INTERACTIVE
SYSTEMS CORPORATION

Phoenix
Phoenix Technologies Ltd.

Enhanced UNIX Systems
- **IBM PC/IX, AIX**
- **Wang IN/ix**
- **UNIX V.3/386**
- **UNIX V.3/286**

ROM BIOS
Compatibility Software
Co-Processor Designs
Networking
Programming Tools

VP/ix – A Virtual PC/UNIX Environment

Integrate MS-DOS With UNIX System V.3/386

VP/ix provides a highly integrated combination of DOS and UNIX V.3. The multi-tasking UNIX kernel is extended to provide the same efficient interrupt-driven scheduling services to DOS applications and UNIX applications alike. Under VP/ix, multiple DOS applications can run concurrently with conventional UNIX processes in a full-paged, virtual memory environment. Each application runs in its own secure virtual address space.

With VP/ix, multiple users can run multiple UNIX and DOS applications simultaneously and transparently on the same machine. Using UNIX with VP/ix extensions as the software environment, a manufacturer is freed from compatibility hardware restrictions, while still allowing its users to access the thousands of PC-based software applications available today.

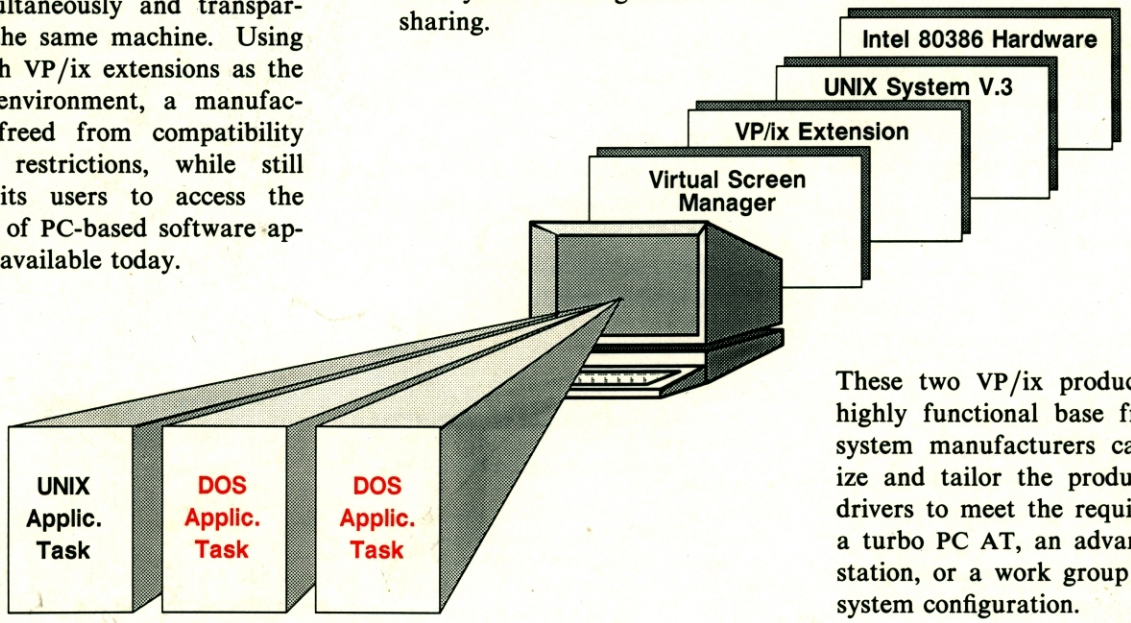
VP/ix Features

VP/ix offers the UNIX user of any 80386-based system a software environment with the following major features:

- Operation of "off-the-shelf" DOS and DOS applications.
- Accommodation of popular, but "not well-behaved," DOS applications.
- Highly integrated DOS and UNIX file sharing, with file protection and file/record locking.
- Network access to other UNIX V.3 systems through remote file sharing.

Customize VP/ix to Your System

VP/ix is implemented on a standard PC AT hardware configuration that has been enhanced with an 80386 processor. A base single-user VP/ix product permits multiple DOS and UNIX applications to be run concurrently from the system console, under the control of the virtual screen manager. A multi-user version of VP/ix expands the configuration to additionally permit PC-compatible terminals to concurrently run multiple DOS and UNIX applications via a serial port connection.

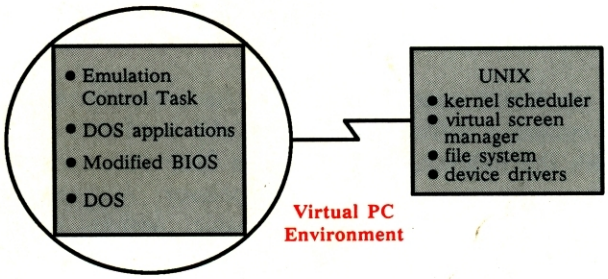


These two VP/ix products form a highly functional base from which system manufacturers can customize and tailor the product's device drivers to meet the requirements of a turbo PC AT, an advanced workstation, or a work group multi-user system configuration.

Components of VP/ix

The VP/ix environment is created by a combination of hardware and software functions.

- *Virtual 8086 Mode* shields the PC application from the processor segmentation hardware.
- *Kernel Scheduler Extensions* efficiently manage the transition between 386 and virtual 86 modes.
- *Emulation Control Task (ECT)* monitors and analyzes all I/O and hardware accesses, and translates them into actions appropriate for the host UNIX system.
- *I/O and Hardware Access Emulation* provides virtual PC hardware services either via:
  1. modified BIOS which uses UNIX system calls,
  2. emulation within ECT using modified UNIX device drivers.
- *File System Integrator* uses the PHOENIX Redirector to translate DOS file system calls into UNIX file actions.
- *Virtual Screen Manager* permits a user to run multiple concurrent sessions by saving/restoring video buffers in response to "hot key" sequence.



VP/ix Product Potential

VP/ix provides multiple product opportunities to a system manufacturer:

1. The single-user VP/ix product offers the AT-compatible system manufacturer a design solution to quickly introduce a 386 offering that marries both the UNIX and DOS worlds.
2. The single-user VP/ix product is expandable to an advanced workstation environment for the CAD/CAM or publishing, to provide this customer base access to the existing broad inventory of DOS applications.
3. The multi-user VP/ix product delivers a powerful addition to a UNIX work group 386-based system. Full hardware configuration independence and the highly modular design of VP/ix combined with the customization services of both INTERACTIVE and PHOENIX assure the system manufacturer the fastest possible time-to-market advantage.
4. For the system VAR who has developed an application specific 8086/8088-based operating system with vertical market applications, VP/ix provides an upward growth path to a UNIX-based system with full compatibility with its PC-based applications.

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Phoenix Phoenix Technologies Ltd.

VP/ix

Joint Venture

PHOENIX and **INTERACTIVE** have formed a joint venture to combine their complementary experience and expertise as two industry leaders.

INTERACTIVE has been dedicated to enhancing the UNIX technology since 1977. INTERACTIVE develops, sells, and supports enhanced versions of UNIX and UNIX-based applications to major OEMs and end users. In 1985, INTERACTIVE was chosen by Intel and AT&T to develop the certified UNIX System V.3 for the new 80386 architecture.

PHOENIX is recognized as the leading provider of PC compatibility, most noted by its ROM BIOS product used by major PC-compatible systems manufacturers. Additionally, PHOENIX's technologies have been licensed by major enginering workstation manufacturers to provide PC AT compatibility to non-compatible hardware environments.

Both **INTERACTIVE** and **PHOENIX** share responsibility for the development, marketing, sales, product support, and customization of VP/ix. VP/ix software will be derived from existing software owned by the two companies.

For further information or to see a demonstration of VP/ix capabilities, please contact:

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