



VNUG 2014 Day 2



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HP NonStop Software

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Forward-looking statements

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

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Today's session

“The world depends on HP: Mission-critical computing and HP NonStop systems”

Delivering continuous business in an always-on world

Continuous application availability

Keeping your business always-on

Building for your future growth today

Near-linear scalability – scale out 4,080 CPUs

Providing solutions for industries that never stop

The NonStop ecosystem

Running the world's most critical applications



The realities of availability

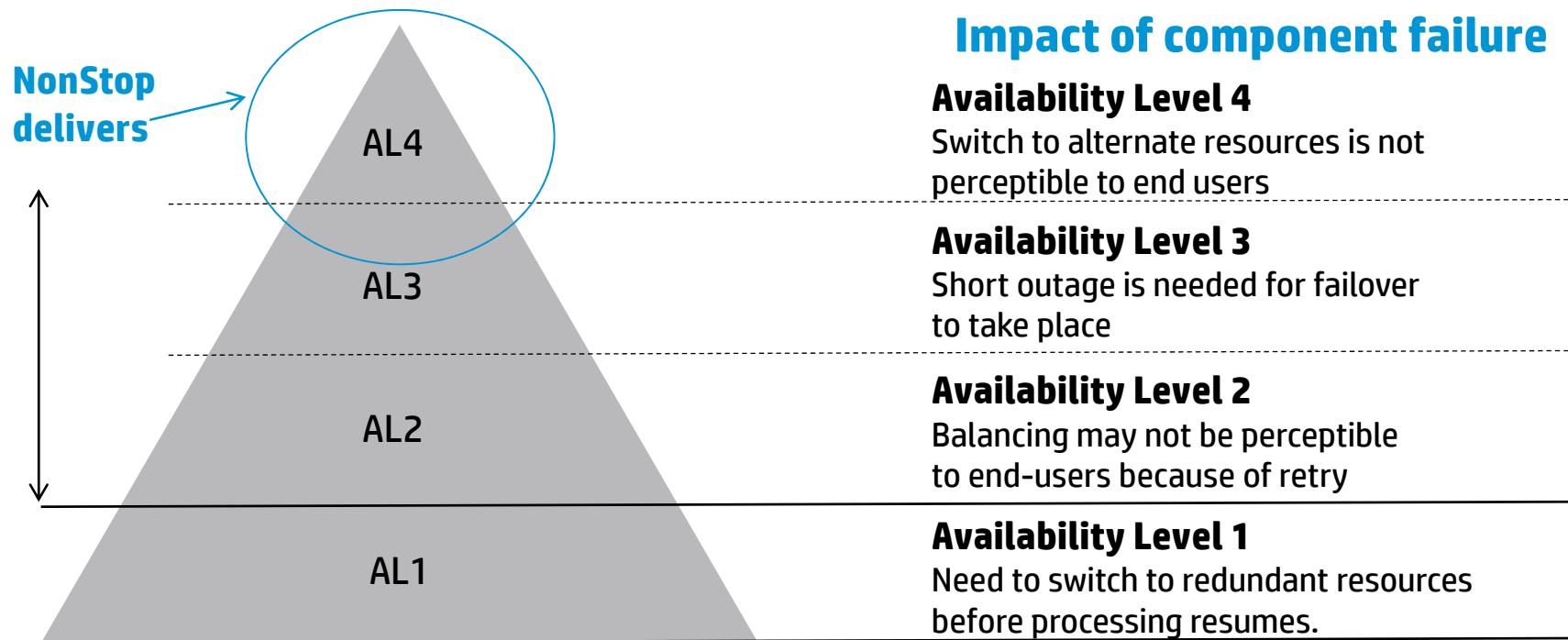
Continuous Availability: to eliminate downtime

High Availability: to minimize downtime



Is your IT mission-critical

HP NonStop systems are AL4



Source: IDC, September 2012, Doc #236946 Worldwide and U.S. High-Availability Server 2012-2016 Forecast and Analysis

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Experience the unique value of HP NonStop

Why customers choose NonStop

- **Highest availability**—100% fault-tolerant architecture
- **More efficiency**—standard and modern components
- **Proven reliability**—nearly 40 years of customer satisfaction
- **Fully-integrated stack**—hardware, OS, database, and application services
- **Real-time database**—high-volume transaction processing
- **Massive scalability**—thousands of users, concurrent sessions, and petabytes of data
- **Lowest TCO in its class**—complex, mission-critical environments

Fully-virtualized, integrated stack

APPLICATIONS

	Modern application development tools
	Middleware
	Database and transaction management
	System management and control
	Security
	NonStop Operating System

HARDWARE



User applications keep on running

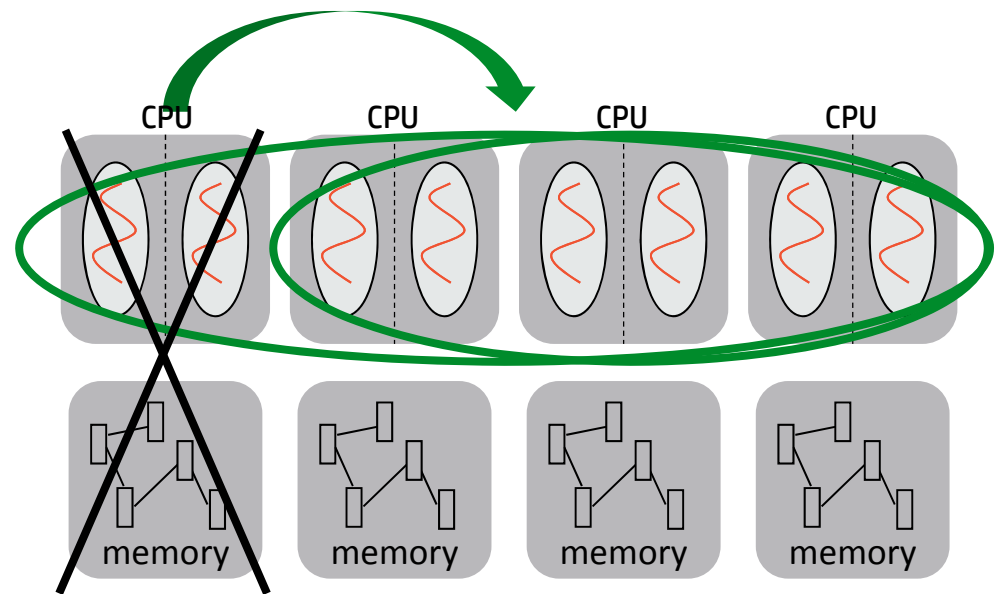
No single failure can disrupt the system

- Multiple NonStop CPUs, I/O adapters and interconnect paths exist
- Shared nothing architecture
- Patented Process Pair technology
 - Checkpointing
 - Takeover

No loss of application capability

Processes fail but the application is still available

Switch is imperceptible to end users



Software Strategy

- **Maintain our Mission Critical leadership**
 - Highest levels of availability
 - Scaling and flexibility that match your needs
 - Data integrity and security fundamentals you can count on
- **Modern technologies to help you develop applications**
 - More support for open, standard software
- **Integrate easily into your enterprise**
 - Choose from many commonly used management frameworks and tools
 - Support for enterprise solutions



NonStop OS strategy and focus



- **Deliver OS support for new platforms and peripherals**
 - NonStop Integrity platforms based on Itanium
 - NonStop Platforms based on the future x86 architecture
 - Recent examples: NB56000c & NB56000-cg, NS2300, Gen8 CLIMs, SSDs, etc
- **Invest in enhanced OS and Open System Services (OSS) capabilities**
 - OS enhancements, scripting language support and additional utilities
- **Increase system flexibility**



NonStop OS updates

Recent highlights

J06.17 / H06.28 (Feb 2014)

New Product Support

- HP NonStop NS2300 and NS2400

New Features

OSS updates

- OSS Scripting via a port of Python 2.7.5
- OSS Core Utilities, GNU findutils and grep
- OSS Message Queue Server limits (defaults and maximum values) have increased to be compatible with System V

Expand Priority L4RTT FindBest Line

- SCF PATH NODE STATS now displays L4 Round-Trip-Time and Standard Deviation for evaluation of Expand performance. NonStop Operators can now alleviate latency using Expand LINEPRIORITY and DELAY modifiers

Last Year

J06.16 / H06.27 (Aug 2013)

New Product Support

- HP Integrity NonStop BladeSystem NB56000c and NB56000-cg
- Carrier-grade Gen8 IP, Storage and Telco CLIMs

New features

Additional GNU utilities

- xinetd, a super-server daemon.
- prngd, a pseudo random number generator daemon
- User events
- TACL enhancements
- TCM update

HP's Time Synchronization product is bundled automatically on NB56000c or N56000c-cg at new low price.



Security strategy and focus

- **Provide products to help you protect your sensitive data, monitor your system and demonstrate compliance**
 - XYGATE Compliance PRO
 - XYGATE Merged Audit
- **Integrate with HP enterprise security products**
 - HP ArcSight
 - HP Enterprise Secure Key Manager from Atalla
- **Expand OSS security capabilities**
- **Respond to reported security vulnerabilities**



Security updates

Recent highlights

J06.17/H06.28 (Feb 2014)

NonStop SSH

- Accepts lists of IP addresses/hostnames for config parameters INTERFACE and INTERFACE OUT.
- New DNSMODE parameter allows consideration of all IP addresses mapped from a hostname by DNS, not just the first one.

Safeguard V5R3

- Detailed error message upon password change during logon
- Improved error reporting when exiting SAFECOM
- Processes authorization requests in priority order

Last Year

J06.15 / H06.26 (Feb 2013)

OSS security enhancements

- Support for OSS authentication Security Event-Exit Process (OSS SEEP)

J06.16 / H06.27 (Aug 2013)

Updated OS Security bundle

- Added XYGATE User Authentication (XUA) – LDAP and SSO for NB56000c and NB56000c-cg

New NonStop Security Hardening Guide available for customers authored by Wendy Bartlett

Contact Wendy Bartlett or Jim Enright

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Jim.Enright@hp.com



System manageability strategy and focus

- **Make it easy for you to manage your NonStop server your way:**
 - Integrate NonStop servers into your enterprise environment
 - Operate your NonStop server with less training of personnel required
 - Maintain and enhance the original NonStop management products that you depend on
- **Support new NonStop platforms and new system capabilities**



System manageability updates

Recent highlights

J06.17 / H06.28 (Feb 2014)

- Added CLIM type info to CLIM alarms

J06.16 / H06.27 (Aug 2013)

- SSD Wear Status Action
- Alarm when BMC/ilo hangs
- Data Sanitization script invocable
- Small automations in CLIM prep
- SHA1 certificates for OSM
- NSC tools support for non-default users
- OEV allows customized time zones
- Apache OpenOffice now on NSC

J06.15 / H06.26 (Feb 2013)

- DNS/DHCP Wizard enhancements
- OSM CLIM HDD fw version added
- Double chip sparing improvements
- SSL on by default for H-series
- New alarm for some DP2 conditions

Oct 2013

Essentials Enhancements R2

- Ability for system to belong to multiple clusters
- Improved master installer
- Cluster Event viewer sorting enhancements
- MPC support



NonStop SQL database strategy and focus



- **Focus on clustered OLTP database markets**
- **Lead with a scalable SQL architecture**
- **Lead in mission critical database availability**
- **Handle extreme volumes of data**
- **Exceed SLAs for handling data velocity**

NonStop SQL database updates

Recent highlights

J06.17 / H06.28 (Feb 2014)

New features

HP NonStop SQL/MX 3.2.1 Updates

- AUTOCOMMIT is a new connection property. This allows you to indicate in SQL/MX if a transaction must be committed automatically or not.
- A new 64 bit ODBC/MX Client Driver is available to support 64 bit database applications on Linux that access SQL/MX

J06.15/H06.26 (Feb 2013)

SQL/MX 3.2.1

Modern Features

- SQL Support for NSJ7
- JDBC T2 64-Bit Driver
- IPv6 Support in MXCS
- U64 Dynamic SQL Support

Better Manageability

- SHOWDLL enhancements
- SHOWSTATS
- Enhanced DBA Tools (CLEANUP, FIXUP, VERIFY)
- MXRPM Tool – support for Guardian modules

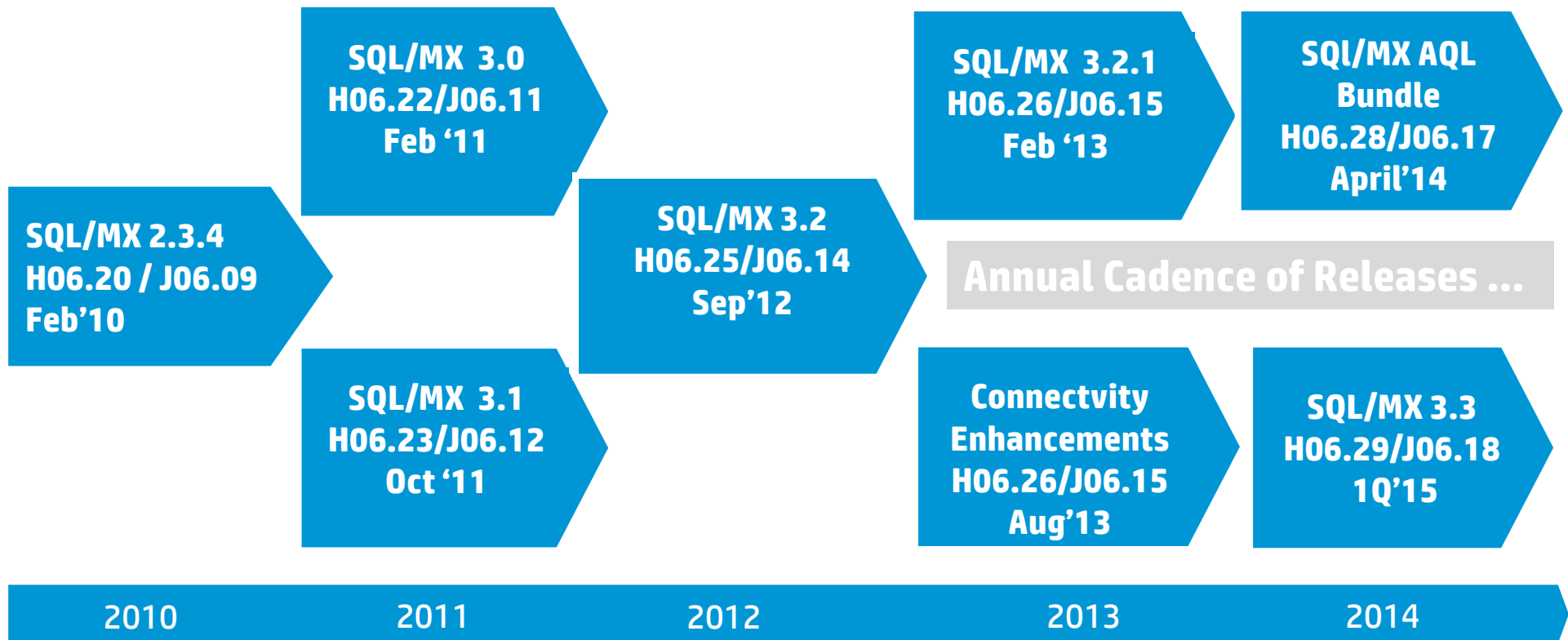
Migration Enablers

- External Sequence Generator
- DATE_ADD, DATEADD
- DATE_SUB, DATEDIFF



HP NonStop SQL Roadmap

SQL/MX 2.1.1 – G06.27 September 2005, mature and supported



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

NonStop middleware strategy and focus



- **Bring new applications to NonStop using middleware products that ease the development effort**
- **Invest in Java environment to bring latest methods and frameworks to NonStop**

NonStop middleware updates

Recent Highlights J06.17 / H06.28 (Feb 2014)

NonStop Server for Java 7.0 Update 1

- Updated to equivalent Oracle releases up and including Java 7 U25
- SecureRandom number generation enhancement
- JVM Data segment allocation for 32-bit JDK and 64-bit JDK
- VirtualMachine.list() improvement
- New command line option for Garbage Collection (GC) log file rotation

HP JToolKit for NonStop Server for Java 7.0 and Java 6.0

- All pure Java data conversion methods are available and usable off-platform. A Pathway server or ddl2java generated I/O class can directly call the data conversion method from a platform other than NonStop.

iTP Secure WebServer 7.5

- Support for encrypting exported keys and importing already encrypted keys
- Support for new hashing algorithm
- Online update of individual SERVERCLASS configuration
- Support to limit the content length of HTTP POST request
- Support for separate database files for different certificates

Last Year – New products Delivered as Independent Products

NonStop Message Queue

- NSMQ is based on Apache Active MQ 5.6

NonStop Application Server for Java

- NSASJ is a port of JBOSS Application Server (AS 7.1.2) to NonStop
- Provides an EJB container from JBOSS with persistence and transaction management

New NonStop XML Parser (2013) [SUT based]

- Current versions of Xerces C++ parser and IBM's open source International Components for Unicode (ICU)
- Included by default in the SUT from H06.27/J06.16



NonStop on x86

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Migrating an application to NonStop on x86

Native TNS object code

TNS programs (“NonStop classic” object code files) can be ported using one of three possible methods:

1. Run programs “as is” interpreted
 - Source code is not required
2. Translate programs using the new TNS accelerator for x86 (OCAX)
 - Source code is not required
 - OCAX can also be run on an Integrity system to produce x86 code
3. Recompile TNS programs into native TNS/X programs for x86



Endianness and the NonStop OS

Itanium is a big endian CPU

X86 is a little endian CPU

The NonStop system runs Big Endian

Achieved via compiler technology and OS support

Binary messages between x86 and Itanium systems need NO transformation

This includes all data on disk

Binary data can be transferred to/from Itanium / x86 directly and without conversion

The OS will be called L-series



x86 NonStop Beta program

HP NonStop has been running an x86 Beta Program with NonStop Partners

- Testing began in December of 2013
- Companies had to migrate their products(s)/applications to run on NonStop x86
- About 30 companies have been testing on the platform successfully
- This includes ACI and IBM amongst others

The Beta Program will begin to include NonStop Customers as of September



A few more important points

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Support policy for Software versions

Active

All customer reported defects are analyzed. Repair action taken as appropriate. Usage questions answered, existing fixes and workarounds provided.

Mature

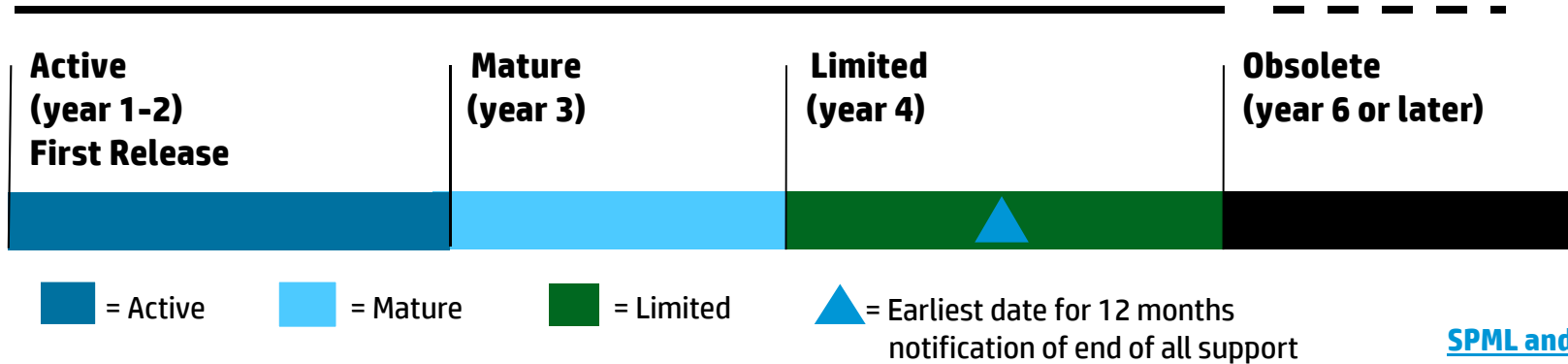
Customer reported defects for critical or major problems addressed. Usage questions answered, existing fixes and workarounds provided.

Limited

Phone support, usage questions answered, existing fixes and workarounds provided.

Obsolete

Product has reached end of service life. No more support services available for the product. Policy is to provide a 12 month advance notice.



[SPML and HPML Link](#)



Accessing NonStop manuals quickly

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

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Sonja Ingeroi of NonStop Publications is at this event to answer questions and get your feedback about NonStop manuals. Check your schedule for **Documentation** “Meet the Developers” sessions.



Join us!



Celebrating Forty Years of NonStop Computing!

November 16th-19th, 2014 at the Dolce Hayes Mansion, San Jose, California

<https://www.regonline.com/builder/site/?eventid=1496544>

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Key takeaways

NonStop's future today

HP is making exciting investments in NonStop

HP is committed to NonStop customers

We can help you eliminate the risk and cost of downtime

Investing in NonStop innovation

Strong roadmap

NonStop is part of the HP Mission Critical Converged Infrastructure

Strategy to expand the NonStop product family to include x86 technology



Thank you

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