CPU #2

- database processes running on CPU#1 to check the concurrency of access to database and the context free architecture:

- Various numbers of ATM. Various architectures. Standard code.

Objective was to check the availability for 50 tps per CPU.

Objective was reached with an average Response Time < 200 ms.

New testing campaign currently under way with new HPNS ODBC interface.

About Opus and ElectraSWITCH

- 100+ installations

- 67% of India's card based Internet transactions

- EMV acquiring and issuing for Mitsubishi Group bank, Indonesia

- 50% of ATMs in East Africa

- Joint development with HP to port to NonStop platform

**Software Services for
Mission Critical OLTP**

**Payment Products
& Processing Services**

Architecting the world's largest payment system

State Bank of India (SBI) upgrades its ATM/POS network

- Solution Overview
  - State Bank of India (SBI) to replace their existing ATM platform with electraSWITCH software from Opus
  - Solution based on Integrity NonStop BladeSystem
  - Refreshed environment will power 25,000 ATMs, 500,000 PoS devices and kiosks and authorize 80 million debit cards by next year

- Project Highlights
  - Migration of ATMs has already commenced and would be complete in six to eight months, making this the fastest migration of an EFT Switch of this scale across the world.
  - Number of ATMs, PoS devices and debit card authorizations expected to double by 2014, making this the largest installation in the world

Sources: Business Standard, March 11th, 2010
http://www.business-standard.com/india/news/opus-bags-10-mn-sbi-deal-to-upgrade-atms/88184/on
Real Time View Blog, April 15th 2010
http://itug-connection.blogspot.com/2010/04/differences-not-so-big-anymore.html

New case study featuring these partners

Outcomes that matter.