

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRYAN J. JACQUOT,
CHERYL L HERNDON and ALAND B. ADAMS

Appeal 2007-1320
Application 10/187,647
Technology Center 2100

Decided: August 29, 2008

Before JAMESON LEE, RICHARD TORCZON and SALLY C. MEDLEY,
Administrative Patent Judges.

MEDLEY, *Administrative Patent Judge.*

DECISION ON APPEAL

A. Statement of the Case

Hewlett-Packard Development Company, L.P. (“HP”), the real party in interest, seeks review under 35 U.S.C. § 134(a) of a Final Rejection of claims 1-25, the only claims remaining in the application on appeal. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

The application on appeal was filed 01 July 2002.

The Examiner relies on the following prior art in rejecting the claims on appeal:

Shmid 6,530,078 B1 Mar. 4, 2003

The Examiner rejected all of the appealed claims as anticipated under 35 U.S.C. § 102(e) by Shmid.

B. Issue

The issue is whether HP has sustained its burden of showing that the Examiner erred in rejecting the claims on appeal as anticipated under 35 U.S.C. § 102(e) by the prior art.

C. Findings of Fact (“FF”)

The record supports the following findings of fact as well as any other findings of fact set forth in this opinion by at least a preponderance of the evidence.

The Invention

1. Referring to figure 1 [numbers from **figure 1** inserted], the invention is related to a system that has a first computing device or server [100] and a simulation program [120] that is able to simulate a second or high-end computing device [190]. Spec. 8-9.
2. The first computing device or server [100] executes a software application [125], such as a hardware partitioning application, which

normally executes on the simulated second or high-end computing device [190]. Spec. 8-9.

3. Due to the fact that the hardware environment (i.e. the second or high-end computing device [190]) is simulated, the software application [125] does not affect the actual configuration of the first computing device or server [100] that is running the software application [125]. Spec. 8-9.
4. All the functions and screens that would be available if the software application [125] was running on the simulated second computing device [190] may be available in the simulated environment. Spec. 8-9.
5. The first computing device or server [100] is able to grant access to multiple users simultaneously to separate instantiations of the simulation program [120] and the software application [125]. Spec. 8-9.

Figure 1 from the Application is reproduced below.

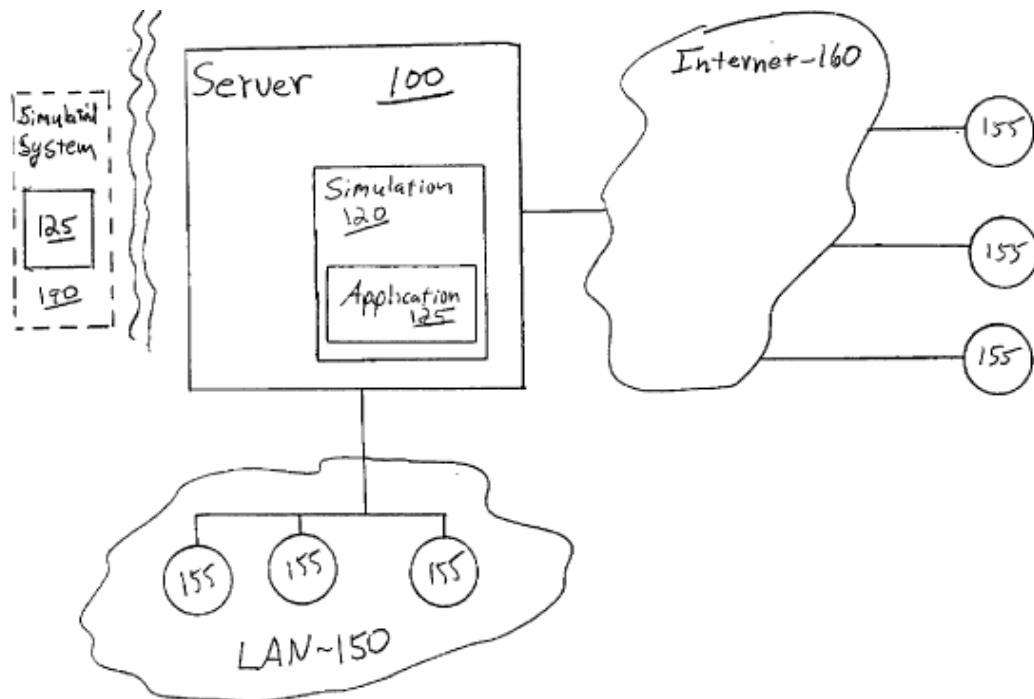


Figure 1 depicts first and second computing devices and a simulation program.

Claims on Appeal

6. HP's claims 1-25 are the subject of this appeal. App. Br. 8.
7. Claims 1, 11 and 18 are independent. App. Br. 16-18.
8. Claims 2-10, 12-17 and 19-25 are directly or indirectly dependent on claims 1, 11 and 18 respectively. App. Br. 16-19.
9. HP argues all claims together as a group. App. Br. 9-13.
10. Claim 1, which we reproduce from the Claim Appendix of the Appeal Brief reads as follows [numbers from **figure 1** inserted]:

1. A system for providing access to an application running on a computer simulation, comprising:
 - a first computing device [100] having a simulation program [120] for simulating a second computing device [190];
 - said first computing device for executing, on said simulation program, a software application [125] that normally executes on hardware of said second computing device; and
 - wherein said first computing device is further for granting simultaneous access to multiple users to separate instantiations of said simulation program and said software application.App. Br. 15.

Shmid

11. Shmid describes enabling the execution of any non OS/390 (Operating System 390) operating system and its applications as a guest task in the OS/390 environment on computers implementing S/390 principles of operation. Col. 2, ll. 34-37, 51-55; and col. 6, ll. 21-23.
12. Shmid describes the host operating system as OS/390. Col. 4, ll. 64-65.
13. Shmid describes that a guest operating system denotes different operating systems that are executed as tasks on the host system (OS/390). Col. 6, ll. 21-23.

14. Shmid describes ISX (Interpretive Space) as a user's application program that is running under the control of the host operating system as a usual user's work process. Col. 4, ll. 65-67.
15. ISX enables execution of a guest system and I/O (input/output) operations of the guest system on a host operating system. Col. 5, ll. 31-33 and fig. 3.
16. ISX creates an environment for a guest system that looks like a real machine using the real machine instruction from the OS/390 architecture and resources from the host operating system. Col. 5, ll. 34-37.
17. Shmid describes that from the point of view of the host operating system, ISX performs a long executed machine instruction and from the point of view of the guest operating system, it is running in a real machine. Col. 5, ll. 39-42.
18. Shmid describes that when an I/O operation or a special CPU function is requested by the guest operating system, the Start Interpretive Execution (SIE) instruction is intercepted and ISX receives control. Col. 5, ll. 43-46.
19. If an I/O operation is requested with a real I/O device, ISX requests the host operating system to execute it using its standard facilities. Col. 5, ll. 48-50; and col. 14, ll. 11-49.
20. If an I/O operation is requested with an emulated I/O device, ISX requests the corresponding subprocess to handle the I/O operation. Col. 5, ll. 50-53; and col. 14, l. 50-col. 18, l. 38.
21. Shmid describes several subprocesses to emulate I/O devices for the guest operating system, including a unit record device emulation, a FBA DASD (fixed block architecture direct access storage device) emulation,

- a locally connected display unit emulation and a CTCA (channel to channel) or TR (token ring) adaptor emulation processes. Col. 5, ll. 57-65 and fig 1.
22. Shmid describes an emulated guest device as an emulated I/O device such as a card reader, printer, direct access storage device, locally connected display, etc. Col. 5, ll. 56-col. 6, ll. 3; col. 14, l. 50-col. 20, l. 21; col. 25, ll. 5-8 and fig. 1.
23. Shmid describes that “ISX/390 provides commands to simulate S/390 hardware interruptions to the guest system.” Col. 20, ll. 26-27.
24. Shmid also describes that operator commands allow the operator to simulate other functions of S/390. Col. 22, ll. 19-23.
- Examiner’s Findings
25. The Examiner found that Shmid describes a first computing device having a simulation program for simulating a second computing device. Final Rejection 4, Ans. 2, citing Shmid col. 2, l. 65-col. 3, l. 3.
26. The Examiner further found that Shmid describes the first computing device for executing, on the simulation program, a software application that normally executes on hardware of the second computing device. Final Rejection 4, Ans. 2, citing Shmid col. 1, ll. 45-47.
27. The Examiner also found that Shmid describes a software simulation program for simulating a high-end computing device. Final Rejection 7, Ans. 5, citing Shmid col.1, ll. 30-32 and 45-47.
28. The Examiner found that Shmid’s “S/390” refers to a computing device and “OS/390” refers to the operating system of the computing device. Ans. 6.

29. The Examiner found that a guest device refers to a computing device that is being simulated/emulated on a host device. Ans. 6, citing Shmid col. 5, ll. 66-col. 6, l. 3.
30. The Examiner found that Shmid describes device emulation by ISX/390. Ans. 7, citing Shmid fig. 1.
31. The Examiner found that device emulation by ISX/390 to be functionally equivalent to simulation of a computing device. Ans. 7, citing Shmid fig. 1.
32. The Examiner found that Shmid describes that the simulation program simulates a computing device which is the S/390 hardware. Final Rejection 2 and Ans. 7, citing Shmid col. 20, ll. 27-28 and figs. 1 and 1.1.
33. The Examiner also directs our attention to Shmid col. 20, ll. 27-28, which describes “ISX/390 provides commands to simulate S/390 hardware interruptions to the guest system.” Ans. 7.
34. The Examiner found that the citation to the background in Shmid was made to show that the prior art also contained the claimed feature (i.e., an operating system that allows execution of other operating systems as its own task). Ans. 8, citing Shmid col. 1, ll. 45-47.
35. The Examiner found that Shmid describes this feature throughout the reference. Ans. 8, citing Shmid col. 2, ll. 41-46 and fig. 11-2.

HP's Arguments

36. HP argues that that Shmid does not teach, describe or suggest the claim limitation of “a first computing device having a simulation program for simulating a second computing device”. App. Br. 10 and Reply Br. 1.

37. HP further argues that Shmid describes a system for executing various operating systems and applications (referred to as guests) on one computer system using one operating system. App. Br. 10, citing Shmid col. 2, ll. 41-46.
38. HP still further argues that Shmid teaches that the guests are executed in the operating system of the host computer. App. Br. 10-11, citing Shmid col. 2, ll. 56-59.
39. HP also argues that Shmid does not describe the host system as simulating the operating system associated with the guest application, but instead describes that the guest application is migrated to the host operating system. App. Br. 11.
40. HP further argues that Shmid does not describe the claim limitation of “wherein said first computing device is further for granting simultaneous access to multiple users to separate instantiations of said simulation program and said software application” because Shmid does not teach, describe or suggest “a simulation program”. App. Br. 11.
41. HP argues that device emulation described by Shmid is not the functional equivalent of simulating a computing device because Shmid’s emulation requires an interpreter of I/O operations to translate instructions between different operating systems. Reply Br. 2, citing Shmid Abs. and col. 5, l. 66-col. 6, l. 1.
42. HP still further argues that the Examiner’s citation to different passages in Shmid describing a prior art solution and a new solution is improper for an anticipation rejection because Shmid does not disclose each and every element of the claimed invention as arranged in the claims. App. Br. 12.

D. Principles of Law

[A]s an initial matter, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification.

In re Morris, 127 F.3d 1048, 1054 (Fed Cir. 1996).

[T]he PTO gives a disputed claim term its broadest reasonable interpretation during patent prosecution. The “broadest reasonable interpretation” rule recognizes that “before a patent is granted the claims are readily amended as part of the examination process.” Thus a patent applicant has the opportunity and responsibility to remove any ambiguity in the claim term meaning by amending the application. Additionally, the broadest reasonable interpretation rule “serves the public interest by reducing the possibility that claims, finally allowed will be given broader scope than is justified.”

In re Bigio, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (citations omitted).

“Absent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification or prosecution history when those sources expressly disclaim the broader definition.” *Id.* at 1325.

E. Analysis

HP argues claims 1-25 together as a group. FF¹ 9. Claims 1, 11 and 18 are independent. FF 7. We select independent claim 1 as the representative claim of this group. 37 C.F.R. § 41.37(c)(1)(vii).

First, HP argues that Shmid does not teach, describe or suggest “a first computing device having a simulation program for simulating a second

¹ FF denotes Finding of Fact.

computing device”. FF 36. HP argues that instead Shmid describes a system for executing various operating systems and applications (guests) on *one* computer system using *one* operating system (emphasis added). FF 37. HP further argues that instead Shmid describes that the guest application is migrated to the host operating system and the guests are executed in the operating system of the host computer. FFs 38-39.

Representative claim 1 recites “a first computing device having a simulation program for simulating a second computing device”. FF 10. The Examiner presents the position that (1) HP’s first computing device reads on Shmid’s host device, (2) the simulation program reads on Shmid’s ISX or ISX/390 (Interpretive Space) and (3) the second computing device reads on Shmid’s guest device or S/390 hardware. FFs 25-26, 28-32. In support of this position, the Examiner notes that Shmid describes that “ISX/390 provides commands to simulate S/390 hardware interruptions to the guest system.” FFs 23, 33.

Shmid describes a host operating system (OS/390) that allows a guest operating system and its applications to be executed on the host operating system’s hardware and architecture (S/390) through the use of an interpretive space (ISX or ISX/390). FFs 11-17. We understand the statement that “ISX/390 provides commands to simulate S/390 hardware interruptions to the guest system” (FF 23) to mean that the ISX/390 simulates hardware interruptions of the same system (S/390) on which the simulation software is running. Thus, the Examiner appears to rely on the S/390 hardware as the first computing device and the simulated version of the same type of hardware as the second computing device.

Consistent with the broadest reasonable interpretation of representative claim 1, the second computing device can be a simulated version of the same kind, e.g., same hardware, as the first computing device. The claim language does not require the simulated second computing device to be of a different type or kind than the first computing device. We find that the Examiner's reliance on Shmid's S/390 hardware of the host operating system to meet HP's first computing device and the simulated S/390 hardware to meet the second computing device to be consistent with the broadest reasonable interpretation of the claims. HP has not directed us to an explicit definition in its Specification requiring the first and second computing device to be two distinct kinds or types of computing devices. Moreover, HP has not shown error in the Examiner's determination that the ISX or ISX/390 (Interpretive Space) is a simulation program as claimed.

Second, HP argues that since Shmid does not describe a simulation program, Shmid therefore does not describe the claim limitation "wherein said first computing device is further for granting simultaneous access to multiple users to separate instantiations of said simulation program and said software application". FF 40.

As explained above with respect to claim 1, the Examiner found that Shmid describes a simulation program; the ISX or ISX/390 (Interpretive Space). HP has not shown error in the Examiner's finding.

Third, HP argues that, contrary to the Examiner's findings, device *emulation* as disclosed by Shmid is not the functional equivalent of device *simulation* (emphasis added). FF 41. The Examiner found that Shmid describes that "ISX/390 provides commands to simulate S/390 hardware interruptions to the guest system." FFs 23, 33. The claim term "simulating

a . . . computing device” requires simulation of any function of a computing device. Additionally, Shmid describes that other functions of S/390 can be *simulated* (emphasis added). FF 24. HP has not directed us to evidence to support its argument that emulation and simulation are not the same as far as Shmid is concerned. The Examiner found the terms to be equivalent. FFs 31-33. Shmid apparently uses the terms interchangeably and even explicitly describes that the computing device, e.g., S/390 can be *simulated*. FFs 23-24. Therefore, HP has failed to show error in the Examiner’s findings that Shmid simulates a second computing device.

Lastly, and specifically directed to claims 1-10 and 18-25, HP argues that the Examiner’s combination of different passages in Shmid describing a prior art solution and a new solution is improper for an anticipation rejection, since Shmid does not disclose each and every element of the claimed invention as arranged in the claims. FF 42. HP has not, however, specifically identified any missing limitation in addition to those discussed above. In any event, the Examiner relied on the description of Shmid’s embodiments in rejecting the claims. FFs 34-35. For this additional reason, HP has not shown error in the Examiner’s rejection of claims 1-10 and 18-25.

For all these reasons, we find that HP has not sustained its burden of showing that the Examiner erred in finding that claims 1-25 are anticipated by Shmid.

F. Decision

Upon consideration of the record, and for the reasons given, the Examiner’s rejection of claims 1-25 under 35 U.S.C. § 102(e) as anticipated by Shmid is affirmed.

Appeal 2007-1320
Application 10/187,647

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

ak

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins CO 80527-2400