HP Integrity NonStop
New Product Roadmap 2015

GTUG Munich 2015
April 2015

Karen Copeland
Forward-looking statements

This is a rolling (up to three year) statement of direction and is subject to change without notice.

This document contains forward looking statements regarding future operations, product development, product capabilities and availability dates. This information is subject to substantial uncertainties and is subject to change at any time without prior notification. Statements contained in this document concerning these matters only reflect Hewlett Packard's predictions and/or expectations as of the date of this document and actual results and future plans of Hewlett-Packard may differ significantly as a result of, among other things, changes in product strategy resulting from technological, internal corporate, market and other changes. This is not a commitment to deliver any material, code or functionality and should not be relied upon in making purchasing decisions.
Agenda

• An HP Update
• NonStop Roadmap
  • Hardware Plans
  • Software Plans
• NonStop Support
## HP Future Direction:
Two new independent publicly traded companies

### Hewlett Packard Enterprise

<table>
<thead>
<tr>
<th>Revenue Mix(1)</th>
<th>Enterprise Group</th>
<th>48%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enterprise Services</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>Software</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Financial Services</td>
<td>6%</td>
</tr>
</tbody>
</table>

### HP Inc.

<table>
<thead>
<tr>
<th>Revenue Mix(1)</th>
<th>Personal Systems</th>
<th>59%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Printing</td>
<td>41%</td>
</tr>
</tbody>
</table>

### Financial Metrics(1)

- Revenue: $58.4B
- Operating Profit: $6.0B
- Operating Margin: 10.2%

### Key Markets

- **Servers**
- Networking
- Software
- Converged Systems
- Storage
- Services
- Cloud

- **Notebooks**
- Mobility
- Ink Printing
- Managed Print Services
- Desktops
- Graphics
- Laser Printing

### Leadership

- **Meg Whitman**, President & Chief Executive Officer
- **Dion Weisler**, President & Chief Executive Officer

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1. Based on reported HP segment revenue and segment operating profit for the last twelve months from Q4 fiscal 2013 to Q3 fiscal 2014, totals do not include Corporate Investments segment or intercompany eliminations.
HP Future Direction: What change will be visible?

By November 1st, 2015:

• HP Enterprise will have a new public brand and new stock name - HPE.
• Presentations, collateral and materials from HP Enterprise will have a new look at feel
• Contracts will be modified where appropriate to “transfer” agreements to HP Enterprise.
• Email addresses will change from Karen.Copeland@hp.com to Karen.Copeland@hpe.com.
• Some HP websites will change from www.hp.com to www.hpe.com
• HP Campuses in Palo Alto and elsewhere will be reorganized to put people in the new companies into the same buildings together. So if you visit people onsite at HP, their offices may move by Nov 1st.
## HP Integrity NonStop industry use cases

**Powering the world around you**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Use Case</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Services</td>
<td>$3.6+ trillion credit and debit card charge volume each year</td>
<td>100% uptime for critical payment services</td>
</tr>
<tr>
<td>Telco</td>
<td>450+ million advanced telco network subscribers</td>
<td>20% lower operating expense per year</td>
</tr>
<tr>
<td>Retail</td>
<td>Largest retail payments processors in the world</td>
<td>15+ years of continuous availability</td>
</tr>
<tr>
<td>Healthcare</td>
<td>300,000 weekly aggregated online lab test samples in Norway</td>
<td>2-3x more performance with every generation</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>100% of top 10 global manufacturers</td>
<td>25 years without production outages</td>
</tr>
<tr>
<td>Transportation</td>
<td>Over 80,000 daily reservations for global car rental company</td>
<td>97% near-linear scalability for database growth</td>
</tr>
<tr>
<td>Utilities</td>
<td>3 of the 4 gasoline acquiring networks in the U.S.</td>
<td>100% application availability</td>
</tr>
<tr>
<td></td>
<td>Multi-channel retail wholesale, and mobile payments processing</td>
<td>International payment exchange company</td>
</tr>
<tr>
<td></td>
<td>Mobile network mgmt., HLR/HSS data services, and machine-to-machine</td>
<td>Austria’s fastest-growing mobile operator</td>
</tr>
<tr>
<td></td>
<td>Point-of-sale (POS) transactions and online order processing</td>
<td>World’s largest home improvement retailer</td>
</tr>
<tr>
<td></td>
<td>Real-time patient and laboratory data, and provider info retrieval</td>
<td>Internal service provider for Norway central hospitals</td>
</tr>
<tr>
<td></td>
<td>Continuous production control processes and multi-channel distribution</td>
<td>World’s biggest commercial vehicle manufacturer</td>
</tr>
<tr>
<td></td>
<td>Regional and global reservations, ticketing, and route scheduling</td>
<td>Largest worldwide airport general use car rental brand</td>
</tr>
<tr>
<td></td>
<td>Customer usage tracking, billing, and call center services</td>
<td>Water service provider to western Australia</td>
</tr>
</tbody>
</table>
The beginning of a new family of HP Integrity NonStop systems

NonStop X: Redefining continuous availability and scalability for x86

100% HP NonStop

HP Integrity NonStop i
- Intel® Itanium® processor
- Proprietary interconnect
- Massive scalability
- Highest AL4 availability

HP Integrity NonStop X
- Intel® Xeon® processor
- Industry-standard interconnect

NonStop X: The highest available fully-integrated x86 compute for mission critical workloads
How we plan work for Product Roadmaps

Input Sources and Internal Process

Roadmap Inputs come from several sources

- **Quality**
- **Customers** – RFEs, Face to face, SIGs, etc
- **Partners** – RFEs needed
- **Industry Trends** – Market directions, hardware availability
- **HP Strategies** like converged infrastructure

Annual Review of three year roadmap

- Planning occurs May through July
- Drives budget priorities for next fiscal year
- Reviews status of product areas
- Management agrees on focused work
Roadmap format

Top half of the Roadmap shows plans for **NonStop X Product** deliveries and content
Plans are firmer to the left of the Roadmap as they are closer in time and may be more subject to change in contents to the right of the Roadmap

Bottom half of the Roadmap shows plans for **NonStop i Product** deliveries and content
Plans are firmer to the left of the Roadmap as they are closer in time and may be more subject to change to the right of the Roadmap
Platform Roadmap: HP Integrity NonStop

NonStop X - Intel® Xeon®

- High End
- 4-cores fixed
- InfiniBand interconnect
- Expand over IP clustering
- 50% faster than NB56000c

NonStop X – NS7-X1

- Gen 9 CPU and I/O Refresh
- InfiniBand Clustering
- 2-core and 6-core options

NonStop X – NS7-XI

- High End Carrier Grade Offering
- 1-core and 2-core

NonStop X – Refresh

- Entry Class much earlier!
- High End
- Expand over IP clustering

Future

Calendar 2015

Calendar 2016

Kittson

Itanium refresh

NEW PLAN delivers Entry Class much earlier!

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HP Integrity NonStop X Server – NS7 X1

Shipping now:
- Intel® Xeon® x86 microprocessor
- 4-cores enabled per CPU
- Half-height blades - more CPUs per chassis = smaller footprint
- c7000 chassis
- 10Gb Ethernet
- InfiniBand is the system interconnect
- Leveraged CLIM I/O architecture
- Architected big endian model for compatibility
- 50% performance improvement over 4-core NB56000c*
- Software price held at NB56000c rates
- L Series RVU – L15.02

Coming later in L15.08:
- Adds 2-core and 6-core systems
- Core licensing - upgrade cores without downtime!
- InfiniBand clustering

* Performance is based upon NonStop Order Entry benchmark from HP NED, actual application performance will vary.
Announcing next HP Integrity NonStop X Server

Entry Class - Preview

- New x86 system – available to customers later this year!
- New Entry Class system for the HP NonStop X product family
- Runs same L-Series release as High End system (NS7 X1)
- Similar positioning as NonStop i Entry Class
- One core or two core offerings

More details will be coming later this year.
HP Integrity NonStop i Platforms
NonStop Platform Choices Today and Future

<table>
<thead>
<tr>
<th>Calendar 2015</th>
<th>Calendar 2016</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>NonStop i – NB56000c</td>
<td>NonStop i – NB56000c – carrier grade</td>
<td></td>
</tr>
<tr>
<td>NonStop i – NS2400</td>
<td>NonStop i – NS2300</td>
<td></td>
</tr>
<tr>
<td>NonStop i – NB56000c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NonStop i – NS2400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NonStop i – NS2300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NonStop X – NS7-X1</td>
<td>NonStop X – Entry Class</td>
<td>NonStop X – Carrier Grade</td>
</tr>
<tr>
<td>NonStop X – Carrier Grade</td>
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</tbody>
</table>

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**HP Integrity NonStop i platforms**

Meeting Mission-critical customers’ needs

<table>
<thead>
<tr>
<th>HP Integrity NonStop BladeSystem NB56000c</th>
<th>HP Integrity NonStop NS2400</th>
<th>HP Integrity NonStop NS2300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex application environments</td>
<td>Medium / emerging markets</td>
<td>Price sensitive markets</td>
</tr>
<tr>
<td>Large databases</td>
<td>Stand-alone applications</td>
<td>Development &amp; test</td>
</tr>
<tr>
<td>Option for 2 or 4-core licensing</td>
<td>2-core enabled</td>
<td>1-core enabled</td>
</tr>
<tr>
<td>Highly expandable I/O</td>
<td>Hardware bundles</td>
<td>Preconfigured HW bundles</td>
</tr>
</tbody>
</table>

• All are based on Intel® Itanium® 9500 series 4-core capable processor (AKA Poulson)

**Common across all J-series NonStop servers**

• NonStop J-series OS
• CLIM based I/O – communications and storage
• NonStop fundamentals – availability, scalability, data integrity, common modular architecture and security
HP Integrity NonStop i BladeSystems
NB56000c & NB56000c-cg (carrier grade)

Third generation of Integrity NonStop BladeSystems

Built on proven HP Integrity Blade BL860c i4
- Intel® Itanium® 9500 series (Poulson) 4-core capable processor
- 2-core or 4-core software licensing (Core Licensing)
- Memory size up to 96 GB per NonStop CPU

Performance capacity increase up to 1.5X* compared to the current NB54000c

Supported by RVU J06.16, J06.17, J06.18 and J06.19

On-line migration from NB54000c

Next generation BladeSystem enclosure with 94% efficiency power supplies
Gen8 CLIM I/O components
BladeCluster advanced clustering – up to 24 nodes using 3 zones

Carrier Grade enclosure option with DC power supplies

Carrier Grade Gen8 CLIM I/O components
Carrier Grade is NEBS Level 3 certified

* Performance is based upon NonStop Order Entry benchmark from HP NED, actual application performance will vary.

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HP Integrity NonStop Middle/Entry Class Platforms
NS2400 and NS2300

Specifically designed for:
- Emerging markets middle to entry class and stand alone apps
- Migration platform from small to mid S-Series servers
- J-series development and test

Rack mounted entry-class servers
Up to 4 CPUs (8-cores on NS2400, 4-cores on NS2300)
Each CPU with 16, 32 or 48GB of main memory
VIO Ethernet & Cluster I/O Modules (CLIMs)
NS2400 - 36U and 42U racks (AC or DC powered – T, ST)
Clustering via Expand-over-IP

NS2400: 2-core enabled Intel® Itanium® Processor 9500 series
NS2300: 1-core enabled Intel® Itanium® Processor 9500 series
Storage: NonStop Solid State Drives - SSDs

Enterprise performance and endurance → 400GB SAS

• Enterprise class SSD suitable for very high read/write workloads
• OSM Service Connection can display SMARTSSD Wear Gauge information
• Mixing SSDs and HDDs in the same NonStop disk enclosure is supported
• Same feature set as HP NonStop Hard Disk Drives (HDDs)
  – Dual ported and hot pluggable
  – Mirroring - four paths to each volume
  – Drive partitioning - each partition with its own DP2 cache
  – Volume Level Encryption (VLE) Supported
• Higher performance, lower latency than HDDs
HP Integrity NonStop Software
2015 Roadmap
Highlights
## Fully-virtualized integrated stack

### Applications

<table>
<thead>
<tr>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern application development environment</td>
</tr>
<tr>
<td>Middleware</td>
</tr>
<tr>
<td>Database and transaction management</td>
</tr>
<tr>
<td>System management and control</td>
</tr>
<tr>
<td>Security</td>
</tr>
<tr>
<td>NonStop Operating System</td>
</tr>
</tbody>
</table>

### Hardware

### Common standards, uncommon advantages

- **Develop**
  - Modern, state of the art programming methods

- **Deploy**
  - Fault-tolerant applications and database

- **Direct**
  - Efficient Management with HP’s Converged Infrastructure Portfolio

- **Depend**
  - Unique NonStop fundamentals for availability, integrity and security
HP Integrity NonStop Software Roadmap

NonStop X - Intel® Xeon®

RVU L15.02 – Available Now!
NonStop X – NS7-X1 (4 core)
InfiniBand
SQL/MX 3.3
64bit DP2 SDA
NSDEE 5.0

RVU L15.08
NonStop X – NS7-X1 (2 & 6 core)
InfiniBand Clustering
NonStop X – (1& 2 core)
NSJ 7 Update 2
OSM – Java 8
EAP: YUMA Project

NonStop i - Intel® Itanium®

RVU L16.05
NonStop X –cg NS7-X1
Gen 9 - CPU & I/O refresh
Apollo 2
Measure Limits
NSJ 8.0
NSDEE 6.0
TS/MP 2.6
SQL/MX 3.4
GA: YUMA Project

RVU L16.08

RVU L17.xx

Future

Calendar 2015

RVU J06.19 (May)
NSC MS Server 2012
SQL/MX 3.3
NS Java 7 – update 2
NSDEE 5.0

We are here

Calendar 2016

RVU J06.20 (Jun)
I/O Refresh (Gen 9 CLIMS)
VIO Lead free HW
NSDEE 6.0
SQL/MX 3.4
NSJ 8.0
TS/MP 2.6
OSTU R5
Apollo 2

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YUMA

Internal HP NonStop project code name. Named for YUMA desert in Arizona where rockets and missiles are tested by the U.S. Government.

Provides high-speed user mode transport layer leveraging InfiniBand for application traffic

Phase 1: BETA – This year! Fall of 2015
(IB limited VERB API)

Phase 2: Full Function – GA – 2016
(IB Full VERB API + possible rSockets API)
NonStop X – Future offering

YUMA Project

Phase 1: BETA – This year!  Fall of 2015
(IB VERB API)

Phase 2: Full Function – GA – 2016
(IB VERB API / possible rSockets API)

Direct RDMA connection into and out of the NonStop server to move user data and transactions quickly and efficiently through NonStop OSS filesystem layer.
NonStop X Hybrid Application using YUMA

CPU 0
- Application
- Storage Controller (CLIM)

CPU 1
- Application
- IP Controller (CLIM)

CPU 2
- Application
- Telco Controller (CLIM)

CPU 3
- Application

InfiniBand

Linux OS
- Linux based Application

YUMA

- Speeds up communication with direct connections that bypass the OS space.
- Linux application server operates as an extension of the NonStop X system
  - Dramatically improved latency
  - YUMA – Limited BETA this fall
## NonStop OS/OSS

### Calendar 2015

**YUMA (BETA)**
- IB Verb Layer API

**DP2 Enhancements**
- 2GB Maximum SQL/MX Buffer size
- Cache size increased from 1 GB to 1.4 GB

**Time Sync**
- Automatic clock rate adjustment
- Correction for leap second

**Core licensing**
- 2 and 6 core licensing support for NS7 X1

### Calendar 2016

**YUMA General Availability**
- Full verb layer API

**Apollo 2**
- Owned OSS ACLs
- Name server performance

**Measure Limits**
- New performance counters
- Improve large data file analysis performance
- Increase process histogram capacity

**OSTU R5**
- New OSS core utilities
- Version update of OSS core utilities

### Future

**MAPI (Manageability, Availability and Porting Improvements)**
- Rename a Guardian file to a temporary file
- Support for Fileset-level chown() control
- Allow exact replication of Queue files
- Support directory-fd APIs

**OSS Functional Completeness**
- Make OSS utilities large file aware
- Query security attributes of Guardian files
HP Integrity NonStop Security Roadmap

**NonStop X - Intel® Xeon®**

- RVU L15.02
  - NS SSL Update
  - XYGATE XMA Update

- XYGATE XMA Plug-in for AJB and Base24-eps

- RVU L15.08
  - NS SSH – CPU Utilization

- RVU L16.05
  - Safeguard update
  - NS SSH – Manageability
  - NS SSL Update
  - XYGATE XMA Update
  - XYGATE XUA Update

- RVU L16.xx
  - Safeguard Update
  - NS SSH Update
  - NS SSL Update
  - XYGATE XMA Update
  - XYGATE XUA Update

**NonStop i - Intel® Itanium®**

- RVU J06.19 (May)
  - NS SSL Enhancements
  - XYGATE XMA Update

- XYGATE XMA Plug-in for AJB and Base24-eps

- RVU J06.20 (Jun)
  - Safeguard update
  - NS SSH – Manageability
  - NS SSL Update
  - XYGATE XMA Update
  - XYGATE XUA Update

**Calendar 2015**

- RVU L15.02
- RVU L15.08
- RVU J06.19 (May)
- RVU L16.05
- RVU L16.xx

**Calendar 2016**

- RVU J06.20 (Jun)

**Future**

- RVU J06.xx

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<tr>
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<th>Calendar 2016</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NonStop SSL</strong></td>
<td><strong>Safeguard update</strong></td>
<td><strong>Safeguard update</strong></td>
</tr>
<tr>
<td>- Accept PEM format Certificates</td>
<td>- Defect repair, customer RFEs, enhancements</td>
<td>- Defect repair, customer RFEs, enhancements</td>
</tr>
<tr>
<td><strong>NonStop SSH</strong></td>
<td><strong>NonStop SSL</strong></td>
<td><strong>NonStop SSL</strong></td>
</tr>
<tr>
<td>- Support of unstructured partitioned files</td>
<td>- OpenSSL upgrades</td>
<td>- OpenSSL upgrades</td>
</tr>
<tr>
<td>- Allow restriction of CPU usage</td>
<td><strong>NonStop SSH</strong></td>
<td><strong>NonStop SSH</strong></td>
</tr>
<tr>
<td>- Improved display of configuration settings</td>
<td>- Support for INFO, OBEYFORM command</td>
<td>- Support for INFO, OBEYFORM command</td>
</tr>
<tr>
<td><strong>XYGATE Merged Audit (XMA)</strong></td>
<td><strong>XYGATE Merged Audit (XMA)</strong></td>
<td><strong>XYGATE Merged Audit (XMA)</strong></td>
</tr>
<tr>
<td>- Support for SQLXpress Audits</td>
<td>- Support for additional application logs</td>
<td>- Customer RFEs</td>
</tr>
<tr>
<td>- IBM QRadar Security Intelligence Platform™ (SIEM support)</td>
<td><strong>XYGATE User Authentication (XUA)</strong></td>
<td><strong>XYGATE User Authentication (XUA)</strong></td>
</tr>
<tr>
<td>- Persistent mover support</td>
<td>- Additional authentication mechanisms</td>
<td>- Customer RFEs</td>
</tr>
<tr>
<td>- Support for systems not licensed for Pathway</td>
<td><strong>XYGATE User Authentication (XUA)</strong></td>
<td><strong>XYGATE User Authentication (XUA)</strong></td>
</tr>
<tr>
<td><strong>XYGATE User Authentication (XUA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- RSA Upgrades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Upgrade OpenSSL to v1.0.2a</td>
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Security Product Focus – HP Voltage SecureData
Available for HP NonStop and other platforms

Data Security Policy Controls
Stateless Key Management
Data-centric Security Technologies (FPE, SST)
Data Security Standards (ANSI | NIST | IEEE | IETF)
Provides:
PCI Scope and Risk Reduction
Data de-identification
PII and PAN Protection

Supports:
HP NonStop both J-series and L-series
HP NonStop Databases ENSCRIBE, SQL/MP and SQL/MX

HP NonStop Applications need to be modified to use the HP Voltage SimpleAPI or HostSDK.
To take advantage of Voltage SecureData, NonStop applications need to be modified to use the Voltage API and recognize which transaction data needs to be tokenized.
Integration frameworks intercept transactions and interact with the tokenization engine on behalf of the NonStop applications to minimize change required.

Today, two NonStop partners offer frameworks for NonStop tokenization that work with HP Voltage SecureData on NonStop:

- XYPRO XYGATE XDP
- comForte 21
- SecurData
HP NonStop Database Roadmap

NonStop X - Intel® Xeon®

Future Calendar 2015

- RVU L15.02 SQL 3.3
- RVU J06.19 (May) SQL 3.3

Calendar 2016

- RVU L16.05 SQL 3.4
- RVU J06.20 (Jun) SQL 3.4

Future

- RVU Lxx.xx SQL 3.x
- RVU J06.xx SQL 3.x

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NonStop i - Intel® Itanium®
### SQL 3.3
- Online mxci help
- MXDM support for create/alter database objects, manage data sources
- Safeguard Delete User protection and respect Volume ACLs and Display Object permissions
- BR2 enhancements – schema and table names could differ, no need to pre-create Catalogs for a Restore operation
- Query Plan Quality Improvements
- Executor performance enhancements – 64 bit EID

### SQL 3.4 candidates
- Configurable ESP placement
- T2 driver should not ignore username/pwd
- Support for External Sequence in Triggers
- Oracle Migration features: TO_DATE, TO_TIMESTAMP, LAST_DAY, MONTHS_BETWEEN
- MXDM – close the gap with NSM/Web
- Table Maintain
- Improved MDAM selection
- Reduce memory footprint of mxcmp, resource cleanup

### SQL Future candidates
- Table Maintain
- SQL Statement Logging
- SPJ Debug and Profiling
- EBCDIC collation of ASCII data
- Customer requests
- Interop within 3.x releases
- JDBC 4.2 standard
- ODBC 3.8 standard
- Optimizer hints
- MXDM integration with VQA, NSKBUSY, Listlocks, Design Advisor…
- Parallelism in Utilities like Fastcopy, DUP, Import
- Shared memory for query plans

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**HP NonStop Business Continuity (Shadowbase)**

### NonStop X - Intel® Xeon®
- **SB 6.200** Initial Release for NonStop X
- **SB 6.210**
  - Enhanced Key Sequenced Files
  - SQL/MX support for 32k rows and 4k indices
  - Exact SYSKEY replication for SQL/MX Rows
- **SB 6.300**
  - Zero Data Loss
  - Uni-directional sync replication
  - QMGR enhancements
- **SB: Synchronous replication**

### Calendar 2015
- **SB 6.101** NonStop SPR Rollup

### Calendar 2016
- **SB 6.210**
- **SB 6.300**

### Future
- **SB: Synchronous replication**

### NonStop i - Intel® Itanium®
- **SB 6.100** - Initial Release
- **SB 6.101**
  - Oracle Log Source (RAC)
- **SB 6.210**
  - SAP Sybase IQ as a Target
  - Teradata as a Target
- **SB 6.300**
  - IBM DB2 as a Source
- **SB: Synchronous replication**

### Other Servers (Shadowbase)
- **SB 6.100** - Initial Release
- **SB 6.101**
  - Oracle Log Source (RAC)
- **SB 6.210**
  - SAP Sybase IQ as a Target
  - Teradata as a Target
- **SB 6.300**
  - IBM DB2 as a Source
- **SB: Synchronous replication**
# HP Shadowbase for NonStop and Other Servers

## Shadowbase on NonStop Servers

### Release 6.210
- Enhanced Key Sequenced Files support for 32k rows and 2k indices
- SQL/MX support for 32k rows and 4k indices
- Exact SYSKEY replication for SQL/MX Rows

### Release 6.300
- Zero Data Loss
- Uni-directional sync replication
- QMGR enhancements
- Platform and database refresh

### Features in the future
- Synchronous bi-directional replication
- Platform and database version rollup

## Shadowbase on Other Servers

### Release 6.101
- Oracle Log Source (RAC)

### Release 6.210
- SAP Sybase IQ as a Target
- Teradata as a Target

### Release 6.300
- IBM DB2 as a Source

### Future candidates
- Synchronous bi-directional replication

---

This is a rolling (up to three year) statement of direction and is subject to change without notice.
HP Integrity NonStop Middleware Roadmap

**NonStop X - Intel® Xeon®**

- **RVU L15.08**
  - NSJ 8 - NonStop Server for Java 8
  - Update 2

- **RVU L16.05**
  - NSJ 8 - NonStop Server for Java 8
  - TS/MP 2.6
  - Distributed In Memory Cache 1.0 (DIMC 1.0)

**Calendar 2015**

- **NSASJ 1.3**
- **NSJSP 7.1**
- **RVU J06.19 (May)**
  - NSJ 7 U2 - NonStop Server for Java 7 Update 2

**Calendar 2016**

- **NSJSP 8.0**
- **NSASJ 1.4**
- **RVU J06.20 (Jun)**
  - NSJ 8 - NonStop Server for Java 8
  - TS/MP 2.6
  - OSTU R5

**Future**

- **NSASJ 1.5**
- **NSJ 9.0 - NonStop Server for Java 9**

**NonStop i - Intel® Itanium®**

- **NSJSP 7.1**
- **NSASJ 1.3**
- **NSJ 7 U2 - NonStop Server for Java 7 Update 2**

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# Middleware – Roadmap – Part 1

## NonStop Server for Java

### Java 7 Update 2
- Thread pre-emption feature
- Helps distribute CPU bandwidth to multiple user threads
- Security and other defect repair
- **Beta release: Garbage First** – G1 GC Algorithm
  - In addition to Serial GC, Parallel GC and CMS

### Java 8
- All standard JDK APIs and the JVM
- Delivers on L-series first, J-series later

### Java 8 Updates
- Latest feature enhancements
- Security and other defect repair

### Java 9

---

## NonStop Servlets for JavaServer Pages

### NSJSP 7.1
- Enscribe based session objects store
- Load balancing enhancements
- Scalability enhancements
- Performance improvements
- Security and other defect repair

### NSJSP 8.0
- Apache Tomcat™ Refresh (Tomcat 8.0)
- Java Servlets 3.1
- Java Server Pages (JSP) 2.3
- Expression Language (EL) 3.0
- WebSocket 1.1
- Security and other defect repair

### NSJSP 8.0 Update
- Apache Tomcat™ Refresh
- Latest Tomcat features
- Security and other defect repair

---

Note: HP has support extension for NonStop Server for Java 7.x until 2017.
# Middleware Roadmap – Part 2

## NonStop Application Server for Java (based on Apache JBoss)

### NSASJ 1.3
- Transaction propagation among NSASJ container instances
- Transaction propagation between JTA Manager and NonStop TMF
  - Global transaction propagation across NonStop subsystems
- Certified Web Services container
- Certified REST Services container

### NSASJ 1.4
- Request retry (enhanced availability)
- Transaction retry (enhanced data integrity)
- Enhanced performance

### NSASJ 1.5
- Wildfly 8.0
  - JBoss AS8 is renamed to Wildfly
- JCA
- JavaMail

## NonStop Pathway with TS/MP Plans

### TS/MP 2.5 SPR
- Establish links to a serverclass which resides on the same CPU as the requesting Pathsend client
  - Improves message transmission latency

### TS/MP 2.6
- Establish links to a process before transaction requests arrive
  - Improves process response time; hence TPS
- Support for 5 character system generated process names
- Enhancements to stop command

### TS/MP 2.7 & later
- Improved load balancing/link selection algorithms
- Dynamic increase of static instances
- Change priority of a process on the fly
- Forecast load ahead of time and make provision

---

Calendar 2015 | Calendar 2016 | Future
---|---|---
NonStop Application Server for Java (based on Apache JBoss) | NSASJ 1.3 | NSASJ 1.4
[| NSASJ 1.5
-| Wildfly 8.0
-| JBoss AS8 is renamed to Wildfly
-| JCA
-| JavaMail
NonStop Pathway with TS/MP Plans | TS/MP 2.5 SPR | TS/MP 2.6
-| TS/MP 2.7 & later
-| Improved load balancing/link selection algorithms
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-| Forecast load ahead of time and make provision

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HP Integrity NonStop Manageability Roadmap –

NonStop X - Intel® Xeon®

NS Software Essentials 4.0
OSM SSDs Sanitization
OSM Java 8 Support

I.R.S. 7.3

NSC: MS Windows Server 2012

Future

NS Software Essentials
NS Cluster Essentials
NS I/O Essentials

Calendar 2015

NS Software Essentials 5.0
NS Cluster Essentials 3.3
NS I/O Essentials 1.10

NSC - HW update Gen9

Calendar 2016

NSC - HW update Gen9

Future

NS Software Essentials
NS Cluster Essentials
NS I/O Essentials

NonStop i - Intel® Itanium®

NS Software Essentials 4.0
OSM SSDs Sanitization Essentials

I.R.S. 7.3

NSC: MS Windows Server 2012
OSM Java 8 Support

OSM SSDs
Sanitization Essentials

NS I/O Essentials 1.10
NS Cluster Essentials 3.3
NS Software Essentials 5.0

NS Software Essentials
NS Cluster Essentials
NS I/O Essentials

NS Software Essentials
NS Cluster Essentials
NS I/O Essentials

NS Software Essentials
NS Cluster Essentials
NS I/O Essentials
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**HP Integrity NonStop Manageability Roadmap – Part 2**

**NonStop X - Intel® Xeon®**

- VTR – Virtual Tape Repository
- VTC – Virtual Tape Controller with BackBox – Gen9 update

**Future**

- ASAP 3.3 GA
- ASAP 3.3 EAP
- ASAP Refresh Web ViewPoint Plus Refresh

**Calendar 2016**

- Web ViewPoint Plus: T0952L01^AAD
- Web ViewPoint: T0320L01^ABN

**Calendar 2015**

- ASAP 2.3 RPM Update
- ASAP 3.3

**NonStop i - Intel® Itanium®**

- ASAP Refresh Web ViewPoint Plus Refresh

- Web ViewPoint Plus: T0952H01^AAE
- Web ViewPoint: T0320H01^ABM

- ASAP 3.3 GA
- ASAP 3.3 EAP

- Web ViewPoint Plus: T0952L01^AAD
- Web ViewPoint: T0320L01^ABN

- VTR – Virtual Tape Repository
- VTC – Virtual Tape Controller with BackBox – Gen9 update

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**HP NonStop BackBox VTC models**

**BackBox VTC models designed to back up mission critical data to HP StoreOnce or the storage solution of your choice**

**HP NonStop BackBox VTC Small to Medium Model**
- HP ProLiant DL360p Gen8 server (1U)
- Supports 2 NonStop systems
- 1 GbE to HP StoreOnce standard (10 GbE optional)

**HP NonStop BackBox VTC Large to Enterprise Model**
- HP ProLiant DL380p Gen8 server (1U)
- Supports 4 to 16 NonStop systems
- 10 GbE to HP StoreOnce standard

**HP NonStop BackBox VTC Internal Storage Model**
- Internal Storage Model
- HP ProLiant DL380e Gen8 server (2U)
- Supports 2 to 4 NonStop systems
- 10.9TB, 19.1TB or 27.3TB usable
HP NonStop BackBox Futures
Built on technology from ETI-NET

**HP NonStop BackBox VTC Small to Medium Model**
- HP ProLiant DL360p Gen8 server (1U)
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- Internal Storage Model
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- 10.9TB, 19.1TB or 27.3TB usable

**Mid-year 2015 plans to upgrade to Gen9 Servers**
Later this year, we will be offering a new entry level Virtual Tape product called VTR (Virtual Tape Repository) with a lower price for small volume backup needs.
HP Technology Services for NonStop X
Services for the most demanding enterprise x86 solutions

Ensure the right compute for the right workload
- **Platform Migration Services**
- Advisory services
- Workload Advisory services

Accelerate time of IT service to the business with smooth deployment
- **HP Migration Services**
- HP Implementation Services
- HP Education Services

Increase agility
- System partitioning services
- Virtualization services

Improve stability and boost performance in mission-critical environments
- **Foundation Care** to help when you have a problem
- **Datacenter Care** helps operate and evolve the IT environment

Advise & Transform
Integrate
Flex
Support
Support policy for Software versions

<table>
<thead>
<tr>
<th>Active (year 1-2) First Release</th>
<th>Mature (year 3)</th>
<th>Limited (year 4)</th>
<th>Obsolete (year 6 or later)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All customer reported defects are analyzed. Repair action taken as appropriate. Usage questions answered, existing fixes and workarounds provided.</td>
<td>Customer reported defects for critical or major problems addressed. Usage questions answered, existing fixes and workarounds provided.</td>
<td>All calls answered. Full phone support, usage questions answered, existing fixes and workarounds provided.</td>
<td>Product has reached end of service life. No more support services available for the product. Policy is to provide a 12 month advance notice.</td>
</tr>
</tbody>
</table>

= Active = Mature = Limited = Earliest date for 12 months notification of end of all support
# HP Integrity NonStop Support Roadmap

<table>
<thead>
<tr>
<th></th>
<th>Calendar 2015</th>
<th>Calendar 2016</th>
<th>Calendar 2017</th>
<th>Calendar 2018</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>x86</strong></td>
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<tr>
<td>NonStop X – Intel® Xeon®</td>
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<tr>
<td>L-Series – Active - Two RVUs per year</td>
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<tr>
<td><strong>Itanium</strong></td>
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<tr>
<td>NonStop i – Intel® Itanium®</td>
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<tr>
<td>J-Series Active – One RVU per year</td>
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<tr>
<td>NonStop i – Intel® Itanium®</td>
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</tr>
<tr>
<td>H-Series Active – No RVUs Planned</td>
<td>Mature Support</td>
<td></td>
<td>Limited Support</td>
<td></td>
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<tr>
<td><strong>MIPS</strong></td>
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</tr>
<tr>
<td>NonStop MIPS (S-series) (G-series Software)</td>
<td>Limited Support</td>
<td>Obsolete!</td>
<td>Limited Support can only continue under special TS Support extension contracts. Migration Plan required.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This is a rolling (up to three year) statement of direction and is subject to change without notice.
# Accessing NonStop manuals quickly

Shortcuts to manuals online, make your own DVD snapshot, learn more:

<table>
<thead>
<tr>
<th>Manuals online</th>
<th>Make your own DVD</th>
<th>Learn more</th>
</tr>
</thead>
<tbody>
<tr>
<td>hp.com/go/nonstop-docs*</td>
<td>hp.com/go/softwaredepot*</td>
<td>hp.com/go/nonstop-hpsc-tips*</td>
</tr>
</tbody>
</table>

This landing page has a direct link to each NonStop documentation collection on the HPSC

Under top featured products:
1. Click **HP NonStop**
2. Click **HP NonStop Technical Library Instant Information DVD**
3. Click **Receive for Free**
4. Sign in using HP Passport and follow the instructions

Has detailed information on
- Navigating a collection
- Search techniques
- Finding the IUG2 and OMM
- DVDs
- Using Adobe Reader features
- Tips, tricks, known problems, workarounds, and more

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*Note: These links must be typed or copied into your browser. PowerPoint won’t open them.
NonStop Advanced Technical Boot Camp

Save the Date!

November 16-18, 2015
Pre-Conference Seminars: November 15, 2015
The Fairmont San Jose Hotel
Meet with other IT professionals, sponsors, and HP partners to learn about IT Solutions for the New Style of Business

Las Vegas
June 2-4 2015 With over 500 topics and 1000’s of experts on hand, HP Discover offers incredible depth of information and access to experts from HP, our partners and your peers who will help you find the best answers to your toughest questions. Whether you are trying to get your next project off the ground or want to bring new ideas and best practices back to your organization, HP Discover delivers a personal experience tailored to your goals.
Thank you
HP NonStop and StoreOnce Architecture
Enabled through ETI-NET BackBox technology

BackBox products acts as the agent between HP NonStop and HP StoreOnce

- New offering provides HP StoreOnce technology to NonStop customers.
- Build out an environment to support all your NonStop servers, or
- Integrate NonStop into an existing environment with a mix of others servers