NonStop into the Cloud (?)

Peter Hadler
NonStop Business Manager Germany
Meßtechnik bei HP

Hewlett-Packard ist mit weltweit 60.000 Mitarbeitern ein führender Hersteller auf den Gebieten der Elektronischen Meßtechnik und Datenverarbeitung. Unsere Geräte und Systeme verkaufen wir überwiegend an die Industrie sowie an Forschungs- und Entwicklungsbereiche.

Zum weiteren Ausbau unserer Vertriebsaktivitäten suchen wir begabungsfähige, neue Mitarbeiter, von denen wir erwarten, daß Sie ein Studium der Elektrotechnik, der Nachrichtentechnik oder einen vergleichbaren Abschluß nachweisen können. Ein gesetzt werden Sie als

**Vertriebsingenieur**

**Elektronische Meßtechnik**

**Einsatzort:** Berlin


Dass Sie zusätzlich ein umfangreiches Produkttraining erhalten ist für uns selbstverständlich.


Haben Sie Interesse? Dann rufen Sie doch einfach Herrn Heinrichmann (040/63041) an oder schicken Sie uns Ihre Bewerbung.

**Hewlett-Packard GmbH**, Technisches Büro, Kapstadtstr. 5, 2000 Hamburg 60
Accelerating innovation & change

New technology access methods

- Change how technology is consumed & value it can bring
- Open up new business models
- Remove current inhibitors & unleash power of innovation

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“NDA”
BYOD era meets Enterprise IT

- Bite-sized applications & interactions
- Cloud is the back-end with interoperability everywhere
- Analytics + big data
- Seamless orchestration across hybrid delivery model
Shifts enabling unconstrained IT access

Infrastructure ANYWHERE

Applications ANYWHERE

Information ANYWHERE

= Services ANYWHERE
IT Incidents & their impact

Why HP NonStop makes sense
(now more than ever …)
IT Incidents do occur …

03/08/12 **RBS sets aside £125m to cover IT meltdown costs**
The Royal Bank of Scotland has set aside £125 million to cover costs resulting from the technology failure that hit RBS, NatWest and Ulster Bank customers in June.

05/09/12 **NAB suffers five-hour outage**
Glitch-prone National Australia Bank and its UBank subsidiary suffered a five-hour outage Wednesday after a network failure at the bank's ageing East Melbourne data centre.

24/08/12 **Japanese watchdog slams TSE over trading outage**
The Tokyo Stock Exchange has been ordered to overhaul its systems and processes following a computer glitch that halted trading earlier this month.
IT Incidents do occur …

02/08/12  **Knight Capital blames tech glitch for stock market chaos; faces $440m pre-tax loss**
News Knight Capital says that a "technology issue" at its market making unit was behind the volatile price movements in 140 shares yesterday that forced Nyse Euronext to cancel trades.

21/05/12  **HSBC IT failure hits ATMs and card payments**
Some UK HSBC customers were left unable to make card payments or withdraw cash from ATMs yesterday thanks to an IT hardware failure.

25/01/12  **IBM server crash hits Canadian bank services**
News An outage at IBM's server farm in Montreal has knocked out online services and ATMs at two Canadian banks, according to a local press report.
IT Incidents do occur …

11/06/12 **Nasdaq faces legal action over $350m Facebook IPO disaster**
Swiss bank UBS is weighing legal action against Nasdaq OMX after losing up to $350 million during the botched Facebook IPO, which saw trading delayed and failed order cancellations.

29/08/12 **FNB suffers month-end crash**
First National Bank (FNB) has apologized for an interruption of its electronic services which left customers high and dry during peak evening shopping hours yesterday.

22/08/12 **Square payments hit by outage**
Transactions went unprocessed yesterday thanks to technical problems that also saw the mobile payments firm's Web site go down.
IT Incidents do occur …

14/10/11 **Blackberry Outage for three days caused by faulty router**
Insiders blame RIM's system, its poorly handled expansion and the demands of video content for failure that hit 70 million users. It is estimated that the explicit costs due to the outage will be limited to $350 million

22/04/11 **Chaos as Amazon cloud failure crashes major websites**
Sites across the U.S. went offline for up to 12 hours yesterday as Amazon's northern Virginia data centre was hit by a series of outages.

29/08/12 **United Airlines system failure**
United Airlines says a computer outage that caused the cancellation of nine flights and delayed 580 others was the result of an equipment failure.
IT Incidents do occur …

29/07/11  **RSA SecurID hack costs EMC $66m**
The security breach at RSA earlier this year that compromised its SecurID two-factor authentication system has so far cost parent company EMC $66 million, according to the Washington Post.

29/03/07  **TJX hack is biggest ever with 45.7 million card numbers stolen**
Fraudsters who hacked the computer systems at US retailer TJX managed to steal more than 45.7 million credit and debit card numbers over a period of more than 18 months, making it the biggest breach of personal data

14/05/12  **Bitcoin exchange loses $90,000 in virtual currency hack**
Bitcoin exchange Bitcoinica has shut down its operations after an online hacker breached its defences and stole $90,000 worth of the virtual currency.
Computer Failure Delays United Flights Nationwide

By ANAHAD O'CONNOR  
Published: June 17, 2011

Passengers were stranded at airports across the country Friday night after a failure in United Airlines' computer system, the airline said.

The disruption set off widespread delays at airports in San Francisco, Chicago and Washington, with many passengers left sitting in terminals or stuck on planes that were grounded.

United said in a statement that the problems began at 8:15 p.m. New York time, when the computer failure knocked out its flight departures, airport processing and reservations systems. The statement did not address the nationwide delays, and a spokesman did not return a phone call seeking comment.
## Business failure brings a high cost.

Critical server outage cost per hour (US$)

<table>
<thead>
<tr>
<th>Country</th>
<th>Cost per Hour (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>$243,421</td>
</tr>
<tr>
<td>DE</td>
<td>$371,612</td>
</tr>
<tr>
<td>FR</td>
<td>$452,245</td>
</tr>
<tr>
<td>UK</td>
<td>$274,138</td>
</tr>
<tr>
<td>Average</td>
<td>$368,692</td>
</tr>
</tbody>
</table>

Source: Virtualization Data Protection
2011 ANNUAL REPORT Survey of 500 Enterprises
High-Availability Solutions Drivers: All Servers, All Applications

- Concern about downtime affecting business: 9
- Impact on employee productivity: 9
- More important applications on my server now: 9
- Web-enabled workloads require 24 x 7 availability: 9
- Revenue loss: 9
- Impact on customer satisfaction/retention: 8
- Impact on business partners or suppliers: 8
- Consolidation has created a single point of failure: 8
- Impact on company brand: 8
- Legal costs/legal department requirements: 8
- Regulatory fees or penalties/compliance: 7

Source: IDC
1= not at all important; 10= most important
Traditional IT limitations

Information, applications and Infrastructure are hardwired

Built in silos to deliver performance and security

Not built for agility, speed and flexibility
Today’s approach to hybrid delivery drives more complexity

Service models continue to be unique and siloed for each deployment model

- Traditional
- Private
- Managed
- Public

Disparate Architectures, Different Management & Security
Inconsistent Development Environments
HP Converged Cloud
Integrated by design

Consistency
- Common architecture
- Portability
- Consumption

Choice
- Open
- Heterogeneous
- Extensible

Confidence
- Security
- Management
- Automation
HP’s approach...HP Converged Cloud

Hybrid Delivery

Traditional

Private Cloud

Managed Cloud

Public Cloud

HP Converged Information

Information

Information

Information

HP Converged Management & Security

Applications

Applications

Applications

HP Converged Infrastructure as a Service

Infrastructure

Infrastructure

Infrastructure

Choice

• Open (standards-based across all delivery models)
• Heterogeneous (hypervisors, development and deployment environments)
• Extensible (partner ecosystem)

Confidence

• Security (across information, applications and infrastructure, and delivery models)
• Management (across information, applications and infrastructure, and delivery models)
• Automation (for new cloud based architectures and processes)

Consistency

• Common architecture (across all delivery models)
• Portability (for flexibility and optimization)
• Consumption experience (one simple model across all delivery models)

EMPOWER. INSPIRE. IGNITE.
HP Converged Cloud in action

1. Develop and test new application in public cloud with policy-based, model-driven approach.
2. Deploy and run application in private cloud production environment, integrating with existing company databases.
3. Burst workload to public or managed cloud when additional on-demand capacity is needed.
4. Manage and secure composite applications and services across hybrid environment.
NonStop is a strategic part of HP’s Converged Infrastructure.

**ProLiant**
- OpenVMS
- Blades

**Integrity Systems**
- Integrity Blades
- Superdome 2 Blades
- Enclosures
- c3000
- c7000

**BladeSystem Matrix**

**Integrity NonStop**
- Superdome 2 enclosure
- Enclosures
- MOST EXTENSIVE I/O BANDWIDTH
- MOST EXTENSIVE MEMORY CAPACITY
- MOST EXTENSIVE SCALABLE COMPUTING
- Up to 4,080 nodes

Intel and AMD x86

Quad-Core
- NB54000
- Dual Core
- NB52000

Dual-Core
- NS2200
- Single Core
- NS2100

Single Core
- NS2100
- NS2200

**Notes:**
1. Memory capacity may vary depending on specific model and configuration.
Gartner Magic Quadrant

• For Blade Servers

Figure 1. Magic Quadrant for Blade Servers

Source: Gartner Magic Quadrant for Blade Servers
March, 2012
ID Number: G00225510

This Magic Quadrant graphic was published by Gartner Inc. as part of a larger research note and should be evaluated in the context of
the entire report. The Gartner report is available upon request from HP. The Magic Quadrant is copyrighted 2009 by Gartner, Inc., and
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Gartner's analysis of how certain vendors measure against criteria for that marketplace, as defined by Gartner. Gartner does not
endorse any vendor, product or service depicted in the Magic Quadrant, and does not advise technology users to select only those
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merchantability or fitness for a particular purpose.
All modern, All standard, All NonStop
and integrated into HP Converged Infrastructure

Modern software
Development environments
Management tools
Database programming
Web/GUI interfaces

NonStop value
24/7 application availability
Massive and linear scale
Fully virtualized

Standard hardware
Common chipsets
Blades
Storage
Networking

Virtualized • Resilient • Orchestrated • Optimized • Modular

Infrastructure Operating Environment
Virtual Resource Pools
FlexFabric
Data Center Smart Grid
Modern, Open Software

Integrity NonStop plugs into the open application development model TODAY

Open Application Development Environment
We are living in the Internet age …

<table>
<thead>
<tr>
<th>Requirement</th>
<th>PC *)</th>
<th>HP NonStop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems need to be permanently available and self-healing</td>
<td>?</td>
<td>✅</td>
</tr>
<tr>
<td>Data integrity needs to be maintained at all times</td>
<td>?</td>
<td>✅</td>
</tr>
<tr>
<td>Systems need to be secure</td>
<td>?</td>
<td>✅</td>
</tr>
<tr>
<td>Systems need to scale massively / endlessly</td>
<td>?</td>
<td>✅</td>
</tr>
<tr>
<td>Systems need to run unattended / high degree of automation</td>
<td>?</td>
<td>✅</td>
</tr>
<tr>
<td>Systems need to be „green“ – requiring less energy and cooling</td>
<td>?</td>
<td>✅</td>
</tr>
<tr>
<td>Not susceptible to malware floating in the Internet</td>
<td>?</td>
<td>✅</td>
</tr>
</tbody>
</table>

*) X86 – based, Windows / Linux OS
# HP Integrity NonStop

**enabling mission-critical businesses today**

## Financial Services
- Payment systems: Credit, debit, POS, wholesale
- Exchanges & trading

## Communications Media & Entertainment
- HLR, HSS and SDM
- Intelligent Network /3G Services
- Messaging

## Manufacturing
- Production Control Systems
- Manufacturing Execution

## Healthcare and Public Sector
- Electronic Patient Records
- Defense and Intelligence systems

### Financial Services Examples:
- 70% of all ATM payments and 66% of all credit card transactions
- World’s largest ISP Global Messaging
- 300+ million subscribers “live” in HP HLR solutions

### Communications Media & Entertainment Examples:
- World’s largest ISP Global Messaging
- 300+ million subscribers “live” in HP HLR solutions

### Manufacturing Examples:
- Premier automotive manufacturers
- Logistic management

### Healthcare and Public Sector Examples:
- Over 200 hospitals including many of the world’s largest teaching hospitals
- National Security
- Transportation
For businesses that run nonstop

HP Integrity NonStop NS2100 Server

Key features of the HP Integrity NonStop NS2100 Server

- Standards-based architecture using the latest Itanium® processor technology—the Intel Itanium Processor 9300 series
- Standards-based, open computing—HP NonStop infrastructure supports all relevant open standards for ease of application development and portability
- A flexible platform for heterogeneous environments with a choice of application architectures and management tools
- Uniquely designed for the absolute highest levels of availability¹ and reliability to enable continuous business
- Delivers the lowest TCO² in its class with a fully-integrated stack of hardware, operating system, database, and software
- Complete application compatibility with all other NonStop servers
Core licensing concepts

With J06.13, HP introduces software changes that read a new core license file on the NB54000c BladeSystem.

The NonStop OS uses this file to determine what core level a customer has purchased for the NB54000c and to enable either 2 or 4 cores to run in all CPUs on the system.
To: NonStop Field Representatives
From: Ajaya Gummadi, HP NonStop Database Product Management
Date: September 11, 2012
Security Level: HP Unrestricted – This Information is for HP Customers, partners and employee use.

Announcing the Availability of NonStop SQL/MX 3.2

HP is pleased to announce the immediate availability of **NonStop SQL/MX 3.2** on HP Integrity NonStop servers. For customers who need an out-of-the-box clustered enterprise database system, that handles OLTP and Data Warehouse workloads on the same database server, unparalleled linear scalability, and continuous database availability with online manageability of multi-Petabytes database, NonStop SQL/MX 3.2 provides the following key features:

Existing customers can easily upgrade to SQL/MX R3.2 once they have installed H06.25/J06.14 Release Version Update (RVU).

The **SQL/MX Release 3.2** includes key features that enable migration from other databases, help with database manageability, provide secure access to the database, and offers newer ways to access the database.
Intel's new Itanium chip, Poulson, to launch later this year

IDG News Service - Intel on Tuesday said it was on track to launch the next-generation Itanium processor later this year, brushing away any speculation that the processor would reach its end of life in the near future. The next-generation Itanium chip for Unix and Linux servers, code-named Poulson, will succeed the current Itanium chip code-named Tukwila, which was released in 2009 after many delays. The chip is used in fault-tolerant servers that typically run high-end applications.

"We're on track for the launch of Poulson later this year," said Diane Bryant, vice president and general manager of the Datacenter and Connected Systems Group, during an interview at the Intel Developer Forum being held in San Francisco.
ORACLE Support für Itanium Prozessoren

PRESS RELEASE

Oracle Issues Statement
REDWOOD SHORES, Calif., September 4, 2012

Oracle issued the following statement today.

Previously, Oracle announced that it would stop developing new versions of its software on Itanium microprocessors. For example, that meant version 12c of the Oracle database due out in early 2013 would not be available on Itanium. However, a judge recently ruled that Oracle has a contract to continue porting its software to Itanium computers for as long as HP sells Itanium computers. Therefore, Oracle will continue building the latest versions of its database and other software covered by the judge’s ruling to HP Itanium computers. Oracle software on HP’s Itanium computers will be released on approximately the same schedule as Oracle software on IBM’s Power systems.
### HP Delivers the Full Mission-Critical Experience

<table>
<thead>
<tr>
<th>NonStop</th>
<th>32s Superdome 2</th>
<th>BladeSystem (Quad-Core)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NonStop</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OpenVMS</strong></td>
<td>v8.4 Update</td>
<td></td>
</tr>
<tr>
<td><strong>Integrity</strong></td>
<td>32s Superdome 2</td>
<td></td>
</tr>
<tr>
<td><strong>HP UX</strong></td>
<td>Extending mission-critical reach</td>
<td>Flexible workload solutions</td>
</tr>
<tr>
<td><strong>v8.x</strong></td>
<td>v8.x</td>
<td></td>
</tr>
<tr>
<td><strong>Serviceguard for Linux</strong></td>
<td>Error analysis &amp; recovery, online patching</td>
<td>Dynamic utility computing</td>
</tr>
<tr>
<td><strong>DragonHawk HydraLynx</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2011 2012 Future
Yes
NonStop Business Update
Einladung zum HP Workshop

Innovation in Payments and Fraud Prevention

17. Oktober Frankfurt in der Gerbermühle 9:30h – 14:00h

Payment-Kanäle und Bezahlverfahren vervielfachen sich; Online- und Mobile-Commerce wächst unaufhörlich. Darüber hinaus formieren sich Betrüger zu professionellen Organisationen und setzen fortschrittliche Methoden für ihre Zwecke ein.

Wie sollen sich Finanz- und Payment-Dienstleister in dieser sich dramatisch verändernden Welt positionieren, um wettbewerbsfähig zu bleiben, die neuen Geschäftsmöglichkeiten für sich zu nutzen, Beziehung zu ihren Kunden weiter zu verbessern und ihr Risiko effizient zu managen?

Auch eine standardisierte, flexible und höchst zuverlässige Technologiebasis spielt eine wichtige Rolle für die erfolgreiche Erschließung neuer Geschäftspotenziale.
Vielen Dank!