Your most critical business processes deserve Integrity NonStop systems

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Agenda

1. Mission Critical: what’s in a name?
   Impact of downtime and failures

2. The NonStop Approach
   Markets and differentiators

3. NonStop Value and Proof Points
   Application Availability, Linear Scalability, Simplicity, Cost of Ownership
“Mission Critical”: What’s in a name?

– Inflation of term “Mission Critical”
– Major inconvenience or future existence at stake?

<table>
<thead>
<tr>
<th>Availability Level Scale</th>
<th>IDC Definition</th>
<th>Business Process Example</th>
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</thead>
<tbody>
<tr>
<td>Availability level 4 (AL4)</td>
<td>Transparent to user; no interruption of work; no transactions lost; no degradation in performance</td>
<td>Payments</td>
</tr>
<tr>
<td>Availability level 3 (AL3)</td>
<td>Stays online; current transaction may need restarting; may experience performance degradation</td>
<td>Customer Relationship Management</td>
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<tr>
<td>Availability level 2 (AL2)</td>
<td>User interrupted, but can quickly re-log on; may need to rerun some transactions from journal file; may experience performance degradation</td>
<td>Business Intelligence</td>
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<tr>
<td>Availability level 1 (AL1)</td>
<td>Work stops; uncontrolled shutdown; data integrity ensured</td>
<td>Archiving</td>
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Failures happen

– What is the essence of your business?
– What happens if your core process is disrupted?
– Who would be impacted?
– What are business consequences?
– How to recover?
Impact of failure

- Loss of reputation
- Legal claims cost
- Customers walk away
- USD $120 per subscriber affected
Service level vs. cost of realizing it
More business process can benefit

- 24/7 Service levels requirements
- Architectural Service Orientation
- Disaggregation of “supply chains”
- Move to standards
- reduced TCO of HP “AL4” technology
Critical processes deserve an HP Integrity NonStop infrastructure

<table>
<thead>
<tr>
<th>Financial Services</th>
<th>Communications Media &amp; Entertainment</th>
<th>Manufacturing</th>
<th>Healthcare and Public Sector</th>
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<tbody>
<tr>
<td>Retail payment systems: Credit, debit, POS, wholesale</td>
<td>HLR</td>
<td>Production Control Systems</td>
<td>Electronic Patient Records</td>
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<tr>
<td>Wholesale payments</td>
<td>Intelligent Network /3G Services</td>
<td>Manufacturing Execution</td>
<td>Defense and Intelligence systems</td>
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<td></td>
<td>Messaging</td>
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<tr>
<td>70% of all ATM payments and 66% of all credit card transactions</td>
<td>World’s largest ISP Global Messaging</td>
<td>Premier automotive manufacturers</td>
<td>Over 200 hospitals including many of the world’s largest teaching hospitals</td>
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<td>300+ million subscribers “live” in HP HLR solutions</td>
<td>Logistic management</td>
<td>National security &amp; transportation</td>
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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

Source: HP research
The Data Center of the future will be built on a converged infrastructure

- Storage
- Servers
- Power & cooling
- Network
- Management software

HP Converged Infrastructure
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
Component based service delivery

Customer Apps

SOA Componentization

Requires “AL4”

Requires AL1 - AL3

Functional Delivery

In-house

Outsourced

via Cloud

Desktop to NonStop: HP Converged Infrastructure optimized to address
The NonStop approach

- World’s highest application availability (*)
- 25% lower total cost of ownership than mainframe
- Simple, out of the box

(*) Source: The Standish Group, March 2010
## Generic Comparison

<table>
<thead>
<tr>
<th></th>
<th>Integrity NonStop</th>
<th>Clustered Systems</th>
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</thead>
<tbody>
<tr>
<td><strong>Workload</strong></td>
<td>Designed for most critical</td>
<td>Mainstream and high available</td>
</tr>
<tr>
<td></td>
<td>Highest transaction volumes</td>
<td>High transaction volumes</td>
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<tr>
<td></td>
<td>Application availability</td>
<td>Infrastructure availability</td>
</tr>
<tr>
<td><strong>Application</strong></td>
<td>Limited nr of focused ISVs</td>
<td>Large numbers of ISV apps</td>
</tr>
<tr>
<td></td>
<td>Legacy, Java and Open Source</td>
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<tr>
<td><strong>Cost</strong></td>
<td>Pre-integrated technology stack</td>
<td>Compose and configure yourself architecture</td>
</tr>
<tr>
<td></td>
<td>Integrated in Converged Infrastructure</td>
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</tbody>
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World’s highest application availability

- Designed for end-user application availability, out of the box
- Easy management to prevent human error
- On line maintenance as components do break
- Software compatibility over system generations
- Integrated in CI as Service Orientation fades “system boundaries”

The BonTon stores has recorded zero minutes of unplanned time against their NonStop systems since 1998

Nordea Bank typically delivers 100% end-user availability against their applications based on Integrity NonStop systems

Raymond James has had zero downtime since their migration to Integrity NonStop systems
Unmatched near-linear scalability

MPP architecture allows for infinite scale without degradation

Scale near linearly up to 4080 processors

Single database and system image over up to 4080 logical processors

Storage Scalability:
Up to 2,300 disks per node of 16p x 255 = 586,500 disks per system

30 million KDDI mobile and fixed line subscribers access email application based on Integrity NonStop systems

Rabobank experiences linear scalability in their NonStop systems against a 25% annual growth rate

Integrity NonStop servers are easily able to cope with Raymond James growth rate of 20-30% per annum
Unmatched near-linear scalability

- Benchmark-proven
- Hardware scalability
  - Processors
  - I/O bandwidth
  - Interconnect bandwidth
  - Disks
  - Communications
- Software scalability
  - Database subsystems
  - Transaction monitors
  - Transaction management
  - Networking
  - Batch
  - Other subsystems

98.8% Scalability over 112 CPUs
Simplicity

HP controlled hardware-software stack with partner add-ons

Essential availability functions come with the system and ready to go

- No complex architecting required
- No complicated tooling landscape
- One point of support

System Insight Manager

- Full participation in HP SIM

Rabobank’s 34 NonStop nodes, need on average, only two people per node for both system and application management

A large ISP’s NonStop staff is comprised of 2 DBAs, 1 system administrator and 1 technical manager. Their 41-node NonStop systems environment manages 12 terabytes of data and processes up to 30 million transactions per hour at peak, on a 24/7/365 operation
Cost of ownership

- Unbeatable operational efficiencies through lean-and-mean system management teams
- No external database license challenges
- Longevity of support of hardware and software components

Nippon Steel pre-purchase evaluation showed that, compared to the mainframe, the NonStop system would reduce processing time by 70 percent and overall costs by 15 to 20 percent. Based on results, their evaluation was accurate.

Large bank in Asia to build worlds’ largest ATM/POS environment using HP Integrity NonStop beating mainframe in competition.
HP Integrity NonStop portfolio

- Part of HP Integrity Server family
  - Commercial, Seismic and Telco
  - Entry level to 4000+ processors
- NonStop support services

Modern software
- Development
- Management
- Database
- Web/GUI interfaces

NonStop value
- Reliable & Scalable
- Integrated, vertical “stack”
- Converged Infrastructure
- Leadership in TCO when SLA is of paramount concern

Standard hardware
- Blades
- Storage
- Networking
- Encryption Modules
Finnish economy powered by HP NonStop

- **Company**
  - Largest bank in the Nordic region
  - 3 million customers in Finland – 60% of population

- **NonStop at Nordea**
  - Over 90% of all financial transaction for Nordea Finland run on NonStop including payments, card transactions and internet bank transactions
  - These transactions support key business processes such as cash and liquidity management, e-invoicing, payment and integration services
  - 230 applications, mostly custom-developed

- **Why NonStop?**
  - Application availability measured at 100% over the last 20 months
  - NonStop’s SOA strategy enables Nordea’s application modernization program
  - Linear scalability supports current load of 21.6 million transactions/day
  - Investment protection through ease of application migration from older NonStop generations to standards-based HP Integrity NonStop BladeSystem
Rasselstein Modernization Journey

Situation
- Custom-built Manufacturing Execution System application running on HP Integrity NonStop systems to be integrated in SOA strategy
- Protect investment into bespoke application
- Pool of developers familiar with legacy languages shrinking

Approach
- Integrate HP Integrity NonStop system-based MES application with SAP to meet customer-mandated quality requirements in a 24x7x365 production environment

Outcomes
- Improved user satisfaction through single front end user interface
- Highly flexible, messaging-based SOA application environment implemented
- Direct connection to all production process stations for just-in-time information logistics
- Eliminate dependency on legacy language developers
Rapid, simple port to NonStop
Lusis TANGO ported to NonStop in 2.5 months

- Lusis: Software and consulting company specializing in
  - Payments and financial systems
  - Loyalty solutions
  - BPM and CRM solutions for utilities

- Lusis/HP partnership
  • TANGO application jointly developed in 2009
    - Fully functional EFT suite for Tier 1 institutions
    - Based on OSS (POSIX) HP OS
    - Using NonStop SQL/MX database
  • Successful porting project completed in 2.5 months
  • Full benchmark project completed

[Logos of SFR, CA, Caisse d'Epargne, Carrefour, and HP]
Call to Action

– Determine your company’s true most critical processes
– Imagine what HP Integrity NonStop can add to those processes
– Visit the HP Integrity NonStop page to learn more
  • www.hp.com/go/nonstop
– Understand the affordability of today’s Integrity NonStop technology
– Talk with our users (we can connect you)
– Start realizing your company can benefit too!
Outcomes that matter.