



# 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





# 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

## • Tools, Middleware & Comms

- 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*

*Volume Monterey IA-64 market  
E-business leader*

**Performance**

**Volume**



*Electronic Commerce  
Business Intelligence*

*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

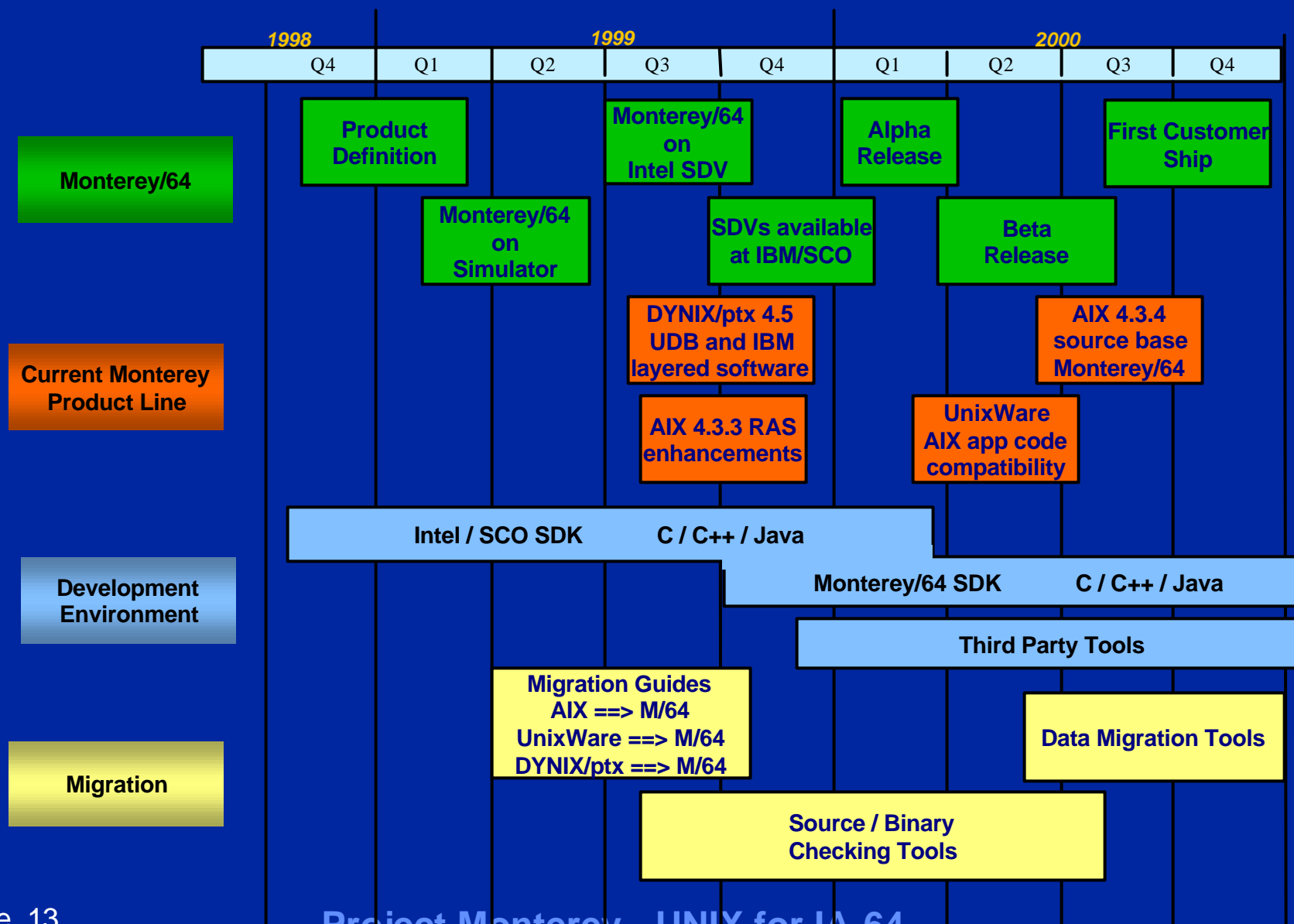


# Service and Support

- **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





# 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



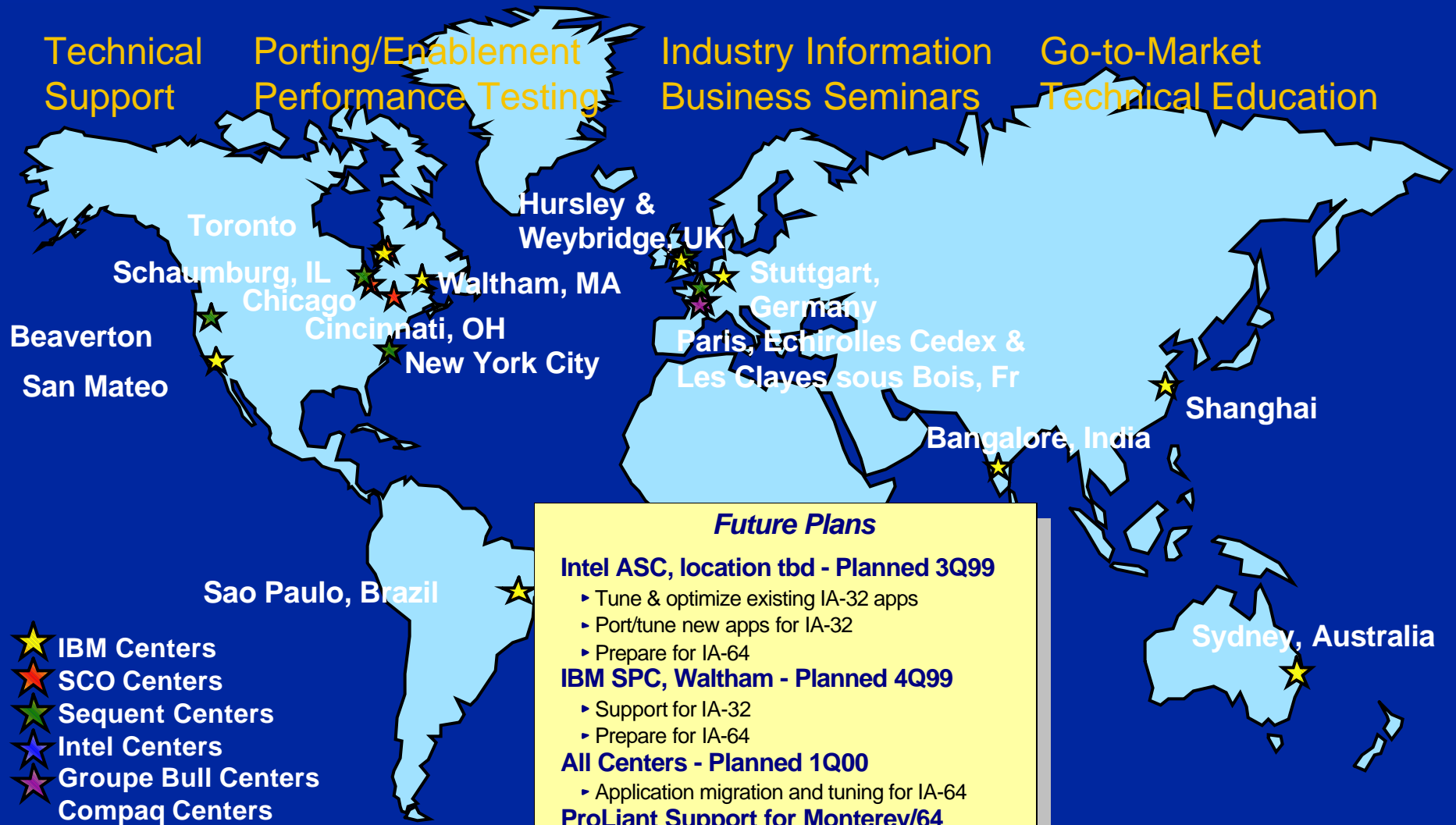
# Porting / Tuning Centers

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](http://www.projectmonterey.com)

Visit the Monterey partner web sites @

[www.ibm.com/servers/monterey](http://www.ibm.com/servers/monterey)

[www.sco.com/monterey](http://www.sco.com/monterey) *and* [www.sco.com/udi](http://www.sco.com/udi)

[www.sequent.com/monterey](http://www.sequent.com/monterey)