

DCAP and Monterey

November 4, 1998



Meeting Agenda

- **Review of Monterey Announcement**
 - **Announcement and its benefits**
 - **IBM/SCO Relationship**
 - **Technical Projects**
 - » **IA32 UnixWare**
 - » **IA64 UNIX Project**
 - **Relationship to DCAP**
- **Discussion**

Major Unix Initiative from IBM

- IBM creating a single UNIX product line that spans IA-32, IA-64, and IBM Power processors.

UnixWare7

AIX

UW7+AIX+new

(joint dev with SCO)

for IA-32

for PowerPC

for IA64

(aka Monterey-64)

- Creating a clear volume Unix platform for ISV's
- Sales and Marketing for UnixWare 7 TODAY

Key Elements of this Announcement

- IBM will sell and market UnixWare 7 globally
 - IBM and Intel supporting a substantial ISV recruitment program
 - IBM moving a broad range of IBM and AIX middleware to UnixWare 7
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- IBM supplying SCO with AIX enterprise technologies for UnixWare 7
 - SCO supplying IBM with UnixWare 7 APIs and technologies for AIX
 - IBM and SCO jointly developing IA-64 UNIX OS

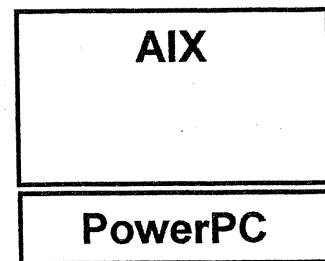
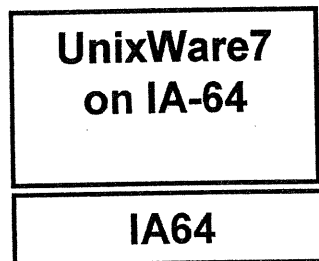
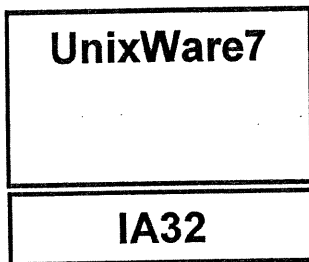
SCO will maintain its position as the primary UNIX OS supplier across IA-32 and IA-64



Before Monterey

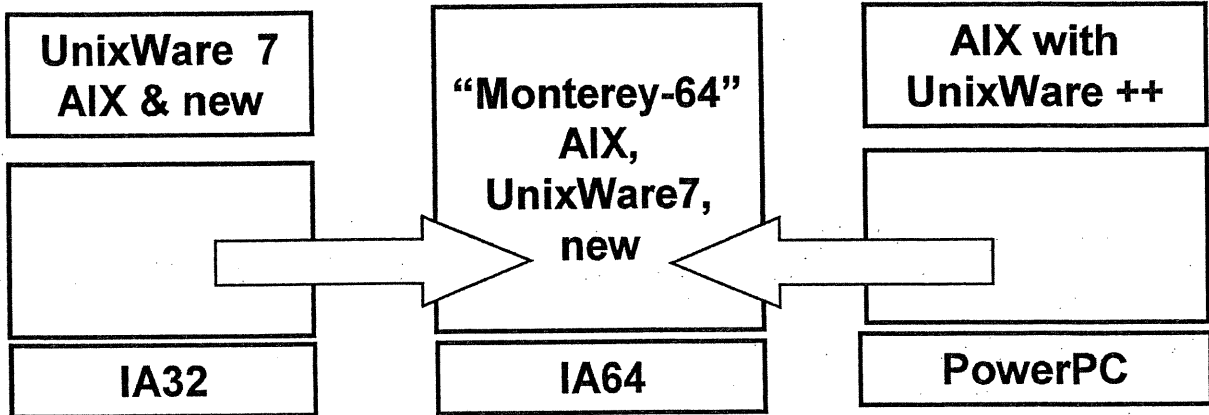
UnixWare apps.
OpenServer apps
Linux Apps

AIX Applications
IBM middleware
Enterprise Mware



The Monterey Product Line

Developer, Integrator, User View - "Monterey"



Unix on Intel with Monterey

- Unix Power, RAS
- Intel Volume Economics
- Hardware Vendor indep.
- Common binary

UNIX on Intel
GET ON IT.
UnixWare

Developer, Integrator, User View - "Monterey"

UnixWare 7
AIX & new

IA32

"Monterey-64"
UnixWare7,
AIX, new

IA64

AIX with
UnixWare ++

PowerPC

Intel Support

Supports UnixWare 7 and the IA-64 UNIX OS as THE LEADING UNIX

- Investing to get the ISVs on UnixWare 7 and the IA-64 UNIX OS
- Establish IBM/SCO UNIX Application Solution Centers
- Work on a UNIX standards initiative for IHVs and ISVs (this is the reference)
- Help gain endorsements from key OEMs and ISVs

Benefits for UnixWare Customers

- **For Decision Makers**
 - IBM and Intel backing makes “Unix-On-Intel” safer choice and more credible RISC alternative
 - IBM and Intel backing provides Roadmap security for UnixWare
 - More volume leads to more solution providers and improved support
- **For IT Solutions Builders**
 - More enterprise capabilities in UnixWare 7 (IA-32)
 - More middleware, tools and applications
 - Compatible UNIX OS platform from IA-32 to IA-64
- **For Buyers**
 - High-volume platform leads to better economics
 - Provides greater choice of hardware vendors
 - Hardware vendors will provide stronger backing

Benefits To SCO's Partners

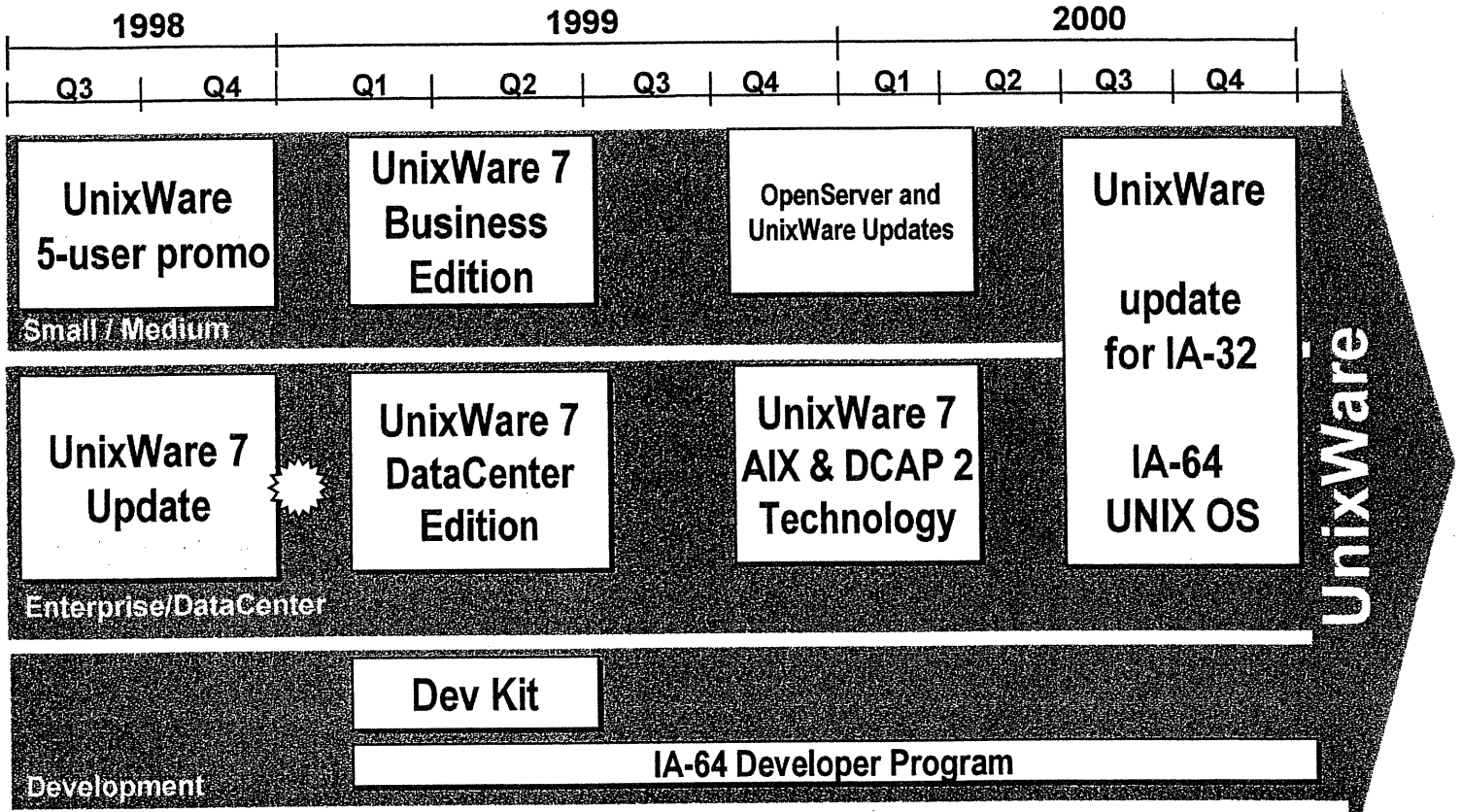
- **ISVs**
 - Common set of APIs across IA-32, IA-64, PowerPC
 - Common set of development tools, middleware
 - Porting centers available worldwide
 - Develop now for UnixWare 7, smooth path to IA-64
- **For Resellers**
 - Increased visibility and preference for “Unix on Intel”
 - More OEM support than any other UNIX system
 - More capabilities and applications on IA-32 platform
- **OEMs**
 - Leading UNIX server platform from IA-32 to IA-64
 - Enhanced enterprise capabilities on IA-32
 - More applications, middleware and tools available

SCO's OEM Objectives

- **Maintain level playing field and hardware vendor independence.**
- **Server business maintains focus on Intel Base**
- **Expand volume adoption of UnixWare 7 and the IA-64 UNIX OS in the enterprise through existing commercial strategies**
- **Enable OEM success with Unix in their chosen market segments.**

SCO will maintain its position as the volume leading supplier of UNIX-on-Intel operating systems through a variety of sales channels

UnixWare Roadmap 1999-2000



UnixWare



Agreed Market Development

- **Significant Funding of ISV Enablement Program**
 - Early Code Availability
 - Hardware Loaner Programs
 - Technical Support / Porting Centers
 - Market Development Funds
- **Significant Funding of Market Development Programs**
 - Advertising & Marketing Communications
 - Trade Shows & Marketing Events
 - Consultant Relations
 - Internet Site Development
 - Market Research
- **Additional Segment Based initiatives**
 - Network Computing Retail Architecture Initiative
 - Others being discussed

General Terms and Conditions

- **Ownership:**

- Both SCO and IBM own jointly created Project Work
- IBM retains full ownership of its contributed AIX technology and IBM Project Work
- SCO retains full ownership of UnixWare and SCO Project Work
- Each Party or Both shall own any new “inventions”

- **Trademarks/Branding:**

- Common name or set of trademarks to describe the family will be determined within one year

Project Management

- **Shared SCO/IBM responsibility**
- **Project Management Definition:**
 - **Executive, Project and Technical levels of Management identified**
 - **Clear roles and responsibilities for each level of management**
 - **Well-defined escalation path**
 - **Change Control process included**

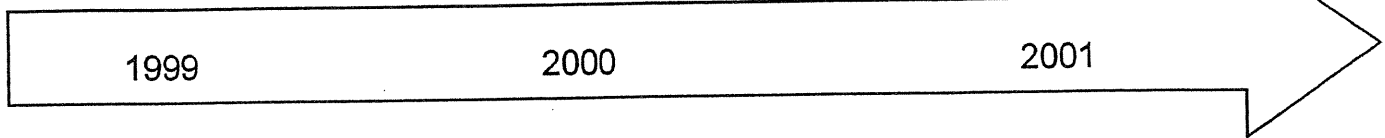
Development Activities

- Development activities managed via creation of a Product Roadmap and Project Supplements
- Product Roadmap: High level view of features and releases of IA32 UnixWare enhancements and IA64 products
- Project Supplements
 - Define required contributions of each company in implementation on Agreed-to Product Roadmap
 - Created for all development activities
 - » Project Supplement A is the implementation plan for Release 1 of enhancements to UnixWare
 - » Project Supplement B is the implementation plan for Release 1 of the IA-64 Product
- Roadmap and Project Supplements under change control per Project Management process documented in Agreement

IA-32 Product Development

- **IA 32 Product Work (SCO UnixWare)**
- **SCO is development organization**
- **Will incorporate some AIX technology**
 - **AIX Technology content driven by SCO based on UW market needs (including compatibility needs)**
 - **To be managed via Project Supplement A (available 60 days from contract signature)**
 - **Initial IA-32 technology exchange list**
 - **Project Supplement to contain the IA32 technology list and define level of consulting, etc. associated with each deliverable**

UnixWare 7 IA32 Roadmap



Scalability:

- 16-way SMP
- 8 GB

Data Center Edition

Business Edition

Euro, UTF-8 locales

AIX Java Enhanced JVM, JIT

Scalability:

- 32-way SMP
- 16 GB

UNIX 98

Initial AIX Compatibility:

- libs, cmds
- AIX I18N/L10N Framework
- Common Locale def files
- CDSA Security Support

Web System Management

IPv6 Networking, LDAP

Directory Services
Common SW packaging, install
DKLE framework
UDI Family DD Model
AIX Java enh (HotSpot)

UDI+ Enhanced DD Model

Additional AIX App. Support

- command compat.

In-kernel http server

Concurrent Diagnostics

- Service Processors
- Diagnostics on live HW
- Error log analysis

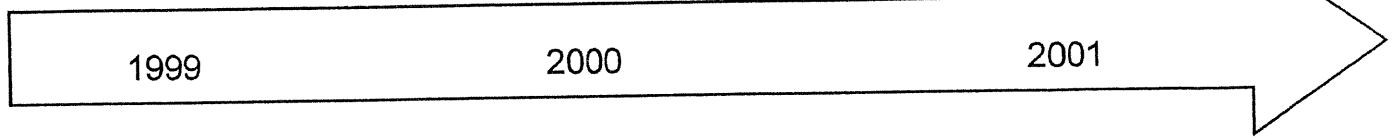
Directory Services
DEN, printing

IA-64 Product Development

- **IA 64 Product Work**

- Joint Development effort (SCO and IBM)
- To be managed via Project Supplement B (available 60 days from contract signature)
- Initial IA-64 Roadmap, work items and work split defined prior to contract signature - need to refine and finalize (via Project Supplement)
- Outline of process document (a.k.a., how do we work together?) in progress

UNIX OS on IA64 Roadmap



Alpha/Beta SDK:

- SCO/Intel Merced SDK
- ELF/DWARF

Basic SDV Support:

- /proc
- "Debug" app debugger

NUMA APIs
PC Standard I/O support
(ide,fd, kbd,..)

Common Software
Packaging, Install, Update
IA32 Execution
Environment
Kernel Interface Versioning

Family DLKE framework
UDI Family DD model

**Limited UnixWare
Application Source
Code Compatibility**

UW7 modem support

Directory Services
Targeted IA32 UW
application binary
compatibility
SVR4/SVR5 Print
Subsystem
Workload Balancing

Tuned SMP, NUMA
support
Hot Plug PCI
DMI
Multipath I/O

IBM/SCO Tools

UDI+ Enhanced DD
model

**Broader UW7
Application
Compatibility**

- source, commands,
binary

Tuned 32-way SMP

Extended ccNUMA
Non-Stop Cluster Hooks

Workload Balancing

Logical Partitioning

Extended OEM PSM
Support
I2O



SCO

Impact of Monterey on DCAP IA32 effects:

- **IBM endorsement of UnixWare**
- **New ISV recruitment initiative**
- **Enhanced UnixWare credibility and positioning**
- **Monterey adds new technology source to IA32 UnixWare base case**
- **DCAP continues as program to accelerate DC projects on UnixWare IA32 base case**
- **IBM may join DCAP**

Impact of Monterey on DCAP IA64 effects:

- **SCO IA64 Roadmap largely unchanged**
- **SCO IA64 development program enhanced by joint development with IBM**
- **DCAP continues as program to accelerate DC projects on Monterey IA64 base case**
- **If IBM joins DCAP, it will have a dual role in IA64 UNIX: Joint developer of base case and DCAP sponsor of IA64 acceleration projects**

DCAP Roadmap Impact

- **Most current projects should proceed as planned**
- **Some IA32 projects may be able to leverage AIX technology (same goals, different implementation)**
- **Some potential acceleration areas will require additional evaluation**
- **Additional opportunities for DCAP may result from the enterprise capabilities of Monterey IA64**

Next Steps

- **DCAP Roadmap Update**
 - Proceed with current process to keep project work on track (next regular technical meeting on 11/11)
 - Identify items/areas that may be able to leverage Monterey roadmap
 - Summarize status at semi-annual meeting
- **IBM joining DCAP**
 - Are sponsors willing to sign multi-party NDA with IBM
- **Other Issues or Concerns?**