

Programové vybavenie osobných počítačov

Základné kategórie softvéru

- Operačné systémy
- Používateľské aplikácie
- Nástroje na programovanie
- Pomocné programy (utility)

Pomocné programy (utility)

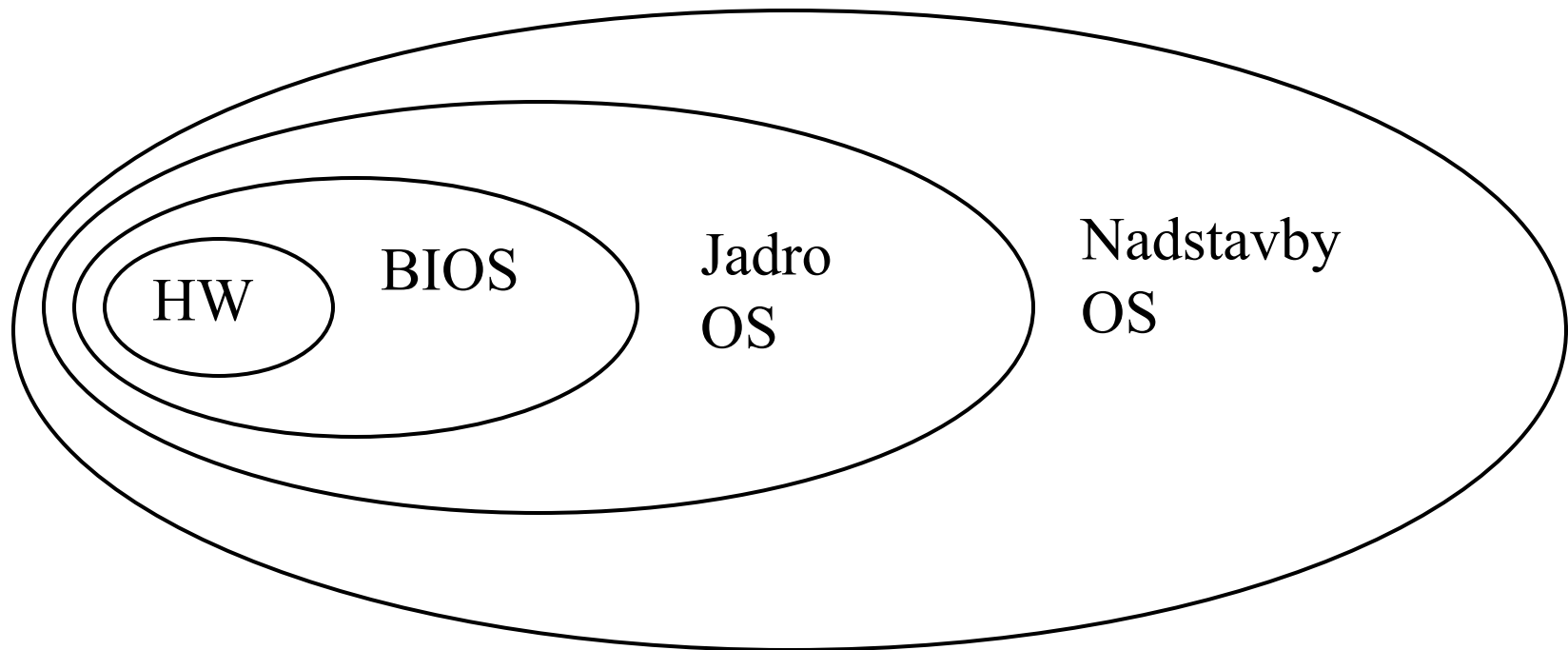
- Systémové nástroje (monitorovanie HW a SW zdrojov, diagnostika a riešenie problémov)
- Diskové manažéry (kontrola, defragmentácia, formátovanie, zálohovanie diskov)
- Súborové manažéry (Total Commander)
- Komprimačné a archivačné programy (WinZip, WinRAR)
- Prehliadače a konvertory formátov (Acrobat Reader, ACDSee, IrfanView)
- Antivírusové programy (Eset Smart Security)

Operačný systém

= sústava základných programov počítača, ktorá zabezpečuje

- ovládanie hardvérových zariadení a prenos údajov medzi nimi,
- komunikáciu medzi používateľskými aplikáciami a hardvérom,
- prenos údajov a zdieľanie prostriedkov medzi používateľskými aplikáciami
- komunikáciu medzi používateľom a počítačom

Hierarchická (vrstvová) architektúra operačného systému



Charakteristika operačných systémov z pohľadu používateľa

- Rozsah a kvalita poskytovaných služieb
- Hardvérové nároky
- Zložitosť inštalácie a konfigurácie
- Používateľské rozhranie
- Stabilita systému a ochrana údajov
- Množstvo a dostupnosť aplikácií
- Cena a licenčná politika

Charakteristika operačných systémov z technického hľadiska

- Kapacita adresovania (32, 64 bitov)
- Prenositel'nosť na rôzne HW platformy
- Počet súčasne spracúvaných úloh
- Počet podporovaných procesorov
- Stupeň zabezpečenia aplikácií

Prehľad operačných systémov osobných počítačov kategórie PC

Microsoft

- MS DOS
(+Windows 3.1)
- MS Windows 95/98/ME
- MS Windows NT
Workstation
- MS Windows 2000
Professional
- MS Windows XP
Home a Professional
- MS Windows Vista
- MS Windows 7
- MS Windows 8
- MS Windows 10

Linux

vybrané distribúcie:

- Red Hat Linux
- Fedora
- Ubuntu
- openSUSE
- Debian GNU/Linux
- Linux Mint

Ďalšie príklady operačných systémov

Unix

pre servery a výkonné počítače

- *Oracle Solaris*
- *Hewlett-Packard*
HP-UX
- *IBM AIX*

- **FreeBSD**
založený na UNIXe, vhodný pre servery (webové sídla) a iné sieťové zariadenia

Apple

- MacOS

MicroSoft - DOS

```
$Revision: 1.160 $ $Date: 2006/01/25 17:51:49 $  
Options: apmbios pcibios eltorito
```

```
ata0 master: QEMU HARDDISK ATA-7 Hard-Disk (10 MBytes)  
ata0 slave: Unknown device  
ata1 master: QEMU CD-ROM ATAPI-4 CD-Rom/DVD-Rom  
ata1 slave: Unknown device
```

```
Booting from Floppy...
```

```
NEC IO.SYS for MS-DOS (R) Version 3.30  
Copyright (C) 1988 NEC Corporation  
Copyright (C) 1981-1987 Microsoft Corporation
```

```
Current date is Tue 8-22-2006  
Enter new date (mm-dd-yy):  
Current time is 3:39:29.81  
Enter new time:
```

```
Microsoft(R) MS-DOS(R) Version 3.30  
(C)Copyright Microsoft Corp 1981-1987
```

```
A>dir
```

```
Volume in drive A is MSD330BD  
Directory of A:\
```

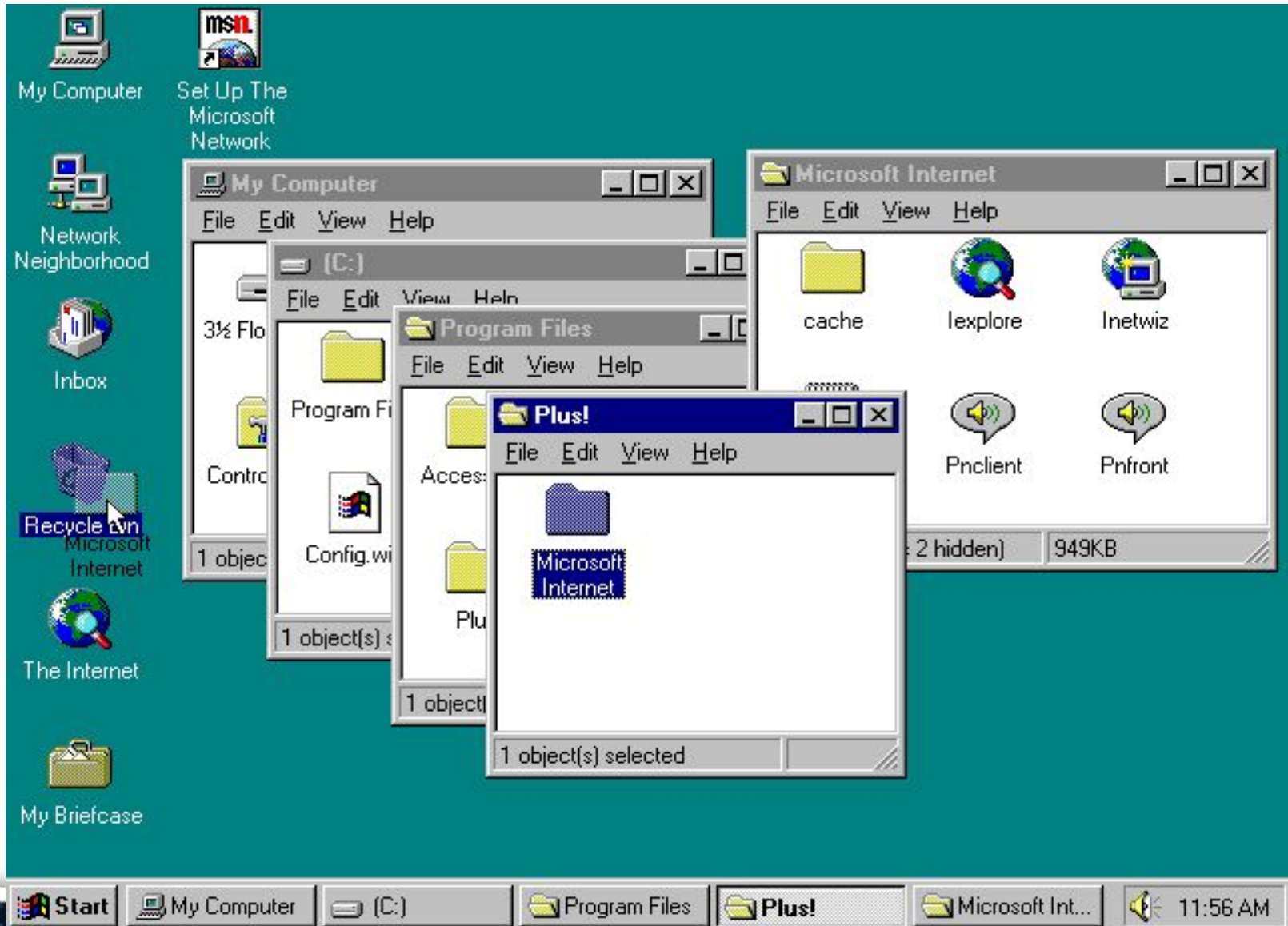
COMMAND	COM	25308	2-02-88	12:00a
FDISK	COM	55029	8-08-88	8:39p
FORMAT	COM	11968	7-13-88	2:04p
SYS	COM	4921	7-13-88	4:25p
		4 File(s)	1303040 bytes free	

```
A>_
```

MicroSoft – Windows 3.1



MicroSoft – Windows 95



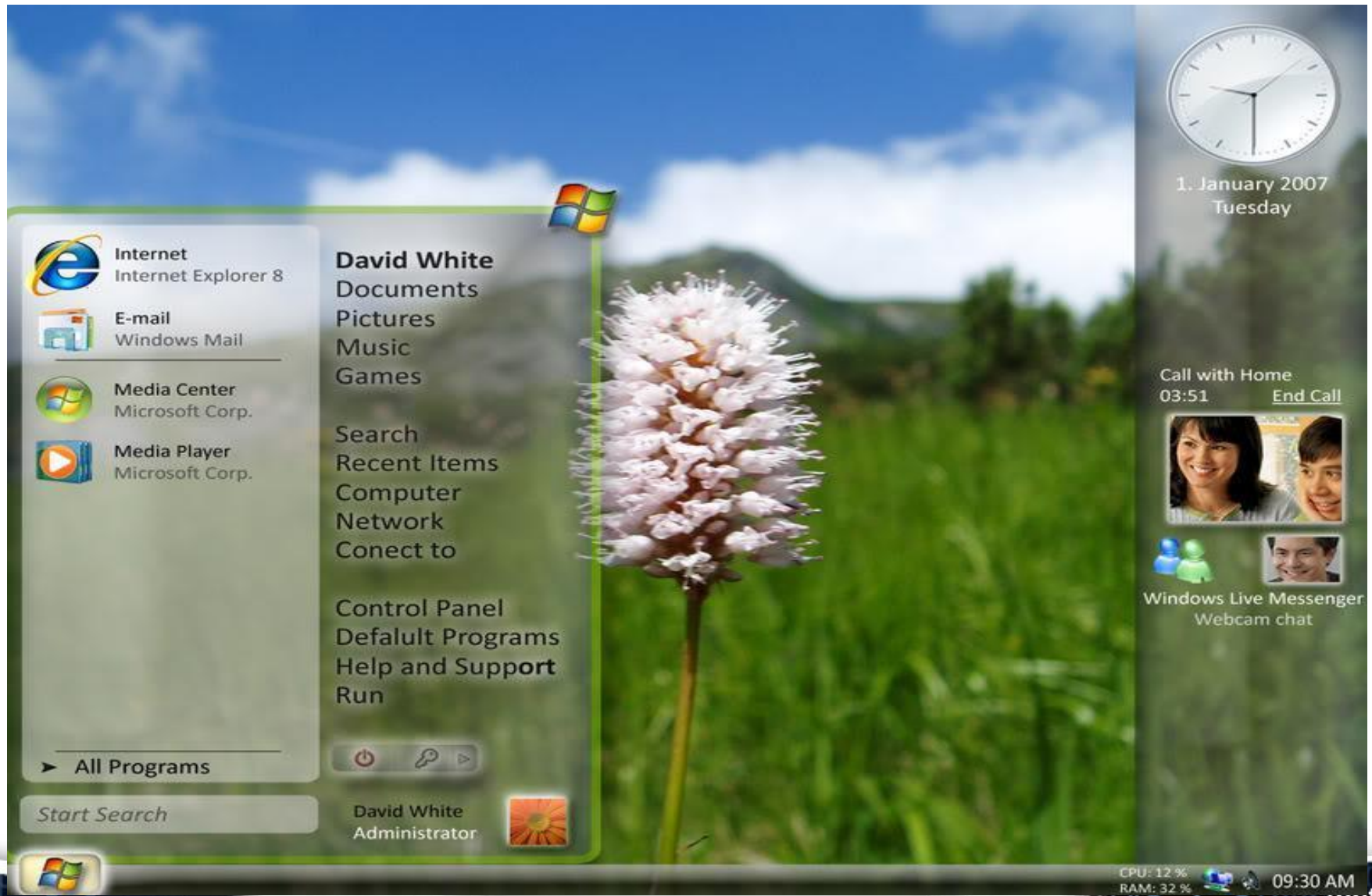
MicroSoft – Windows 2000

The image shows the Windows 2000 Professional desktop environment. The desktop background is a blue sky with clouds. On the left side, there is a vertical taskbar with icons for 'My Documents', 'My Computer', 'My Network Places', 'Recycle Bin', 'Internet Explorer', 'Outlook Express', 'Connect to the Internet', and 'Paint'. In the center, a dialog box titled 'Getting Started with Windows 2000' is open. The dialog box has a title bar with a close button. The main content area features the Microsoft logo, the text 'Windows 2000 Professional', and three buttons: 'Register Now', 'Discover Windows', and 'Connect to the Internet'. To the right of these buttons, there is a section titled 'Getting Started' with the text 'Click Start, then Help for assistance with Windows features.' Below this text is an illustration of a computer monitor displaying the Windows desktop, with a small purple icon pointing to the Start button. At the bottom left of the dialog box, there is a checked checkbox labeled 'Show this screen at startup.' and an 'Exit' button at the bottom right. In the bottom right corner of the desktop, there is a large, stylized Windows logo icon. The taskbar at the bottom shows the Start button, several application icons, and the system tray with the time '12:58 PM' and the text '.com'.

MicroSoft – Windows XP



MicroSoft – Windows 7



Mac OS X Leopard



Red Hat Linux

The screenshot displays the Aqua Data Studio 4.0 interface on a Red Hat Linux desktop. The desktop background features a blue and white pattern with binary code. The Aqua Data Studio window is titled "Aqua Data Studio 4.0 [Untitled*]" and contains the following elements:

- Database Servers:** A tree view on the left showing connections to PostgreSQL 7.4.2, Sybase 11.0.3, Oracle 9i, and several other PostgreSQL versions.
- Query Editor:** A central window showing a SQL script:

```
1 select * from DEPARTMENTS, EMPLOYEES, COUNTRIES
2 go
3 select * from DEPARTMENTS
4
```
- Execution Plan:** A table below the query editor showing the execution plan for the script. The selected operation is a MERGE JOIN (CARTESIAN).

Operation	Cost	IO Cost	CPU Cost
SELECT STATEMENT	1379.0		1379
MERGE JOIN (CARTESIAN)	1379.0		1379
MERGE JOIN (CARTESIAN)	29.0		29
BUFFER (SORT)	27.0		27
INDEX (FULL SCAN)	1.0		1
TABLE ACCESS (FULL)	2.0		2
BUFFER (SORT)	1378.0		1378
TABLE ACCESS (FULL)	2.0		2
- Table View:** A window titled "Editing: ORCL.HR.DEPARTMENTS" showing the data for the DEPARTMENTS table:

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION
1	10 Administration	200	
2	20 Marketing	201	
3	30 Purchasing	114	
4	40 Human Resources	203	
5	50 Shipping	121	
- Thumbnail and Properties:** On the left, a "Thumbnail" view shows a graphical representation of the query plan. Below it, the "Selected Operation" properties are listed:

Property	Value
Operation	INDEX
Cost	1.0
IO Cost	
CPU Cost	1
Cardinality	25
Bytes	350

The desktop taskbar at the bottom shows the system tray with the date and time "18:18" and the website "pt.com". The active window is "Com-aquafold-datstudio".

Ubuntu Linux



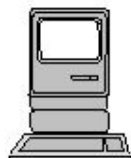
CLIENT PLATFORMS (CPU & OS)

Windows 3.1, 95/98, NT,
 2000 and XP
 DOS
 OS/2
 Solaris (Unix)
 Interactive Unix
 SCO Open Desktop (Unix)
 SCO UnixWare (Unix)
 AIX (Unix)
 NeXTStep (Unix)
 Linux (Unix)



Intel (x86)

Mac OS
 A/UX (Unix)



**Motorola
 680x0**

Mac OS
 AIX (Unix)
 OS X (Unix)



PowerPC

HP/UX (Unix)



**HP 9000
 (PA-RISC)**

Digital Unix
 OpenVMS
 Windows NT



**Compaq
 Alpha**

VMS
 Ultrix (Unix)



DEC VAX

Solaris (Unix)



SPARCstation

AIX (Unix)



IBM RS/6000

IRIX (Unix)

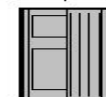


**Silicon Graphics
 (MIPS)**

SERVER PLATFORMS (CPU & NOS)

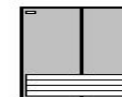
Windows NT and 2000
 NetWare
 Solaris (Unix)
 AIX (Unix)
 SCO Open Server (Unix)
 SCO UnixWare (Unix)
 NeXTStep (Unix)
 VINES (Unix)
 Interactive Unix
 OS/2-Lan Manager/Server
 LanTastic-DOS

DYNIX/ptx (Unix)

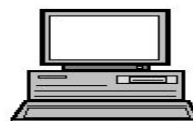


Sequent (x86)

Unix SVR4



NCR (x86)



Intel (x86)

Unix SVR4



Unisys (x86)

Solaris (Unix)



Sun SPARCserver

Mac OS
 A/UX (Unix)



**Motorola
 680x0**

Mac OS
 AIX (Unix)
 OS X (Unix)



PowerPC

MVS, VM, OS/390, zOS



**IBM System/390
 zSeries**

AIX (Unix)



**IBM RS/6000
 pSeries**

OS/400



**IBM AS/400
 iSeries**

Digital Unix
 OpenVMS
 Windows NT



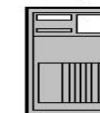
**Compaq
 Alpha**

VMS
 Ultrix (Unix)
 Pathworks



DEC VAX

HP/UX (Unix)
 MPE/ix (Unix)



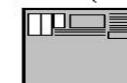
HP (PA-RISC)

Digital Unix



Encore (Alpha)

DG/UX (Unix)



DG AViiON (88K)

DC/OSx (Unix)



**Siemens
 Pyramid
 (MIPS)**

NonStop Kernel



Tandem (MIPS)

IRIX (Unix)



SGI (MIPS)