

HP-UX on IA-64

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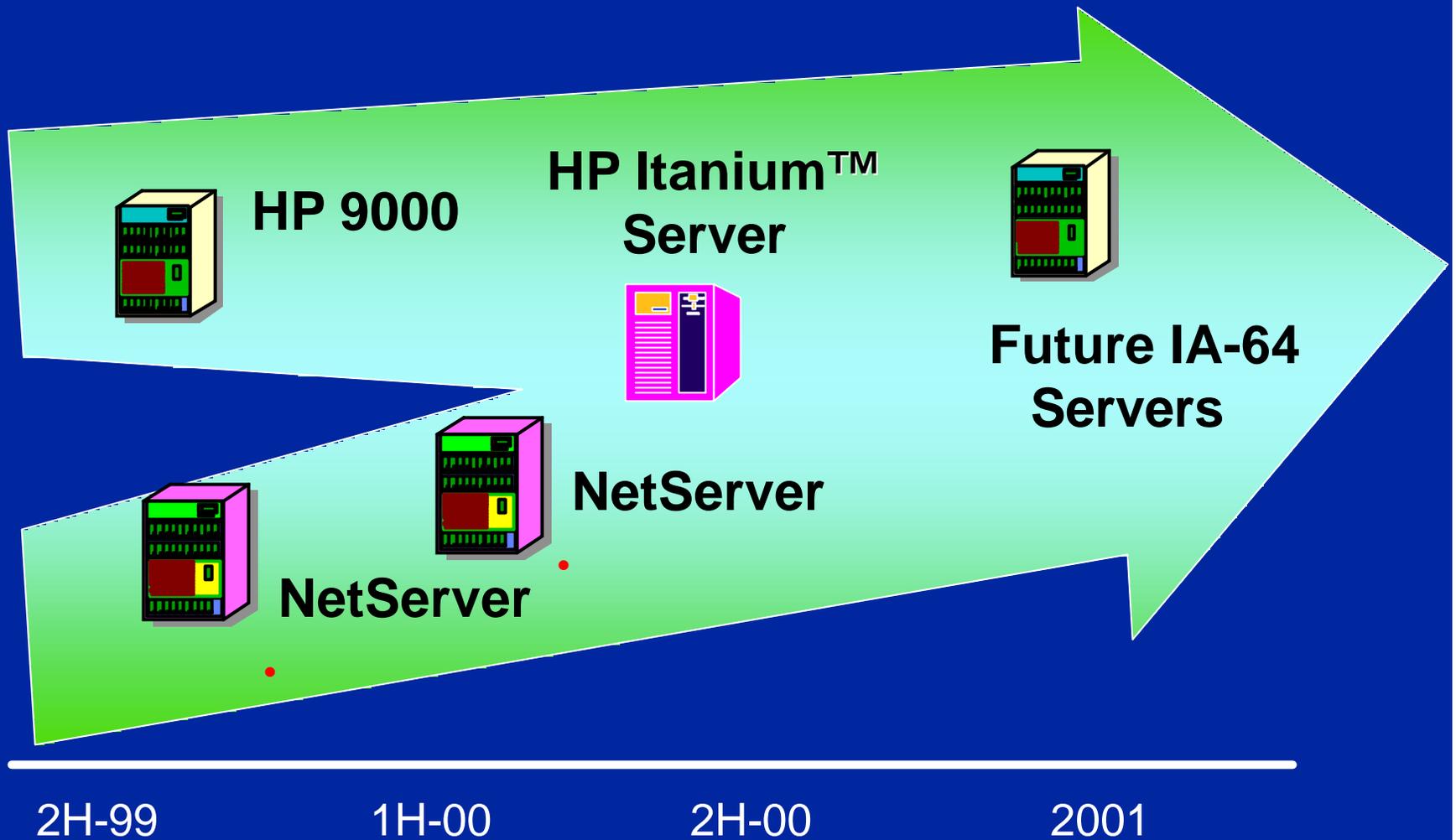
www.hp.com/go/ia-64



Background

- Need for a New Architecture
- IA-64 is HP's committed architecture for future HP-UX-based enterprise solutions
 - **MPE/iX, and NT also supported**
- HP-UX is HP's operating system for the enterprise and data center

Itanium™ Unifies HP's Server Lines



HP-UX is “IA-64 ready” today

- HP-UX 11.00 (launched 11/97) is “IA-64 ready” *NOW*
 - MINOR upgrade to HP-UX 11.10 for IA-64
 - HP-UX running on IA-64 simulator for >1 year
 - Software Transition Kit at www.software.hp.com/STK
- Platform investment protection
 - HP’s new systems are board upgradeable to IA-64
- Full source code compatibility = simple recompile
- Near native-mode performance for PA-RISC applications w/o recompilation via HP’s Dynamic Translator technology
 - 1:1 mapping of key PA-RISC instructions to IA-64 instructions
- No data migrations necessary
- A simple upgrade for systems administrators
- A customer-friendly transition schedule



Why HP for Unix/IA-64 Solutions?

- HP's unique high-performance compilers
 - **specialized system-level compiler optimizations**
 - **support key IA-64 features (speculation, predication, etc.)**
- **Dynamic optimization and analysis**
 - **toolkit to extract application specific information for feedback into the compiler (no separate build required)**
- **All major ISV applications optimized on HP-UX at introduction : 200+ major ISVs already committed**
 - **Application availability is customer's #1 criteria to move to a new architecture**
- **Maximum flexibility**
 - **"platform re-use", multiple OS support, board upgrades**
- **HP Expertise on IA-64**



The Customer's Environment

Management View

Oracle
Informix
Netscape

Ameritech:Tacas+
AT&T: ABARS
Axiom: RAOLink
Axiom: SEBX
BEA: TUXEDO
Bellcore: Sysguard
BMC: Patrol
Bridgeway: EventIX
Cisco: CiscoWorks
HP: AcceSS7
HP: ANSI C
HP: C++/SoftBench
HP: GlancePlus

HP: HP COBOL
HP: DCE CDS
HP: DCE Client
HP: DCE Security
HP: DTC Manager
HP: LAN Manager/X
HP: MC/ServiceGuard
HP: Measureware
HP: MirrorDisk/UX
HP: OnLine JFS
HP: OpenView AdminCenter
HP: OpenView AdminMgr
HP: OpenView IT/Operations
HP: OV Network Node Mgr
HP: OpenView OmniBack II
HP: OpenView Operation Ctr
HP: PerfView Monitor
HP: Process Resource Mgr
HP: SharedX
HP: SNAplus 3270
HP: SNAplus Link
HP: SwitchOver/UX
IBM: ADSM
Informix: Informix-Online
Informix: Informix-4GL Forms
Informix: Informix-4GL Debugger
Informix: Informix-ESQL
Informix: Informix-SE
Informix: Informix-SQL
Internet Security System

Rational: ClearCase
SBC: AMITY
SBC: AOMSG
SBC: DataGate
SBC: TELLMOM
Secure Dynamics: ACE
Sterling Comm: Connect:Direct
Symark: PowerPak
True Software: TrueChange
V-Systems: VSI*Fax
Vantive: HelpDesk
Verity: Verity
IDE: CASE/Data Modeling
SDP Techn.: S-Designer
Widget Workshop: wtree, wtable, wform
Visix: Galaxy
Bellcore: G/Script
Bellcore: WI
Powersoft: PowerBuilder
Oracle: Developer/2000
Neosoft: Tc/Tk
HP: SoftBench
HP: ANSI C
HP: C++
Rogue-Wave: Tools.h++
Persistence SW: Persistence
RogueWave: DB Tools.h++
DSET: DSG Runtime

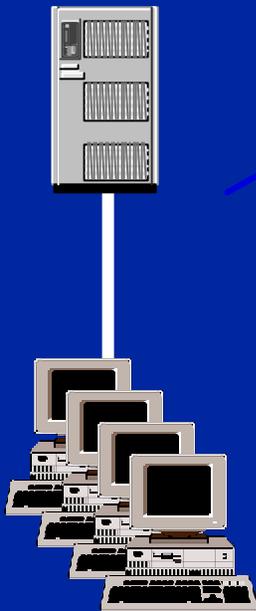
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Bellcore: QuikCom
Bellcore: MDL
Bellcore: WMC/APP
Bellcore: WMC/Open API
Bellcore: TOPCOM
Bellcore: BAE
I/O Concepts: X-Direct
Informix: C-ISAM
I/O Concepts: Win-Direct
ESRI: SDE
ESRI: Arc/Info
Bellcore: nTools
Rational: Quantify
Rational: Purify
Segue Software: QA Partner
Bristol Tech: HyperHelp
Bellcore: BAIST
Bellcore: OnTrac
Bellcore: System-Pilot
Bellcore: BAE Security
CyberSafe: Kerebos
BEA: Tuxedo

Customer's and HP's View

Developer's Utility

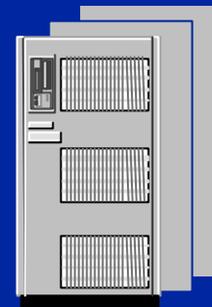
Move from "walk-in" service to e-Service

Local System



1X Power

HP Computer Center



100X Power

Computing Power for:

- Compiling
- Debugging
- Testing
- Benchmarking
- Tuning
- Porting

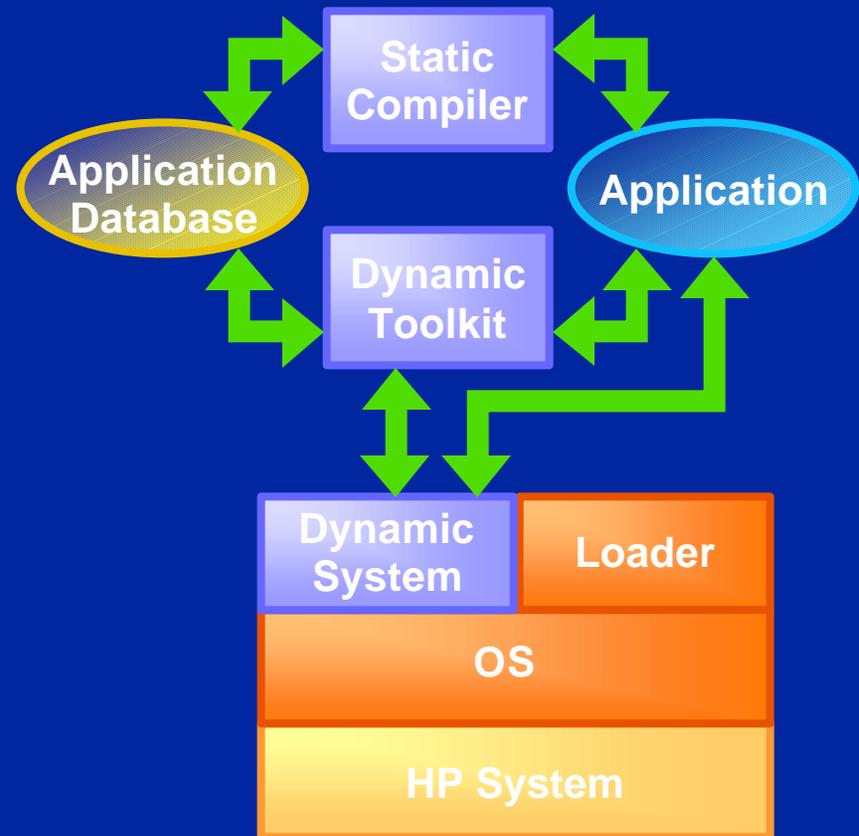
Features

- Complete Build Environment
- Check-in /Check-out
- Revision Control
- Access to Current Software OS, etc.
- Complete Testing/Analysis Tools
- Early access to IA-64
- Access to Partner Software



High Performance Compilers

- Compiler provides critical support for key IA-64 features
 - Speculation, predication
- Dynamic Toolkit customizes performance
 - Analyze program behavior
 - Focus on critical code
- HP has the experience and expertise



IA-64 Languages on HP-UX: Today

- Cross Development Tools
- C Compiler
- Basic C++ Compiler
- High-level optimizations
- Linker / Object file tools
- Full Assembler
- Basic Math library
- ILP32 / LP64 Data Model
- Full Shared libraries
- Threads
- Debug of Opt. Code (+O2)
- PA32 Dynamic Translator

IA-64 Languages on HP-UX: 1999

- Cross Development Tools
- Full C Compiler
- C++ Compiler w/ Exception Handling
- Basic Fortran90 Compiler
- Full Linker / Object file tools
- Assembler
- Vector library
- Profile-based optimizations
- Native User / Asm. Debugger
- PA32 Dynamic Translator with Threads +
troubleshooting

IA-64 Languages on HP-UX: 2000

- Native / Cross Development Tools
- Full C Compiler
- Full C++ Compiler
- Full Fortran90 Compiler
- Linker + Object file tools
- Assembler
- All Runtime Libraries
- All IA64 optimizations
- Full User Debugger / DOC support
- Full PA32 Dynamic Translator w/ all opts & env.

HP-UX Operating Environment

Performance, Scalability, Availability
for HP-UX 11.xx ('99 to '00)

Performance:

- OLTP, DSS Tuning
- 64 way scaling
- Internet Perf. Tuning
- Native Java Tuning

Scalability

- 64 way single node SMP
- Multinode 128-256 way NUMA SMP

Availability

- OLR/A for CPU, Mem
- Dynamic Protection Domains
- Dynamic Patching
- Loadable drivers
- *15 sec end-to-end failover*

IA-64 Jump Start Advantage

Programs and Services:

- Designing the Future
 - Provides partners with information, tools and resources to ensure software is available at 1st release of HP IA-64 systems. Includes STK for IA-64.
 - See www.dtf.hp.com/dtf
- Developer Alliances Lab
 - Technical resources assigned to partners worldwide for ongoing HP-UX development including 11.0 and IA-64

www.dtf.hp.com/dtf



IA-64 Jump Start Advantage

Programs and Services (continued):

- IA-64 Planning Services
 - Worldwide consulting program for end users
- HP-UX 11.00 Power Partners Program
 - Assistance and incentive for our partners to move applications to HP-UX 11.00, HP's first 64-bit implementation of HP-UX
 - See www.hp.com/go/hp-power
 - Software Transition Kit at www.software.hp.com/STK

www.dtf.hp.com/dtf



HP-UX: Leading Value Proposition for Enterprise Customers

- The best mission-critical enterprise UNIX *today*
- Continued enterprise UNIX leadership *tomorrow*
- The safest long term architectural roadmap
- The smoothest transition to IA-64 for enterprise systems
- Delivering continued differentiation with IA-64
- The best UNIX/NT integration platform
- A common UNIX and NT platform on IA-64

*Backed by the strongest worldwide, multi-vendor
service and support*

