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strategic thinking. While Microsoft was focused on beating Apple's portable music player, Apple focused on the iPhone, which was introduced a year after Zune's debut, largely outdentedMP3 player by popularization of smartphones. [90] See Microsoft:News Center to put Zune's experience in the hands of consumers on November 14, 2006. September 28/ November 13, 2006, Zune 4, 8, 8o sets and Microsoft release date Zune. Microsoft. Archived from the original on February 1, 2008. ^ a b Zune is a new way to search and access digital music and take music discovery to the next level in the News Center. Microsoft. September 8, 2008 ^ Christine Persaud, What's New in Zune, archived from the original on 2009-01-05. ^ a b Zune HD available for today's pre-orders. Zune. Microsoft. Originally archived on August 13, 2009 and August 16, 2009. ^ Microsoft Pulls Plug on Zune Music Service. News. Bbc. November 16, 2015 ^ Miller, Paul (August 25, 2006). Zune was revealed by the FCC as Toshiba 1089. 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During the interview, we had his long career in podcasting, his work on the Zune podcast team, how to make podcasts successful, and finally in Carly neZuHD Discuss how you took zune out2 IBM CP/DOS operating system redirects here. For a digital research operating system with the same name, see CP/M OS/2OS/2 Warp 4 Desktop. This version was released on September 25, 1996. [1] Developer IBM Microsoft (1.0 - 1.3) C, C++ and assembly language state history, now developed as the ArcaOSSource model, initial release December 1987. 33 years ago (1987-12-12) Latest release 4.52 / December 19, 2001 (2001-12) Marketing Target Professional, Server English, French, German, Italian, Spanish, Portuguese, Russia The language platform 86, PowerPCKernal typeHybrid kernel default user interface works shell user interface license ownership first succeeded by eComStation, and then ArcaOSofficial websteWww-01.ibm.com OS/2 is a series of computer operating systems first created by Microsoft and IBM. As a result of a feud between the two companies over the positioning of OS/2 on typewritten new Windows 3.1 operating environment, the two companies severed ties in 1992 and os/2 development is exclusive to IBM [4] This name stands for Operating System/2 because it was introduced as part of a change release of the same generation as IBM's Personal Systems/2 (PS/2) line of second-generation personal computers. The first version of OS/2 was released in December 1987, and the new version was released until December 2001. OS/2 was intended as a successor to pc dos protection mode. In particular, basic system calls were modeled after MS-DOS calls. The name started with Dos, and it was possible to create a family mode application, a text mode application that works on both systems. Because of this legacy, OS/2 shared similarities with Unix, Xenix, and Windows NT, and IBM discontinued support for OS/2 on December 31, 2006. [6] Since then, OS/2 has been developed, supported and sold by two different third-party vendors under IBM's license since 2017 by Serenity Systems as eComStation by Serenity Systems and since 2017 by Arcano LLC. [8] [9] development History, 1985-1989: Co-development OS/2 1.0 has a text-mode interface similar to MS-DOS. Development of OS/2 began when IBM and Microsoft signed a joint development agreement August 1985. [11] Under the codename CP/DOS, it took two years for the first product to be created. OS/2 1.0 was announced in April 1987 and released in December. The original release was in text mode only, and the GUI was introduced in OS/2 1.1 later about a year. OS/2 has an API for controlling video display (VxD) and handling keyboard and mouse events, so programmers writing for protection mode do not need to call the BIOS, access the hardware directly, or use other development tools. Other development tools included a subset of video and keyboard APIs as callable libraries. Family mode programs can run under MS-DOS, and in OS/2 extended 1.1, a database engine called database manager or DBM (this is related to DB2 and should not be confused with the DBM family of database engines for UNIX and similar operating systems). [13] A task switcher named program selector is available through a combination of Ctrl-Esc hotkeys, allowing users to choose between multitasking text mode sessions (or screen groups, where each program can run). Communications and database-oriented extensions as part of the OS/2 1.0 expansion edition distributed in 1988: SNA, X_25/APPC/LU 6.2, LAN Manager, Query Manager, SQL. OS/2 1.1 is the first version featuring the Presentation Manager GUI, and the promised user interface, Presentation Manager, was introduced in OS/2 1.1 in October 1988. [15] It had a user interface similar to Windows 2.1. (The interface has been replaced by versions 1.2 and 1.3 in a look closer to Windows 3.0.) Extended Edition 1.1, sold only through IBM sales channels, introduced distributed database support on IBM database systems and SNA communications support on IBM mainframe networks. In 1989, version 1.2 introduced an installable file system, especially an HPFS file system. HPFS provided a number of improvements to older FAT file systems, including long file names and alternative data stream formats called extended attributes. Extended attributes have also been added to the FAT file system. [17] An extended version of Installation Disk 1.2 for Microsoft OS/2 1.3 (3-inch floppy disks) introduced TCP/IP and Ethernet support. OS/2 and Windows books in the late 1980s recognized the existence of the system and promoted OS/2 as the system of the future. [18] 1990: Collaboration between IBM and Microsoft was elucidated in 1990 between the releases of WINDOWS 3.0 and OS/2 1.3. During this time, Windows 3.0 was a huge success, selling millions of parts in its first year. Much of its success was because Windows 3.0 (along with MS-DOS) was bundled with most new computers. [20] OS/2, on the other hand, was only available as an additional stand-alone software package. In addition, OS/2 lacks device drivers for many common devices, such as printers, especially non-IBM hardware. [21] Windows, on the other hand, supported much larger hardware. With the growing popularity of Windows, Microsoft has shifted its development focus from working with IBM and OS/2 to building its own business based on Windows. Several technical and practical reasons contributed to this dissolution [the two companies had significant cultural and vision differences.] Microsoft supported a successful open hardware system approach on PCs. IBM tried to drive using OS/2of your own hardware, including systems that cannot support the features that Microsoft wanted. Microsoft programmers were also frustrated by IBM's bureaucracy and the use of line of code to measure programmer productivity. [23] IBM developers complained about the simplicity of Microsoft's code and lack of comment, while Microsoft developers complained about IBM's bloated code. [24] The two products have significant API differences. OS/2 was announced when Windows 2.0 was nearing completion, and the Windows API is already defined. However, IBM required OS/2 to make significant changes to this API. [25] As a result, application compatibility issues quickly emerged. OS/2 designers want a source code conversion tool, and at some point they can fully migrate their Windows application source code to OS/2. However, OS/2 1.x did not gain enough momentum for vendors to avoid developing both OS/2 and Windows in parallel. OS/2 1.3 is the final version 16-bit version of OS/2, and finally Microsoft OS/2 1.x targets Intel 80286 processors and does not basically sell DOS. IBM requested that 80286 processors be supported in 16-bit segmented memory mode because of commitments made to many customers who purchased 80286-based PS/2 as a result of IBM's promises surrounding OS/2. Until release 2.0 in April 1992, OS/2 runs in a 16-bit protection mode, so you couldn't benefit from intel 80386's much simpler 32-bit flat memory model and virtual 8086 mode features. This was especially painful when providing support for DOS applications. In 1988, Windows/386 2.1 was able to run several collaboratively multifaceted DOS applications, including extended memory (EMS) emulation, but os/2 1.3 released in 1991 was still limited to one 640 kb DOS box. Given these issues, Microsoft began working in parallel with a more future-oriented and portable version of Windows. The hiring of former VMS architect Dave Cutler in 1988 created immediate competition from the OS/2 team because he didn't think much about OS/2 technology and wants to build up his work on digital mica projects rather than making DOS Plus. His NT OS/2 was a completely new architecture. IBM is concerned about delays in os/2 2.0 development. Initially, IBM took over os/2 1.0 maintenance and OS/2 2.0 development, and Microsoft agreed to continue developing OS/2 3.0. In the end, Microsoft decided to recast NT OS/2 3.0 as Windows NT, and all future OS/2 development was left to IBM. From a business perspective, it made sense to focus on the consumer line of dos and Windows-based operating systems and prepare new high-end systems to remain compatible with existing Windows applications. While waiting for the development of this new high-end system,Receive license fees from Xenix and OS/2 sales. The legacy of Windows NT OS/2 can be seen in hpfs file systems, text-mode OS/2 1.x applications, and initial support for OS/2 LAN Manager network support. Early NT materials also included OS/2 copyright notices embedded in the software. Citation required An example of NT OS/2 1.x support is the WIN2K Resource Kit. Windows NT can also support OS/2 1.x presentation managers and AVIO applications that add the Windows NT add-on subsystem for Presentation Manager. [28] 1992: OS/2 2.0 in the 32-bit era was the first 32-bit release of OS/2, and the first working workplace shell OS/2 2.0 was released in April 1992. At the time, the proposed retail price was US\$195, while Windows sold for \$150. [29] OS/2.0 provided a 32-bit API for native programs, but the OS itself still contained 16-bit code and drivers. It also included a new OOU (object-oriented user interface) called a workplace shell. This was a fully object-oriented interface that deviated significantly from the previous GUI. In addition to providing a program window environment (such as a program manager), Workplace Shell provided an environment where users could manipulate objects on the screen to manage programs, files, and devices. In the Workplace shell, everything in the system is up for work. DOS-compatible OS/2 2.0 was touted by IBM as DOS better than DOS and Windows better than Windows. [30] It managed this by including MS-DOS 5.0, a fully licensed patched and improved. For the first time, OS/2 was able to run multiple DOS applications at the same time. This was so effective that OS/2 was able to run a modified copy of Windows 3.0. Due to limitations on the Intel 80286 processor, OS/2 1.x can only run one DOS program at a time, inging dos programs to have complete control over the computer. Problems with DOS mode can cause the entire computer to crash. OS/2 2.0, by contrast, can take advantage of the virtual 8086 mode of the Intel 80386 processor to create a more secure virtual machine for running DOS programs. This included a wide range of configuration options to optimize the performance and functionality given to each DOS program. You can also use os/2 virtual machine features to run real-mode operating systems (such as 8086 Xenix) depending on direct access restrictions to the hardware. OS/2 2.0 Upgrade Box As in most 32-bit environments, OS/2, unlike the standard mode in Windows 3.1, could not run a DOS program in protected mode using the old VCPPI interface. It only supports programs written according to DPMM. (Microsoft did not recommend using VCPPI in Windows 3.1, but)Because, like Windows NT, OS/2 can always mask actual hardware interrupts in DOS programs, DOS programs can deadlock machines in this way. However, OS/2 can use hardware watchdogs on selected machines, especially IBM machines, to get out of such deadlocks. Release 3.0 then addressed this issue by using the new Intel 80486 and Intel Pentium processor extensions (virtual interrupt flags (VIFs) that were part of the Virtual Mode Extension (VME). For more information, see VME (Configuration, SYS Directive) Compatibility with Windows 3.x Windows 3.0 (and later Windows 3.1) was achieved by applying Windows user mode code components that run within virtual DOS machines (VDMs). Originally, OS/2 itself contained an almost complete version of Windows code: Windows 3.0 for OS/2 2.0 and Windows 3.1 for OS/2 2.1. IBM then developed a version of OS/2 that uses the Previously Installed Windows version, patched it on the spot, and saved the cost of additional Windows licenses. [32] You can run it in full screen using your own video drivers or seamlessly with Windows programs appearing directly on the OS/2 desktop. Processes including Windows were given fairly extensive access to hardware, especially video, which could cause problems with switching between full-screen WinOS/2 sessions and workplace shells. OS/2 only runs user-mode system components in Windows, so it is not compatible with windows device drivers (vxD) and the applications that require them. As with native Windows 3.x, multiple Windows applications run by default in a single Windows session. However, to achieve isolation between Windows 3.x programs, OS/2 can also run multiple Windows copies in parallel, each of which exists in a separate VDM. If necessary, users can place each program in their own Windows session (preemptive multitasking and full memory protection between sessions, not between sessions), or isolate other applications in one or more Windows sessions while allowing some applications to run collaboratively in shared Windows sessions. At the expense of the cost of adding hardware resources, this method protects each program in a particular Windows session (and each instance of Windows itself) from all other programs running in different Windows sessions (but not from other programs running in the same Windows session). Windows applications can be in full-screen or windowed mode, in a single Windows session, or in multiple sessions, only DDE between OS/2 and Windows applications, and OLE between Windows applications. [34] 1994-1996: Warp year OS/2 warp connection 3.0, showing Windows 3.1 program(The DOS window QBASIC and LaunchPad (below center) OS/2 version 3.0, released in 1994, label OS/2 version 3.0, highlighting the benefits of new performance and generally refreshing product images. Warp was originally the internal IBM name of the release: IBM used the Star Trek term as the internal name for previous OS/2 releases, which it claimed was also suitable for external use. Patrick Stewart was scheduled to become master of ceremonies at the launch of OS/2 Warp in 1994. However, Kate Mulgrew[35] from the then series Star Trek: Voyager was replaced at the last minute. [36] [37] 108 OS/2 Warp offers many advantages over OS/2 2.1, including a particularly wide range of hardware support, improved multimedia capabilities, Internet-compatible networks, and a basic suite of office applications called IBM Works. It was released in two versions: the cheaper Red Spine and the more expensive Bruce Pine (named after the color of their box). Red Spine is designed to support Microsoft Windows applications by using Windows installed on your computer's hard drive. Blue Spine includes Windows support with its own installation, so you can support Windows applications without installing Windows. Red Spine was a more popular product because most computers had Microsoft Windows preinstalled and prices were lower. Citation required OS/2 warp connect with full LAN client support, following mid-1995. Warp Connect is nicknamed Grape. [15] In the post-installation OS/2 Warp 4 OS/2 Warp 4 desktop version of Firefox 3.5.4 OS/2 2.0, most performance-sensitive subsystems, including graphics (Gre) and multimedia (MMPM/2) systems, were updated to the fix packs's 32-bit code and included as part of OS/2 2.1. Warp 3 brings a completely 32-bit window system, while Warp 4 introduces an object-oriented 32-bit GRABDD display driver model. In 1996, Warp 4 added Java and speech recognition software. IBM has also released server editions of Warp 3 and Warp 4 that bundle IBM LAN Server products directly with operating system installations. It also includes a personal version of Lotus Notes, which provides a number of template databases, including contact management and brainstorming. OS/2 Warp's UK decentralized demo CD-ROM essentially contained the entire OS and even accidentally cracked it was easy [clarification needed], and even those who liked it didn't have to buy it. This was seen as a backdoor tactic to increase the number of OS/2 users, believing that it would increase sales and demand for third-party applications and strengthen os/2 desktop numbers. [Citation required] This suggestion was reinforced by the fact that this demo version was not easily cracked but replaced another released in various trial versions2000, the July edition of Australia's Personal Computer magazine bundled software CD-ROMs and included a full version of The Warp 4, which did not require activation, essentially a free release. Special versions of OS/2 2.11 and Warp 4 also include symmetric multi-processing (SMP) support. OS/2 sales were focused on network computing used by corporate professionals. But by the early 1990s, it was overtaken by Windows NT. OS/2 was undoubtedly technically superior to Microsoft Windows 95, but OS/2 failed to create much popularity in the consumer and stand-alone desktop PC segments. There have been reports that IBM will not be able to install it correctly on IBM's own Aptiva series home PCs once it has completely finished developing OS/2. IBM refused, instead promoting os/2 warping and an IBM first strategy to deserte Windows. By 1995, already difficult Windows 95 negotiations between IBM and Microsoft stalled when IBM bought the Lotus Smart Suite, which competes directly with Microsoft Offices. As a result of the controversy, IBM signed a licensing agreement 15 minutes before Microsoft's Windows 95 launch event, which was slower than its competitors and severely hurt IBM PC sales. [39] [40] Workplace OS This section requires additional citations for validation. Improve this article by adding citations to trusted sources. Uno supplied materials may be challenged and removed. (April 2012) Main article (see how and when to delete this template message): Workplace OS In 1991, IBM began developing it as an alternative to OS/2 called workplace OS. This was a completely new product and a whole new code that borrowed only a few sections of code from both existing OS/2 and AIX products. It was intended to use an all-new micro-kernel code base and (eventually) host some of IBM's operating systems (including OS/2) as micro-kernel personalities. It also included key architectural features such as support for system registries, JFS, UNIX graphics libraries, and new driver models. The workplace OS was developed solely on the POWER platform, and IBM intended to sell a full line of PowerPC to take over the market from Intel. The mission to prototype these machines was formed and they were disclosed to several corporate customers, all of which raised the issue with the idea of dropping Intel.Products that will be used in industries such as telecommunications and set-top TV receivers. A partially functional pre-alpha version of the Workplace OS was demonstrated at Comdex, and a bewildered Bill Gates stopped by the booth. The second release was published in the OS/2 user group in Phoenix, Arizona. The pre-alpha code refused to start. It was released in 1995. However, \$990 million a year was spent on this development, as was workplace OS, and with no profit or widespread adoption potential, the end of the entire Workplace OS and OS/2 product line was nearing. Downsizing This section does not cite the source. Improve this section by adding citations to trusted sources. Uno supplied materials may be challenged and removed. (March 2013) The project was launched internally by IBM to assess the competitive situation with Microsoft Windows 95 (see how and when to delete this template message). Key concerns were major code quality issues with existing OS/2 products (resulting in more than 20 service packs, each requiring more floppy disks than the original installation), Boca Raton's inefficient, mass-matrix development organization (which consultants reported as basically everyone reports) and Austin. The study, strictly classified as registered confidential and printed only on numbered copies, identified puzzling weaknesses and failures across the personal systems department and IBM. As a result, at a level above the department, the decision was made to reduce more than 95% of the overall product line budget, end all new developments (including workplace OS), eliminate the Boca Raton development lab, end all sales and marketing efforts for the product, and lay off more than 1,300 development (and sales and support personnel). \$990 million was spent for the year last year. Warp 4 is now the last distributed version of OS/2. 2001: The small, dedicated community remained loyal to OS/2 for years after its final mainstream release, but overall, OS/2 can't be caught in the mass market and is rarely used outside of certain niches where IBM traditionally had a base. For example, many bank installations, especially automated cash machines, run OS/2 with a customized user interface. France's SNCF JNR used OS/2 1.x on thousands of ticketing machines. Citation required IBM said that immediately after warp 4 was released, OS/2The company did not end support until December 31, 2006. OS/2 sales stopped on December 23, 2005. The latest version of IBM's 4.52, which was released on both desktop and server systems in December 2001, IBM continues to provide defect support for a fee. [43] IBM is asking customers to migrate complex applications to e-business technologies such as Java in a platform-independent way. After the application migration is complete, we recommend that you migrate to another operating system and suggest Linux as an alternative. [45] [46] [47] Third-party development Main article: eComStation ArcaOS ArcaOS are the latest OS/2-based operating systems developed outside of IBM after IBM stopped developing OS/2, and various third parties have approached IBM to take over the development of the operating system. OS/2 software vendor Stardock made such a proposal to IBM in 1999, but the company did not follow. Serenity Systems successfully negotiated a contract with IBM and began reselling OS/2 as eComStation in 2001. [48] The eComStation is still on the market, and the latest version (2.1) was released in 2011. In 2015, ArcaOS LLC announced that it had entered into an agreement with IBM to resell OS/2. [4]. In 2017, the first version of the OS/2-based operating system was released as ArcaOS. As of 2020, ArcaOS has been released several times, and active development is still on the way. Petition against open source Many people wanted IBM to release OS/2 or a significant portion of it as open source. The petitions were made in 2005 and 2007, but IBM declined, on legal and technical reasons. [52] Because it contains third-party code that IBM does not copyright, and much of this code is provided by Microsoft, the entire operating system is unlikely to open at any point in the future. IBM also once engaged in technology transfer with COMMODORE and licensed OS/2 2.0 or higher Amiga technology in exchange for the REXX scripting language. This means that there may be code in OS/2 that is not written by IBM, which can prevent the OS from being re-announced as open source in the future. [54] IBM, meanwhile, donated objects REXX and OS/2 for Windows to the OPEN OBJECT REXX project maintained by the REXX Language Association on SourceForge. There was a petition for OS2World to open part of the OS. Open source operating systems such as Linux benefit indirectly from OS/2 through IBM's release of an improved JFS file system ported from the OS/2 codebase. IBM did not release the source of the OS/2 JFS driver, so the developer added the functionality to port the Linux driver to the eComStation and boot it from the JFS partition. This new JFS driver was integrated into eComStation v2.0 and later into ArcaOS 5.0.0. Overview of the release date in U.S. English unless otherwise stated. [57] [58] Date December 1987 OS/2 1.0 1988 OS/2 1.1 1989 OS/2 1.2 December 1990 1.2 1991 OS/2.0 LA (Limited Availability April 1992 OS/2 19910 October 19 1992 OS/2 2.00.1 November 1993 OS/2.02 February 1994 OS/2.11 November 1994 OS/2.11 SMP 1994 OS/2 Warp 3 1995 OS/2 Warp Connection December 1995 OS/2 Warp, PowerPC Edition 1996 OS/2 Warp Server 4 September 1996 OS/2 1.2 December 1996 OS/2 Warp Server Advanced SMP Advanced SMP 1997 Work Space On Demand 1.0 October 1998 Work Space On Demand 2.0 1999 OS/2 Warp Server e-Business For (Version 4.50) November 2000 OS/2 Convenience Pack 1 (Version 4.51) November 2001 OS/2 Convenience Pack 2 (Version 4.52) Features and Technology User Interface Graphics System has a layer named Presentation Manager that manages windows. Specifies the , font, and icon. This is similar to the functionality of an un networked X11 or Windows GUI. On top of this is the Workplace Shell (WPS) introduced in OS/2 2.0. WPS is an object-oriented shell that can perform traditional computing tasks such as advanced object-oriented tasks using built-in and third-party application objects that extend the shell in an integrated format that is not available for file, printer, legacy program startUp, and other mainstream operating systems. WPS follows IBM's common user access user interface standard. WPS represents objects such as disks, folders, files, program objects, and printers that use the System Object Model (SOM) and can share code between applications that may be written in different programming languages. In a distributed version called DSOM, objects on different computers were allowed to communicate. DSOM is based on CORBA. The object-oriented aspect of SOM is similar to the Microsoft component object model and is directly conflicting, but implemented in a fundamentally different way. For example, one of the most striking differences between SOM and COM is support for SOM inheritance (one of the most basic concepts in OO programming). SOMs and DSOM are no longer developed. The multimedia functions of OS/2 can be accessed through media control interface commands. Support for mpeg files has been added for the last update (bundled with the IBM version of the Netscape Navigator plug-in). Support for new formats such as PNG, Progressive JPEG, DivX, Ogg, and MP3 is provided by third parties. Sometimes it is integrated with multimedia systems, but other offers come as standalone applications. Microsoft OS/2 version 1.3 command OS/2 window (cmd.exe) The following list of commands is supported by CMD.exe OS/2. [59] [60] [61] Additional Allocation attr Backup Boot Break Cache Call cd chcp chdir chkdsk cs cmd Code Page Command CompcopyDate dinstal Debug Del Detached Disk Comp Disk Copy Dosky Dpach eaulti Echo End Local Erase Exit expex fidskpm But Key b Key Label makeini md mem mkdir Mode More Move Patch Path Pso picview pm rexx Print Prompt pstar rd recover rem ren rename restore rmdir setdir setcom4d scmdcode shared shift sort spool start systag time trace tracev tracefcm type undelete unpack unpatch vpx vmdisk vvl xcopy application development This section needs expansion. You can help by adding to it. (April 2019) The TCP/IP stack is based on an open source BSD stack and displays what compatible tools are displayed in SCS. Driver hardware vendors were reluctant to support device drivers for alternative operating systems such as OS/2 and Linux. To solve this problem with video cards, IBM has licensed a reduced version of the Scitech display driver, allowing you to choose from a wide range of cards supported through Scitech's modular driver design. [61] Virtualization OS/2 relies heavily on the full x86 xCPU feature set, making it more difficult to run on virtual machines than most traditional x86 operating systems. In particular, the use of Ring 2 in OS/2 prevents VMware from running. [62] Emulators such as QEMU and Bochs cannot suffer from this problem, so they can run OS/2. Citation required The beta version of VMware Workstation 2.0, released in January 2000, was the first hypervisor to run OS/2. After that, I decided to remove the official OS/2 support. Microsoft VirtualPC (originally Connectix) has been able to run OS/2 without hardware virtualization support for many years. We also provided additional code that greatly improves host-guest OS interaction in OS/2. Additions are not available in the current version of VirtualPC, but the latest version included in the release will continue to be available in the current release. At one point, OS/2 was supported as a virtualPC host in addition to guests. Note that OS/2 only runs as a guest on virtual PC versions that use virtualization (x86-based hosts) and not on versions running full emulation (VirtualPC for Mac). Oracle Corporation's virtual boxes (originally Innotech, later Sun) support OS/2 1.x, Warp 3-4.5, eComStation, and Other OS/2 as guests. However, trying to run OS/2 and eComStation can still be difficult, if not impossible.It has been reported that only ACP2/MCP2 operates in a reliable way, with strict requirements for VT-x/AMD-V hardware-enabled virtualization. [63] ArcaOS supports running virtual machines as virtual machine guests and runs within virtual boxes, VMware ESXi, and VMware workstations. VirtualBox is shipped with additional guest features, and improved drivers improve performance as a guest operating system [difficulties in running OS/2 efficiently have created opportunities for new virtualization companies at least once.] Large banks in Moscow needed a way to use OS/2 on new hardware that OS/2 did not support. The company wanted to run OS/2 on the hypervisor because virtualization software is an easy way to get around. Once judged not to be possible, VMware hired a group of Russian software developers to create a host-based hypervisor that formally supported OS/2. This is how Parallels and parallels workstation products were born. [66] Security niche OS/2 has several native computer viruses. [67] Although not invincible by design, its diminished market share seems to have discouraged virus writers. However, OS/2-based antivirus programs deal with DOS and Windows viruses that can pass through os/2 servers. [68] Problems Some issues were the classic subject of comparison with other operating systems: synchronous input queues (SIQ). If the GUI application was not processing window messages, the entire GUI system stopped and needed to be restarted. This issue was greatly reduced in later Warp 3 fix packs and was improved by Warp 4 by controlling applications that did not respond for a few seconds. No integrated object handles (OS/2 v2.11 or earlier): When threads are available, system designers may overlook mechanisms that wait for different types of asynchronous events, such as keyboards and mice, at the same time. Select was added later, but only worked with network sockets. For console programs, it was difficult to properly free all input devices before starting other programs in the same session by dedicated another thread waiting at each source of the event. As a result, console programs typically polled the keyboard and mouse alternately, wasting CPU and using jerky responsiveness to user input. In OS/2 3.0, IBM introduced a new call for this particular problem. [70] Historical Use This section requires additional citations for validation. Improve this article by adding citations to trusted sources. Uno supplied materials may be challenged and removed. (June 2011) (Learn how and when to delete this template message.) OS/2 is the Export Bank of Iran (Saderat-Iran Bank) and is widely used in tellers, ATMs and local servers (more than 30,000 operations)As of 2011, banks have moved to infrastructure virtualization and updates by migrating OS/2 to virtual machines running on Windows. OS/2 was widely used by Brazilian banks. Banco do Brasan had 10,000 machines at its peak running OS/2 warps in the 1990s. Workstations, cash machines, and attendant computers have been migrated to Linux. [71] Australian ATMs are used in the banking industry to reveal driving robots that they are based on OS/2 Warp OS/2. Australia's Suncorp Bank operated its ATM network on OS/2 in late 2002. Perisher Blue ATMs used OS/2 in late 2009 and even had the turn of the decade. [72] OS/2 was widely adopted by accounting professionals and audit firms. In the mid-1990s, native 32-bit accounting software was well developed to service the corporate market. OS/2 has run a faulty baggage handling system at Denver International Airport. The OS was eventually scrapped, but software written for the system led to major delays in opening a new airport. There was no problem with the OS itself, but there was software written to run on the OS. The baggage handling system was eventually removed. OS/2 was used by radio personality Howard Stern. He once received a 10-minute on-air rant about OS/2 and Windows 95 and recommended OS/2. He also used OS/2 on IBM 760CD laptops. OS/2 was used as part of NPR's Satellite Operation Support System (SOSS) for public radio satellite systems. SOSS was a computer control system using OS/2, which NPR member stations used to receive programming feeds via satellite. SOSS was introduced using OS/2 3.0 in 1994 and was discontinued in 2007 when NPR switched to a successor, ContentDepot. OS/2 was used to control SkyTrain's automatic light rail system in Vancouver, Canada, until the late 2000s, when it was replaced by Windows XP. OS/2 was used in the Jubilee Line Extension Signal Control System (JLESCS) in London. This control system provided by Alcatel was used from 1999 to 2011, i.e., during the abandonment of the line's uninsted original automatic train control system and the current SelTrac system before its opening. JLESCS did not provide manual train supervision for automatic train operations only. Six OS/2 local site computers were distributed along the railway between Stratford and Westminster, with the Shunt Tower at Stratford Market Depot, and some forming central equipment located at the Neasden Depot. It was once intended to cover the remaining lines between Green Park and Stanmore, but this was never introduced. OS/2 is used by the UK Co-operative Bank for domestic call centre staff and a bespoke programme created to access customer accounts that cannot be easily migrated to Windows. OS/2 is used in stop-and-shop supermarket chains (and newMost recently in March 2010) OS/2 is used at tram link ticket machines outside London. OS/2 is used in the New York City subway system for MetroCard. [73] Connect a simple computer to the mainframe instead of an interface with the user. When the NYC MTA completes the transition to contactless payments, OS/2 is removed. OS/2 was used in safeway supermarket checkout systems. [73] OS/2 was used by Tre Italia on both ticket counter desktops and automatic ticket counters through 2011. Incidentally, os/2 auto ticket counters were more reliable than current counters running Windows flavors. Citation required OS/2 was used as the main operating system for Abbey National General Insurance Motor and Home Direct Call Center products using DB2.2's pmcsc server III insurance platform from 1996 to 2001. In 1989, byte was awarded Excellence, and the BYTE Award was described as the current location of Macintosh in 1984: a development platform that seeks developers. The magazine said: OS/2 will naturally replace DOS when it is complete and bug-free, if you can really use the 80386, and if more desktops have OS/2-enabled PCs. However, OS/2 is still a milestone product. In March 1995, OS/2 was awarded Infolworld Product of the Year seven times. [77] He won five CeBIT awards. PC Professional Magazine - Innovation of the Year Award. CHIP Magazine named os/2 warp the operating system of the year. DOS International will name OS/2 and warp this year's operating system. 1-1 Magazine won the Software Marketing Quality Award. The Industry Forum awarded design excellence. SPA Best Business Software Award. IBM products that use OS/2 IBM use OS/2 in a wide range of hardware products and are effectively used as a form of embedded operating system. Product Nature How was OS/2 used? Used as the operating system for the IBM 3494 Tape Library Tape Expansion (LM), the Tape Accessor (Robot) [7

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