

Project Monterey Fact Sheet

April 1999



What is Project Monterey?

Project Monterey is a joint business and development project — led by IBM, SCO, Intel, and others — to deliver the leading high-volume, enterprise UNIX system product line. This product line will provide business and technology leadership in enterprise systems, with built-in reliability, availability, scalability and management, plus a well-defined roadmap to the future. IBM will use UnixWare® 7 as its key UNIX system on today's IA-32 environments, and SCO and IBM will jointly develop a UNIX system for IA-64 platforms.

Delivering a common applications framework and common product line across IA32, Power, and IA64 architectures, Project Monterey today represents the largest UNIX server market share, with more than 50% share across all platforms. Delivering volume economics across the broadest range of server systems, Project Monterey benefits customers by delivering innovative, high-quality products; a rich application base; operating system interoperability; investment protection; freedom from vendor lock-in; and end-to-end service and support.

The Latest News

April 7, 1999 - SCO and IBM announced that they have developed, integrated and tested the new "Monterey/64" (code name for Project Monterey IA-64 UNIX System) on the Intel IA-64 Pre-Silicon Software Development platform -- in less than five months! The companies also published their integrated product roadmaps for the two key operating system technologies comprising "Monterey/64" — IBM's AIX operating system and SCO's UnixWare 7 operating system — and established a new Monterey-64 UNIX System developer program.

In addition, Compaq announced its support of Project Monterey on the same day.

Project Monterey Goals

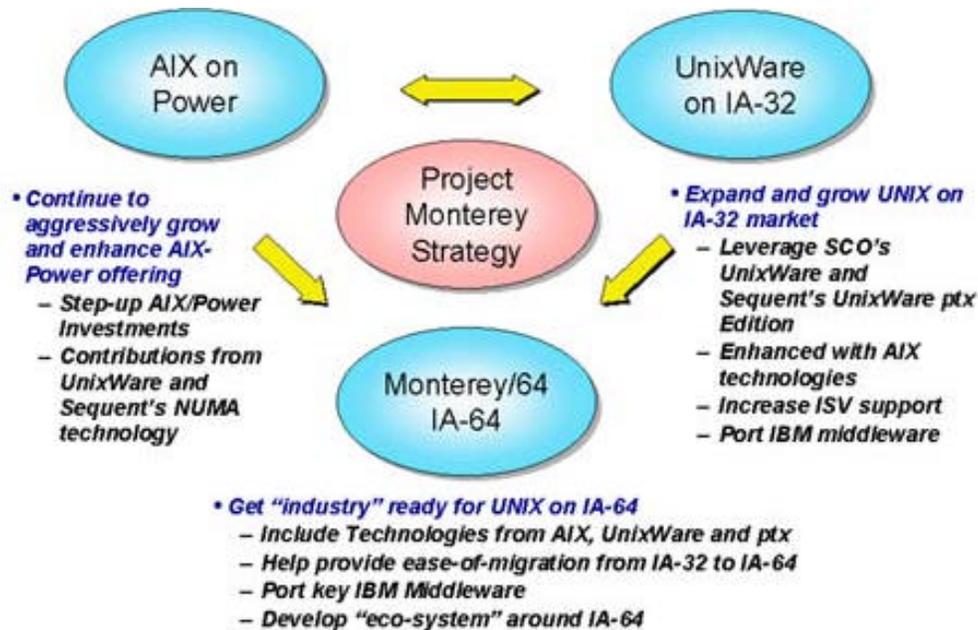
The Project Monterey team has established four common goals:

- Establish the Project Monterey product line (UnixWare, AIX, and "Monterey/64") as the high-volume, enterprise-class, industry-leading UNIX Server Operating Systems for Intel IA-32, Intel IA-64, and IBM Power processor platforms.

- Deliver a single, standards-based UNIX System product line that supports workgroup-class to enterprise-class servers, including a shrink-wrap offering for low-end segment.
- Leverage the widest portfolio of applications , including AIX and UnixWare applications and middleware systems on the IA-64 UNIX Operating System.
- Distribute broadly to OEMs and Resellers

Project Monterey Strategy

This graphic depicts the integrated Project Monterey strategy for creating a high-volume, enterprise UNIX System for Intel IA-32, IA-64, and Power architectures.



Building a High-Volume Enterprise UNIX System

Project Monterey consists of industry leaders who have joined forces to deliver what their customers have asked for — a standard, high-volume enterprise UNIX System that runs on multiple hardware platforms. The key qualities of such a system have been defined as the following:

- Leads the market in advanced technologies
- Offers a well-defined product roadmap
- Delivers top-to-bottom scalability
- Delivers enterprise reliability, availability, and manageability
- Includes end-to-end service and support

Hardware-Vendor Independence

Project Monterey UNIX Systems are supported by more enterprise hardware vendors than any other

UNIX System. This frees customers from vendor lock-in and permits them to mix and match components from different sources to suit their needs. Yet they can rely on Project Monterey partners to provide end-to-end service and support.

The Largest Accessible UNIX Market Opportunity

Project Monterey offers OEMs, software developers, and resellers full access to one of the fastest growing market opportunities for the next millennium.

- International Data Corporation (IDC) predicts that by 2002 the UNIX market for Intel processor-based systems will double in volume and triple in revenue.
- SCO's leading share of the UNIX server market + IBM's AIX share = over 50%, exceeding critical mass for a software standard.
- As other OEMs join, the opportunity will continue to grow, attracting more ISVs and OEMs
- This increases the choice of solutions and vendors for business customers, creating a snowball effect that rapidly builds market momentum for all who participate.

An Integrated Roadmap to the Future

The Project Monterey team has developed a single, integrated product roadmap that shows the timeline for integrating AIX, UnixWare, and Sequent technologies into UnixWare and AIX systems today, and ultimately into a single high-volume UNIX System that will run on IA-32, IA-64, and Power hardware platforms. All three operating systems will share common features and technologies.



The Experience and Expertise of Industry Leaders

Project Monterey partners contribute their leading enterprise technologies and unique expertise in serving volume markets.

IBM	<ul style="list-style-type: none"> ● Enterprise UNIX technology ● Solution partnership centers ● Applications and middleware ● Intel and RISC system business
SCO	<ul style="list-style-type: none"> ● “UNIX on Intel” expertise ● Volume Channel ● Hardware Vendor Independence ● Market Leadership - 80% share of “UNIX on Intel” servers
Sequent	<ul style="list-style-type: none"> ● Data-center UNIX on Intel expertise ● NUMA and scalability ● Reliability, availability, and security
Intel	<ul style="list-style-type: none"> ● ISV recruitment to IA-32/IA-64 platforms ● Application solution centers ● UNIX ISV/IHV standards ● OEMs

Key Elements of Project Monterey

- **IBM will sell and market UnixWare 7 globally, and support a substantial ISV recruitment program.** Significant funding of ISV Enablement Program including Early Code Availability, Hardware Loaner Programs, Technical Support/Porting Centers and Market Development funds. Significant funding of Market Development Programs including Advertising & Marketing Communications, Trade Shows, Marketing Events, Consultant Relations, Internet Site Development and Market Research.
- **IBM will move a broad range of IBM and AIX middleware to UnixWare 7.** Supported or planned to be supported on IA-32 and IA-64 will be DB2 (DB2, UDB), Tivoli Management Systems, eNetwork Directory, MQSeries, CommServer, WebSphere, Net.Data, Enterprise Java™Server and VisualAge Tools for IA-64. Other Solution Enablers are also being evaluated.
- **IBM will supply SCO with AIX enterprise technologies for UnixWare 7.** SCO will integrate key AIX technologies into future releases of UnixWare 7. This will be done to enhance the functionality of

UnixWare 7, and achieve source code compatibility between AIX and UnixWare before the IA-64 UNIX System is available. This will give ISVs and IT managers a common development platform across PowerPC and IA-32 platforms and a smooth transition to IA-64 environments.

- **SCO will supply IBM with UnixWare 7 APIs and technologies for AIX.** IBM will integrate key UnixWare 7 APIs and technologies into future releases of AIX. This will be done to enhance the functionality of AIX and to achieve source code compatibility between AIX and UnixWare 7 before the IA-64 Unix System product is available. This will give ISVs and IT managers a common development platform across PowerPC and IA-32 platforms and a smooth transition to IA-64 environments.
- **Sequent will contribute data-center technologies** — including its multipathing, partitioning, and clustering technologies — **and sell the high-end UnixWare ptx Edition.**
- **IBM and SCO will jointly develop a 64-bit UNIX operating system.** IBM will provide the 64-bit UNIX System for their environments, while SCO will provide the 64-bit UNIX System to the volume market.
- **Intel will support UnixWare 7 and the new Project Monterey IA-64 UNIX System as the leading UNIX System for the Intel hardware platform.** Intel will invest to make UnixWare and the IA-64 UNIX Operating System the number-one port of choice for ISVs and will work on UNIX standards initiative for both IHVs and ISVs. "Intel ... will work with IBM and SCO to make this the first UNIX port for all computer manufacturers and software developers."

Benefits to Customers

Decision Makers

- IBM and Intel backing makes UNIX systems on Intel processors a safer choice and credible RISC alternative
- Increased volumes lead to more solution providers and improved support

Solution Builders

- More enterprise capabilities in UnixWare
- More middleware tools and applications
- Common Operating System platform for IA-32 and IA-64
- SCO technologies available on AIX systems

Buyers

- High-volume platform, leads to better economics
- Higher quality products
- Provides greater choice of hardware vendors - no vendor lock-in
- Investment protection

Benefits to OEMs

- Maintain level playing field and hardware vendor independence
- Access established distribution channels for UnixWare on IA-32 platform
- Expand volume adoption of UnixWare system and the 64-bit UNIX System in the enterprise through existing commercial strategies
- Share technologies
- Leverage ISV solutions for IA-32 and IA-64 platforms
- Leverage ISV/IHV porting facilities, resources, equipment, skills
- Share marketing programs
- Contribute to product requirements
- Share investments in attracting ISVs
- Leverage common API and ABI standards for UNIX industry

Benefits to Resellers

- Access to largest UNIX Server market for Intel platforms
- Access to more applications and middleware
- More OEM support than any other UNIX System
- IBM/SCO/Intel promotion of the platform
- Enterprise capabilities brought to IA-32 platform

Benefits to Developers

For the Development Platform

- Common set of API's - IA-32, IA-64, PowerPC
- Common set of development tools
- Extensive set of Middleware
- Porting Centers worldwide
- Develop now for UnixWare 7, be ready for IA-64

For the Market

- Promotion of platform by IBM/SCO/Intel
- Supported by largest number of OEMs and IHVs

Benefits to SCO

In the Market

- Increased volumes
- Enhanced superior credibility

- SCO technologies available on AIX systems

In the Product

- More enterprise capabilities in UnixWare 7
- Common Operating System platform for IA-32 and IA-64

With our Partners

- More applications available
- More tools and middleware available
- More OEM support than any other UNIX System

Project Monterey Product Line — Common Features/Technologies

The common features and technologies that the Project Monterey team are targeting for the UnixWare, AIX, and "Monterey/64" operating systems are:

- **Core UNIX APIs** — UNIX 98 branded APIs, UNIX Developer's Guide, XPG4 Internationalization APIs
- **Common Enabling Technologies** — Tuned SMP scaling exploitation, public key encryption, NUMA APIs and functionality, UDI device driver model, dynamically loadable kernel extension model.
- **Common Subsystems** — Directory-enabled OS functionality, PC interoperability, NIS gateway, LDAP server, Java technologies, SVR4 print system
- **System Management** — Web-based system manager framework and managers, common application installation/update, serviceability/diagnostic aids
- **Middleware, Database Applications** — IBM middleware, application development tools

UnixWare for IA-32 Systems

SCO has built a comprehensive product release roadmap that caters to both the enterprise marketplace and traditional small to medium businesses. SCO's strategy is to continue to grow the small and medium portion of the business with new product offerings, as well as to have significant growth in the Enterprise and DataCenter portions of the marketplace where UNIX system revenue growth is from 40 to 70% per annum (IDC Data).

Highlights

- **Q1 1999** — Introduced the UnixWare 7 Release 7.1 Business Edition for small and medium-size businesses, and the UnixWare 7 Release 7.1 DataCenter Edition for larger scale and higher availability requirements.
- **Q1 1999** — Added support for the Intel Pentium III Xeon 32-bit processor.
- **Q3 1999** — Deliver UnixWare 7 Non-Stop Clusters.
- **End of 1999** — Integrate AIX technology and additional DCAP technology into a new version of UnixWare 7. This release will be more compatible with AIX, and prepare customers for IA-64.
- **Year 2000*** — Release the jointly developed Monterey-64 UNIX system, as well as another update to

the UnixWare system on IA-32 platforms. (*Dependent on Merced delivery schedules).

Seamless UnixWare Migration to IA-64

- UnixWare 7 has 64-bit capabilities today for file systems and file operations
- Targeted applications (IA-32) are binary compatible with IA-64
- Universal Development Kit (UDK) support today for long-long-data-types
- Developer program information and ADC support
- SCO consulting services for IA-32 to IA-64 migration
- Developer conferences for IA-32 to IA-64

Advantages of UnixWare 7

UnixWare 7 has specifically been built from the ground up to deliver distributed network computing advantages for the enterprise. With UnixWare 7, businesses can dramatically simplify and increase their business operations, better understand their customers' needs and gain a powerful competitive advantage in their respective markets. The advantages of UnixWare 7 are:

- **UNIX Systems on Intel Processors** — Combining the power, reliability, scalability and management of UNIX systems with the high volume economics of Intel processor-based servers delivers a better value to departmental and enterprise customers. The enterprise operating system of the future is the UnixWare system; the enterprise platform of the future is Intel
- **Industry Standard UNIX Operating System** — Supported by more enterprise hardware manufacturers and ISV providers than any other UNIX system, UnixWare 7 provides the volume-economic value of a standard operating system - breadth of applications, development tools, support and training infrastructure and ubiquitous availability.
- **Protects and Enhances Existing Investments** — As a UNIX system platform, UnixWare 7 enables existing SVR3 and SVR4® UNIX systems to transition more easily to a new UNIX platform than to a completely different operating system. UnixWare 7 leverages existing knowledge and expertise in technical staffs going forward. UnixWare 7 delivers maximum investment protection and enhancement through Internet Computing (the new computing paradigm for network computing).
- **Any-client Information Access from Anywhere** — With built-in client support for UNIX workstations, PCs, NCs, terminals and other ASCII devices, UnixWare 7 lets customers choose the most appropriate client based on a price/function determination. It also allows business applications to be built and/or accessed independent of the client to enable user access from anywhere through a standard browser (webtop) interface.
- **Reduces Time and Cost of Configuring and Managing Systems** — With a complete line of "purpose-built" configurations, webtop management facilities, self-optimizing system facilities and the move to a more server-centric network computing environment, UnixWare 7 reduces the time and cost of configuring and managing business systems.

Highlights of “Monterey/64” System Prototype for IA-64 Systems

In April 1999, after only a few short months, the Project Monterey team successfully tested the “Monterey/64” UNIX system prototype on the Merced simulator for the Intel IA-64 architecture. Key features tested included:

- 64-bit kernel
- 64-bit memory model
- Endian-neutral commands and libraries
- Static ELF linker and loader
- 64-bit C compiler technology

64-bit journaled file system.

Comprehensive Developer Program

Project Monterey includes a comprehensive plan to facilitate the availability of applications on the UNIX operating system for IA-64. Targeted applications written for UnixWare today on IA-32 platforms will be binary and source-compatible on IA-64-based systems. To leverage the performance advantages of the IA-64 platform, developers can simply recompile UnixWare application source code with expected minimal rewrites. Similarly, AIX applications are fully source-code-compatible with the new UNIX operating system on the IA-64 platform.

Comprehensive Developer Program

- **Information Level for Individuals and Companies** — Newsletter, technical papers, porting guides, webcasts, etc.
- **Business Partnership Level for Companies** — Same as Information Level plus SDKs, leasing programs, workshops, support offerings, access to porting and tuning centers, market assistance, and joint programs
- **Early Adopter Initiative** — Priority access to SDKs, hardware, porting/tuning centers, early adopter marketing promotions. (Members must commit to shipping product 30 days after FCS of Monterey/64).

Developer Resources

- **Single source tree**
- **Common development/deployment model**
- **Technology exchanges** between AIX and UnixWare
- **Common set of APIs** for IA-32, IA-64 and IBM Power processor platforms
- **IA-64 migration guides**
- **UNIX Developer's Guide-Programming Interfaces (UDG-PI)**
- **Enterprise Middleware** — from IBM and other software vendors who participate.
- **Porting/Tuning Centers Worldwide** — For key developers, access to technical support, porting/enablement performance testing
- **Ongoing Developer Events** hosted by IBM, SCO and Intel throughout the year — information/ business

seminars, go-to-market technical information

Energize Your Business with Project Monterey

Project Monterey opens the door to more innovative technology and solutions. It protects businesses with enterprise-class reliability and scalability, and offers hardware vendors a level playing field where they can compete with their core competencies. It provides developers with a single target platform, and provides resellers with the ability to sell enterprise capabilities on the IA-32, IA-64, and Power processor platforms. And everyone benefits from the collective promotion of this new volume standard.

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