Project Monterey

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Agenda

• What is Project Monterey?
• Monterey/64 Project Highlights
• Monterey/64 for IHVs
  ◆ UDI and Monterey/64
• Monterey/64 for ISVs
• Call to Action
Project Monterey Summary

Project Monterey
Product Line
Power IA-32 IA-64

AIX
SCO Technology
IBM Technology
Sequent Technology
UnixWare
Why Is Monterey Important?

- **Tremendous Revenue Opportunity**
  - IA UNIX will go from 15% to 37% share of the $27.7Bn market

- **Lower Costs**
  - There will be Consolidation of Viable UNIX Platforms
  - Initiative to Standardize API and ABI Led By IBM, SCO, Sequent and Others

- **Highly Reliable and Scalable**

- **Shrink Wrap UNIX On IA**
  - Addressing SMB and High-End UNIX

- **The Right Platforms Now for ISVs & IHVs**
The Monterey Partnership

- **SCO - UNIX Leader on IA32**
  - Intel commitment and experience
  - Shrink-wrap software model
  - Volume installed base

- **IBM - Enterprise Leader on RISC**
  - 64 bit ready
  - EPIC / RISC experience
  - Enterprise installed base

- **Sequent - Leader in IA-based Data Center Solutions**
  - NUMA
  - RAS Technologies

- **Intel - Leader in Microprocessor Technology**
  - Developer of IA-64
  - Investment in ISV fund
Monterey/64 OEMs

- Acer
- CETIA
- Compaq
- Bull
- IBM Netfinity Group
- ICL
- Samsung
- Sequent Computer Systems
- Unisys
ISV Monterey Endorsements

- Target Key Solution Segments (RISC and IA)
- Timing is Critical: Tools (2Q) => DB/Middleware (2H) => Solutions - ERP, e-Business (4Q/99)
- Full Complement of IBM Middleware: DB2, Domino, Comm Server, Tivoli, ADSM, MQ Series, Websphere, Visual Age, Intelligent Miner, Notes, Java

**Database**
- IBM
- Informix
- Pick Systems
- Software AG

**Tools, Middleware & Comms**
- IBM
- Tivoli
- BEA Systems
- Compuware
- Microfocus
- BMC
- Sapiens Int’l
- Rational
- Novell, Inc.
- Progress Software
- ISOCOR
- Resonate
- TakeFive Software
- Parasoft
- RogueWave
- EPC
- FacetCorp
- Polaris
- Beta Systems

**Tools, Middleware & Comms**
- IBM
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- BEA Systems
- Compuware
- Microfocus
- BMC
- Sapiens Int’l
- Rational
- Novell, Inc.
- Progress Software
- ISOCOR
- Resonate
- TakeFive Software
- Parasoft
- RogueWave
- EPC
- FacetCorp
- Polaris
- Beta Systems

**Internet & e-Business Applications**
- Viador
- Lotus
- Netscape
daly.commerce
- Software.Com
- SendMail

**Business Applications**
- Data Pro Accounting Software
- Real World
- Sanchez

**ERP/Business Applications**
- Risk Management Technology
- PeopleSoft
- Baan
- GEAC
- JD Edwards
- Marcam
- Tibco

**Business Intelligence**
- SAS Institute
- Torrent
Project Monterey Summary

The High Volume UNIX

- Standards-based offering
- The proven UNIX advantages of Scalability, Reliability, Maintainability
- Single UNIX that supports “department to data center” servers
- Shrink-wrap offering for low-end segment
- Multiple vendor support and innovation
- Leverage Monterey today for IA-32 or Power architectures
Monterey Target Markets

Initial Monterey IA-64 market

Performance

Electronic Commerce
Business Intelligence

Volume Monterey IA-64 market
E-business leader

Volume

ERP
Electronic Commerce
Supply Chain Mgmt
Business Intelligence
Knowledge Mgmt
Customer Relationship
Addressing Customer Needs

- Increased Uptime through Reliability and Availability
- Ease of Use through Serviceability and Usability
- Increase Cost Effectiveness through Scalability and Performance
- Preserve Investment, But Give a Path to the Future
Monterey/64 Release 1 Technology Highlights

- **Scalability and Performance**
  - Tuned SMP Scaling/Exploitation
  - ccNUMA APIs / Functionality

- **Investment Protection**
  - UNIX 98 Branded APIs
  - UNIX Developer’s Guide-PI
  - XPG4 Internationalization APIs
  - UDI Device Driver Model
  - Java Technologies

- **Enabling Technologies**
  - Dynamically Loadable Kernel Extension Model

- **Reliability and Availability**
  - Hot Plug PCI, Multi-Path I/O
  - Subsystem control for recovery, monitoring and cleanup

- **Serviceability and Usability**
  - Web-Based System Manager Framework and Managers
  - Common Application Installation / Update
  - Serviceability/Diagnostic Aids
  - Directory Enabled OS Functionality with LDAP
  - PC Interoperability

- **M/W and Database**
  - Application Development Tools
  - IBM and other Middleware
Service and Support

- A Single (Binary) Product
- Sold by IBM and SCO & Monterey partners
- Supported by your supplier
  - IBM, SCO or a Monterey partner
  - Business as usual
  - Synchronised release and maintenance strategy

- Joint IBM and SCO developer programs
Project Monterey Milestones

1998
- Q4: Monterey/64 Product Definition
- Q1: Monterey/64 on Simulator
- Q2: SDVs available at IBM/SCO
- Q3: DYNIX/ptx 4.5 UDB and IBM layered software
- Q4: AIX 4.3.3 RAS enhancements

1999
- Q1: Monterey/64 on Intel SDV
- Q2: Beta Release
- Q3: AIX 4.3.4 source base Monterey/64
- Q4: UnixWare AIX app code compatibility

2000
- Q1: Alpha Release
- Q2: First Customer Ship
- Q3: Monterey/64 SDK C / C++ / Java
- Q4: Third Party Tools

Current Monterey Product Line
- AIX 4.3.4 RAS enhancements
- UnixWare AIX app code compatibility

Development Environment
- Migration Guides
  - AIX ==> M/64
  - UnixWare ==> M/64
  - DYNIX/ptx ==> M/64

Migration
- Source / Binary Checking Tools
- Data Migration Tools

Intel / SCO SDK C / C++ / Java
- Monterey/64 SDK C / C++ / Java
- Third Party Tools
Monterey/64 For IHVs
The “Driver Problem”  
(IHV Perspective) 

- **Huge matrix of drivers to develop**  
  - # Devices × OSes × OS versions × platforms × features 

- **Finite development and support resources**  
  - Must choose porting order (target prioritization) 
  - Some OSes and/or platforms not supported 

- **Driver porting not core business**  
  - Technology, Performance, Functionality
The “Driver Answer:” UDI

(OSV Perspective)

UDI is a specification designed to address:

- Divergence,
- Inconsistencies,
- Deficiencies

in Device Driver implementation

- Strategic direction for the Monterey family
What Is Project UDI?

- Open industry group, OEMs, OSVs, IHVs and Integrators
  - Including Compaq, HP, IBM, Intel, SCO, Sun, Adaptec, Bit3, Interphase, Lockheed-Martin

- Design and Promote standard driver interfaces

- Publish UDI Specifications
  - Define binary & source packaging as well as programming interfaces

- Produce reference implementations
  - Sample drivers and OS implementations
  - pre-Alpha development kits available now for UnixWare 7
The UDI Solution

- **UDI enables 100% portability**
  - Focus on technology and performance not OS
  - Reduce cost when supporting multiple OSs
  - UDI Specification defines all driver interfaces
  - Abstracts H/W and S/W environment

- **One driver source for all UDI-compliant OSes**

- **Co-exists with legacy driver environments**
UDI Support on Monterey/64

- There will be a Kernel Extension:
  - Used by SCSI and Network drivers
  - Common to all PCI adapters

- A set of utilities to assist in:
  - Installing, developing and packaging UDI drivers

- There will be a Native Driver Interface for:
  - PCI & ISA Bus, Media, Graphics & CDLI Drivers
  - Hot Plug Controller

- Documentation on how to migrate AIX DD:
  - From 32 to 64-bit and from POWER to IA-64
IHV involvement and Support

- Hardware Developer Kit (HDK), available with alpha release of Monterey/64
  - Documentation
  - Sample source code
  - Tools
  - Test suites

- Monterey Plug-Fests
  - OEM’s, IHV’s and the Monterey Team will conduct plug fests beginning in late Q1-2000

- Develop for Monterey/64 on AIX & UnixWare today
IHV and OEM Programs

- Initially focus on Premier IHV’s who participate in Bring-up and Alpha Development
- Wider IHV program at Beta
- IBM & SCO will deliver a common IHV Program
- Common multi-level Hardware Certification
- Monterey Information Web
  - Register now at http://www.projectmonterey.com
Monterey/64 For ISVs
Monterey/64 Value Proposition for ISVs

REVENUE OPPORTUNITY

- IA-64 extends Intel Architecture to High-end server computing segment
  - High-end segment is the fastest growing for IA

64-BIT TECHNOLOGY

- Enables new levels of performance for your apps

BROAD INDUSTRY SUPPORT

- IBM & SCO, Sequent, and Intel Backing Monterey to be leading UNIX OS
- Industry wide support of IA-64 by Server OEMs
- Broad-based endorsements from major ISVs on Monterey already
Common Multi-tier ISV Developer Program

- **Information Level for Individuals and Companies**
  - Newsletter, technical papers, porting guides, webcasts, etc.

- **Business Partnership Level for Qualifying Companies**
  - As above, plus SDKs, leasing programs workshops
  - Support offerings, porting and tuning center access
  - Market assistance and joint programs

- **Early Adopter Initiative**
  - Priority access to SDKs, hardware, porting/tuning centers
  - Early adopter marketing promotions
  - Must commit to shipping product 30 days after FCS of Monterey/64

- **Monterey Information Web**
  - Register now at http://www.projectmonterey.com
Monterey/64 Environments

- **LP64 (IA-64 64-bit) Environment**
  - New and High-End Software
  - UNIX Industry-wide 64-bit Model
  - New Instruction Set, Longs, Pointers are 64 Bits

- **ILP32 (IA-64 32-bit) Environment**
  - Appropriate for Recompile-and-Go Software
  - Similar Performance to LP64
  - IA-32 Data Layout Compatible
  - New Instruction Set, Integer, Longs, Pointers are 32 Bits

- **IA-32 (32-bit) Environment**
  - Targeted Binary Compatibility for existing applications
  - Allows Single Binary to be used on all IA Platforms
Development Tools

• **Today**
  - UnixWare 7: C, C++, Fortran, Cobol, Debuggers
  - Monterey/64: Intel C, C++ (on UnixWare 7)
  - Intel Platform Simulator, Migration Guide

• **1Q2000**
  - Monterey/64: C, C++, Java (Native and UnixWare 7 Cross Compile)
  - SUI/PICL Native 64 Debugger - ELF

• **3Q2000**
  - Monterey/64: C, C++, Visual Age IDE Native
  - 3rd Party Tools
  - UDG-PI Compliance
**Porting / Tuning Centers**

- Technical Support
- Porting/Enablement Performance Testing
- Industry Information Business Seminars
- Go-to-Market Technical Education

**Future Plans**

- **Intel ASC, location tbd - Planned 3Q99**
  - Tune & optimize existing IA-32 apps
  - Port/tune new apps for IA-32
  - Prepare for IA-64

- **IBM SPC, Waltham - Planned 4Q99**
  - Support for IA-32
  - Prepare for IA-64

- **All Centers - Planned 1Q00**
  - Application migration and tuning for IA-64

- **ProLiant Support for Monterey/64**
  - Select Compaq porting centers to be designated for Monterey/64
  - ProLiant servers in select IBM Solution Partnership Centers
Call to Action

- Solidify your porting plans to UNIX on IA now with Monterey
  Monterey on IA-64: the obvious choice for apps targeted at the High-end that will fully exploit 64 bit functionality

- Sign Up w/the Monterey Program & Take the Next Steps
  - Develop a detailed project plan & Assign resources
  - Begin “clean code” work ASAP
  - Have alpha code ready in Q1’00
  - Test & tune your app on Monterey beta in Q2’00
  - Release app or driver in Q3 when Monterey on IA-64 ships
Contacting Project Monterey

Visit the Monterey developer web site @

www.projectmonterey.com

Visit the Monterey partner web sites @

www.ibm.com/servers/monterey
www.sco.com/monterey and www.sco.com/udi
www.sequent.com/monterey