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 9000

NetServer

HP Itanium™ Server

Future IA-64 Servers

NetServer

intel®

HEWLETT PACKARD
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

Customer’s and HP’s View
Developer’s Utility

Move from “walk-in” service to e-Service

Local System

Computing Power for:
- Compiling
- Debugging
- Testing
- Benchmarking
- Tuning
- Porting

HP Computer Center

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

1X Power

100X Power
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](http://www.hp.com/go/hp-power)
  - Software Transition Kit at [www.software.hp.com/STK](http://www.software.hp.com/STK)

[www.dtf.hp.com/dtf](http://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