

**Section 2 - Detailed Response**

***Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ellis (US 6,167,428).***

***As per claims 1 and 3, Ellis discloses a distributed computing system comprising:***

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***(a) a home network server in a subscriber's home; (Col 7 lines 66-67, Col 8 lines 1-14 and 23-28)***

**Summary of Applicant's Response:**

- The server taught by Ellis is part of the Network Provider's equipment.
- Ellis draws a sharp dividing line between network providers such as internet service providers (ISPs) and PC users.
- Ellis's financial arrangement requires that the PC User and the Network Provider be different entities.
- Ellis's network server's computing resources are not the resources being traded by the PC User for something of value such as Internet access. Instead, it is the resources of PC User which are being traded.
- Applicant's Home Network Server is part of the subscriber's system and is located on the Subscriber's premises. It is the resources of the Home Network Server that are being traded for something of value, like subsidized or free Internet access.

**Response - Part 1. The definition of Server as would have been commonly understood at the time Ellis's invention was made.**

Since Ellis has not served as his own lexicographer, the term must be defined as it was commonly used at the time Ellis's invention was made.

A good, commonly used, current definition of server can be found at Wikipedia (<http://en.wikipedia.org/wiki/Server>):

1 In computing, a **server** is:

- 2 • A computer software application that carries out some task on behalf of users. This is  
 3 usually divided into file serving, allowing users to store and access files on a common  
 4 computer; and application serving, where the software runs a computer program to carry out  
 5 some task for the users. This is the original meaning of the term. Web, mail, and database  
 6 servers are what most people access when using the internet.  
 7
- 8 • The term is now also used to mean the physical computer on which the software runs.  
 9 Originally server software would be located on a mainframe computer or  
 10 minicomputer. These have largely been replaced by computers built using a more  
 11 robust version of the microprocessor technology than is used in personal computers,  
 12 and the term "server" was adopted to describe microprocessor-based machines  
 13 designed for this purpose. In a general sense, server machines have high-capacity (and  
 14 sometimes redundant) power supplies, a motherboard built for durability in 24x7  
 15 operations, large quantities of ECC RAM, and fast I/O subsystem employing  
 16 technologies such as SCSI, RAID, and PCI-X or PCI-Express.

17 .  
 18 .  
 19 .

## 20 Usage

21 Sometimes this dual usage can lead to confusion, for example in the case of a web  
 22 server. This term could refer to the machine which stores and operates the websites, and  
 23 it is used in this sense by companies offering commercial hosting facilities.  
 24 Alternatively, *web server* could refer to the software, such as the Apache HTTP server,  
 25 which runs on such a machine and manages the delivery of web page components in  
 26 response to requests from web browser clients.  
 27

28 Although Ellis traces its parentage to at least U.S. Application No. 08/980,058 filed Nov.  
 29 26, 1997, and possibly even further to provisional application 60/031855, filed Nov. 29,  
 30 1996, Applicant believes the Wikipedia definition correctly represents the term as it would  
 31 have been commonly understood at that time. The full Wikipedia entry for *Server* is  
 32 reproduced in Appendix A.

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 34  
 35  
 36  
 37 **Response - Part 2. Ellis uses the terms Server**  
 38 **and Network Server to mean the same thing.**

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 40  
 41  
 42  
 43 In Column 12 lines 26-33, Ellis refers to Reference  
 44 Number 2 as **server 2**.

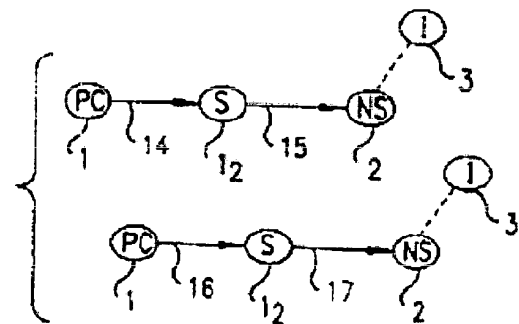


FIG.5

1 Such shared processing can continue until the device 12 detects the an application being  
 2 opened 16 in the first PC (or at first use of keyboard, for quicker response, in a  
 3 multitasking environment), when the device 12 would signal 17 the network computer  
 4 such as a *server 2* that the PC is no longer available to the network, as shown in FIG.  
 5 5B, so the network would then terminate its use of the first PC.  
 6

8 In Column 17 lines 32-41, Ellis refers to Reference Number 2 as *network 2*.

10  
 12 Preferably, wireless connections 100 would be extensively used in  
 14 home or business network systems, including use of a master remote  
 16 controller 31 without (or with) microprocessing capability, with  
 18 preferably broad bandwidth connections such as fiber optic cable  
 20 connecting directly to at least one component such as a PC 1, shown  
 22 in a slave configuration, of the home or business personal network  
 24 system; that preferred connection would link the home system to the  
 26 *network 2* such as the Internet 3, as shown in FIG. 10I.  
 28

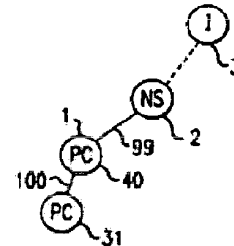


FIG. 10I

30  
 31 Moreover, in the Abstract, Ellis refers to *network servers (2)* in a list of items that are  
 32 clearly being referred to by the reference numbers used in the drawings.

### Abstract

37 This invention relates to computer networks having computers like personal computers  
 38 (1) or *network servers (2)* with microprocessors linked (5) by transmission means (4,  
 39 14) and having hardware, and other means such that at least one parallel processing  
 40 operation occurs that involve at least two computers in the network. This invention also  
 41 relates to large networks composed of smaller networks, like the Internet (3), wherein  
 42 more than one separate parallel processing operation involving more than one set of  
 43 computers occurs simultaneously and wherein ongoing processing linkages can be  
 44 established between microprocessors of separate computers connected to the network.  
 45 This invention further relates to business arrangements enabling the shared used of  
 46 network microprocessors for parallel and other processing wherein personal computer  
 47 owners provide microprocessor processing power to a network, in exchange for linkage  
 48 to other computers including linkage to other microprocessors; the basis of the  
 49 exchange between owners and providers being whatever terms to which the parties  
 50 agree.  
 51  
 52

53 Indeed, Ellis's choice of labels used in the drawings showing Reference Number 2 is  
 54 **NS**, which would be an entirely reasonable abbreviation for **Network Server**.

1 **Response - Part 3. Ellis makes a clear distinction between the PC User and the**  
2 **Network Provider (also called Internet Service Provider).**

3  
4 Ellis draws a sharp dividing line between network providers such as internet service  
5 providers (ISPs) and PC users. From Column 7 lines 37-47:

6  
7 Unlike existing one way functional relationships between *network providers such as*  
8 *internet service providers* (often currently utilizing telecommunications networks for  
9 connectivity) and *PC users*, wherein the *network provider* provides access to a network  
10 like the Internet for a fee (much like cable TV services), this new relationship would  
11 recognize that the *PC user* is also providing the *network* access to the *user's PC* for  
12 parallel computing use, which has a similar value. The PC thus both provides and uses  
13 services on the network, alternatively or potentially even virtually simultaneously, in a  
14 multitasking mode.

15  
16  
17 Column 7 Line 66 – Column 8 line 28:

18 For this new network and its structural relationships, *a network provider* is defined in  
19 the broadest possible way as any entity (corporation or other business, government, not-  
20 for-profit, cooperative, consortium, committee, association, community, or other  
21 organization or individual) that provides personal computer users (very broadly defined  
22 below) with initial and continuing connection hardware and/or software and/or  
23 firmware and/or other components and/or services to any network, such as the Internet  
24 and Internet II or WWW or their present or future equivalents, coexistors or successors,  
25 like the MetaInternet, *including any of the current types of Internet access providers*  
26 *(ISP's)* including telecommunication companies, television cable or broadcast  
27 companies, electrical power companies, satellite communications companies, or their  
28 present or future equivalents, coexistors or successors. The connection means used in  
29 the networks of the network providers, including between personal computers or  
30 equivalents or successors, would preferably be very broad bandwidth, by such means as  
31 fiber optic cable or wireless for example, but not excluding any other means, including  
32 television coaxial cable and telephone twisted pair, as well as associated gateways,  
33 bridges, routers, and switches with all associated hardware and/or software and/or  
34 firmware and/or other components and their present or future equivalents or successors.  
35 *The computers used by the providers include any computers, including* mainframes,  
36 minicomputers, *servers*, and personal computers, and associated their associated  
37 hardware and/or software and/or firmware and/or other components, and their present or  
38 future equivalents or successors.

2 Column 12 lines 34-46:

4 In a preferred embodiment, as shown in FIG. 6, there  
6 would be a (hardware and/or software and/or  
8 firmware and/or other component) signaling device 18  
10 for the *PC 1* to indicate or signal 15 to the network the  
12 *user PC's* availability 14 for network use (and  
14 whether full use or multitasking only) as well as its  
16 specific hardware/software/firmware/other  
18 components) configuration 20 (from a status 19  
20 provided by the PC) in sufficient detail for the

21 *network or network computer such as a server 2* to utilize its capability effectively. In  
22 one embodiment, the transponder device would be resident in the user PC and broadcast  
23 its idle state or other status (upon change or periodically, for example) or respond to a  
24 query signal from a network device.  
25

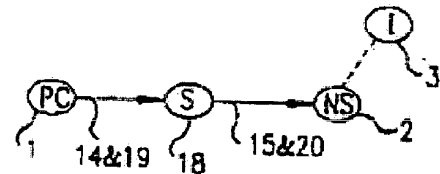


FIG. 6

26 Ellis's financial arrangement is between the PC User and the Network Provider.

27 Column 10 lines 1-6:

28 The *financial basis* of the shared use *between owners/leasers and providers* would be  
29 whatever terms to which the *parties* agree, subject to governing laws, regulations, or  
30 rules, including payment from *either party* to the other based on periodic measurement  
31 of net use or provision of processing power.  
32

33 If the PC User and the Network Provider were the same entity, Ellis's financial  
34 arrangement would be only with himself. As a result, Ellis's invention would not be  
35 useful, thereby failing to meet the requirements of 35 U.S.C. 101, rendering the Ellis  
36 patent invalid.

37 **35 U.S.C. 101 Inventions patentable.**

38 Whoever invents or discovers any new and *useful* process, machine, manufacture, or  
39 composition of matter, or any new and useful improvement thereof, may obtain a patent  
40 therefor, subject to the conditions and requirements of this title.

41 However, since issued U.S. patents are presumed valid under 35 U.S.C. 282, Ellis's  
42 PC User and Network Provider must be understood as being separate entities.

43 **35 U.S.C. 282 Presumption of validity; defenses. - Patent Laws (First Paragraph):**

44 A patent shall be presumed valid. Each claim of a patent (whether in independent,  
45 dependent, or multiple dependent form) shall be presumed valid independently of the  
46 validity of other claims; dependent or multiple dependent claims shall be presumed valid  
47 even though dependent upon an invalid claim. Notwithstanding the preceding sentence, if a  
48 claim to a composition of matter is held invalid and that claim was the basis of a  
49 determination of nonobviousness under section 103(b)(1), the process shall no longer be

1 considered nonobvious solely on the basis of section 103(b)(1). The burden of establishing  
 2 invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.  
 3

4  
 5 **Response - Part 4. Ellis's Server 2 is part of the Network Provider, not the PC User.**

6 The Servers (also referred to in Ellis as Network Servers) are on the ISP side of the line.

7 Column 6 lines 5-9:

8  
 9 FIG. 1 is a simplified diagram of a section of a computer network, such as the Internet,  
 10 showing an embodiment of a meter means which measures flow of computing during a  
 11 shared operation such as parallel processing *between a typical PC user and a network*  
 12 *provider*.  
 13

14 Column 10 lines 7-14:

15  
 16 In one embodiment, as shown in FIG. 1, in order for this network structure to function  
 17 effectively, there would be a meter device 5 (comprised of hardware and/or software  
 18 and/or firmware and/or other component) to measure the flow of computing power  
 19 *between PC 1 user and network 2 provider*, which might provide connection to the  
 20 Internet and/or World Wide Web and/or Internet II and/or any present or future  
 21 equivalent or successor 3, like the MetaInternet.  
 22

23 In the second reproduction of Ellis Figure 1 (below) a line has been added to  
 24 emphasize Ellis's division between Meter 5 and Network Server 2. Network Server 2  
 25 is not in the subscriber's home.

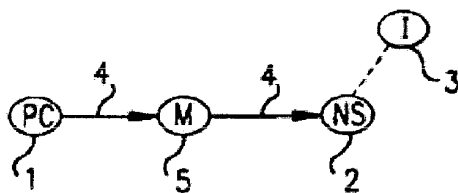


FIG. 1

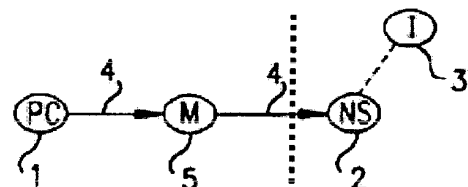


FIG. 1

1 **Response - Part 5. Ellis has drawn a distinction between the Network Provider and**  
 2 **the Internet. The Applicant has not drawn such a distinction.**

8 Ellis Figure 1 shows Network Provider 2 as  
 10 separate from Internet 3.

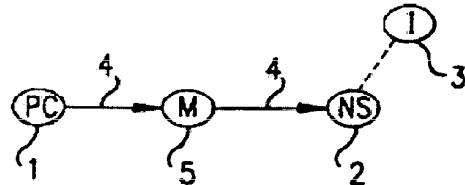


FIG.1

16 In Applicant's Figure 1, Modem 103 is shown as connecting to the Internet. There is no  
 17 distinction made between the Internet Service Provider and the Internet. Applicant states,  
 18 in Paragraph 0002 of the present Application:

19 [0002] This invention relates to a distributed computing system. For the purposes of  
 20 this application the term "distributed computing" includes "distributed storage." **The**  
 21 **term "Internet" refers to the current world wide packet data communication**  
 22 **network and whatever system may replace it regardless of what name it may be**  
 23 **given or what communications protocol it may use. It also includes on-line services**  
 24 **which, although they may not consider themselves the "Internet", provide a**  
 25 **gateway for their subscribers to the Internet.**

27 Most people consider their Internet connection to start at the point where they connect to  
 28 their Internet Service Provider, which is probably why it's called an ***Internet Service***  
 29 ***Provider***. Applicant has followed this convention, Ellis has not.

32 **Response - Part 6. Applicant acted as his own lexicographer to define Home**  
 33 **Network Server.**

35 From the application of the present Applicant:

### 36 SUMMARY OF THE INVENTION

37 [0014] A Home Network Server is used in a home to network various clients such as  
 38 PCs, sensors, actuators, and other devices. It also provides the Internet connection to the  
 39 various client devices in the Home Network. The Home Network Server also provides a  
 40 firewall to prevent unauthorized access to the Home Network from the Internet. The use  
 41 of a Home Network Server, as opposed to the use of peer-to-peer networking, allows a

1 robust operating system to be used. It also allows the users on the Home Network to add  
2 additional applications to their PCs without fear of jeopardizing the proper functioning  
3 of their Internet security program (firewall) or the distributed computing software.  
4 (Although a firewall is not strictly necessary, prudence dictates its use.)  
5

6 **Response - Part 7. Applicant's Home Network Server is distinctly different from**  
7 **Ellis's Server (Network Server).**  
8

9 As has been shown, Ellis's **server 2** is part of his Network Provider's equipment. As such,  
10 its computing resources are not the resources being traded by the PC User for something  
11 of value such as Internet access. Instead, it is the resources of **PC 1** which are being  
12 traded.  
13

14 In the Applicant's invention, **Home Network Server 101** is part of the subscriber's system  
15 and is located on the Subscriber's premises. It is the resources of **Home Network Server**  
16 **101** that are being traded for something of value, like subsidized or free Internet access.  
17

18 **Home Network Server 101** has a number of other, important functions, in addition to  
19 acting as a proxy server for the Subscriber's Internet access. It provides the computing  
20 resources to operate the systems in the Subscriber's home. See Applicant's Application  
21 Paragraph 0026:

22 [0026] Router, Switch, or Hub 102 connects to one or more clients such as PC\_1 104  
23 or Sensor/Actuator\_1 106. More than one client PC may be used, such as PC\_n 105,  
24 and more than one Sensor/Actuator may be used, such as Sensor/Actuator\_n 107.  
25 **Sensor/Actuators are used to control and/or monitor the home's systems such as**  
26 **HVAC and Security and appliances such as refrigerators, washers, and dryers.**  
27

28 Another of the advantages of Applicant's **Home Network Server 101** is that it can run a  
29 robust, stable operating system without requiring the Subscriber to replace his software.  
30 At the time Ellis's invention was made, as well as the time the invention of the present  
31 Applicant was made, the vast majority of PCs used some version of the Microsoft Windows  
32 Operating System, and most PC Applications were available only for such systems. Thus,  
33 one advantage of Applicant's uses of **Home Network Server 101** is that the Subscriber  
34 can continue to use Microsoft Windows on his PCs without jeopardizing the safety of his  
35 home's systems.



1 In Ellis's response to the First Office Action for his application 09/320,660 he made clear  
2 the importance of being able to run applications on his **PC 1** which were not available to  
3 the operating systems typically used by servers. (The First Office Action was mailed  
4 October 14, 1999, Ellis's Response is dated April 14, 2000, and the application was  
5 eventually issued as U.S. Patent 6,167,428 .)

6  
7 From Ellis's Response, Page 24 Second Paragraph:  
8

9 The Examiner appears to have rejected claims 27-41 because of a belief that UNIX  
10 and NT servers can be run on personal computers and can be made to function  
11 temporarily as a master personal computer or as a slave personal computer, as similarly  
12 recited in claims 27-41. However, a UNIX or an NT server functions as a server, not as  
13 a master personal computer or as a slave personal computer, which require applications  
14 not found in UNIX or NT operating systems. Therefore, Applicant submits that neither  
15 Seti@home nor a UNIX or an NT server running on personal computers discloses,  
16 teaches or suggests: .....

17  
18 Ellis then discusses how this relates to his claims. However, the importance of being able  
19 to run standard PC applications on Ellis's **PC 1** has been established.  
20

21 In contrast, the value of Applicant's **Home Network Server 101** is precisely its ability to  
22 use a stable, reliable Operating System. As was previously noted, at the time Ellis's  
23 invention was made, as well as the time the invention of the present Applicant was made,  
24 the vast majority of PCs used some version of the Microsoft Windows Operating System,  
25 and most PC Applications were available only for such systems. Hence the value of having  
26 **Home Network Server 101** being able to run a stable, reliable Operating System.  
27

28 Thus, Ellis's clarification of his invention made in his Response teaches away from the  
29 invention of the present Applicant and further shows how Applicant's **Home Network**  
30 **Server 101** is distinctly different from Ellis's **Server (Network Server) 2** as well as Ellis's  
31 **PC 1** personal computer.  
32

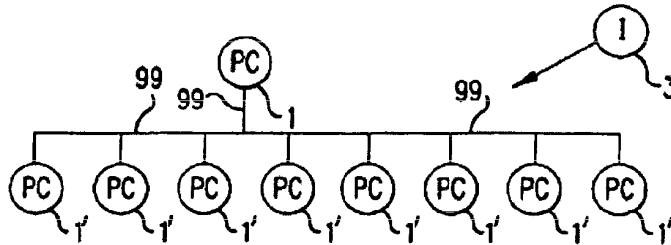
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**(b) one or more home network client devices; (Col 13 lines 8-29, Figure 9)**

The PCs shown in Ellis Figure 9 are not home network client devices. They are networked PCs participating in parallel processing. According to Ellis Column 6 lines 49-53:

FIG. 9 is a simplified diagram of a section of a computer network, such as the Internet, showing an embodiment of a system architecture for conducting a request initiated by a PC for a search using parallel processing means that utilizes a number of networked PC's.

(Presumably, Ellis meant "a request *initiated* by a PC" and not "a request *imitated* by a PC.")



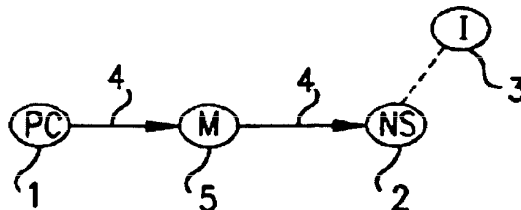
**FIG.9**

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Applicant's invention does not use the resources of the Home Network clients for its distributed computing agreement. It uses the unused resources of **Home Network Server 101**.

**(c) an Internet connection; (Col 8 lines 7-10, Col 13 lines 4-7, Figure 1 item 3)**

**Ellis Figure 1  
 Item 3**



**FIG.1**

1  
2  
3 Both Ellis and present Applicant use the Internet. However, as detailed in Response - Part  
4 5, Ellis's **Network Server 2** is part of the Network Provider, not Subscriber's **PC 1**. In  
5 addition, most people consider their Internet connection to start at the point where they  
6 connect to their Internet Service Provider, which is probably why it's called an **Internet**  
7 **Service Provider**. Applicant has followed this convention, Ellis has not.

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8  
9  
10 *whereby the subscriber receives something of value in return for access to*  
11 *the resources of said home network server that would otherwise be unused. (Col 7*  
12 *lines 38-48, Col 10 lines 1-6)*  
13  
14

15 Both Ellis and present Applicant receive something of value for the use of otherwise-  
16 unused computing resources. However, Ellis's computing resources are provided by the  
17 Subscriber's **PC 1** while present Applicant provides the otherwise-unused computing  
18 resources of Subscriber's Home **Network Server 101**, which Ellis lacks. The advantage of  
19 Applicant's system has been discussed in Response - Part 7 above.

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20  
21  
22 To summarize Applicant's response to Examiner's rejection of Claims 1 and 3:

23  
24 1. Ellis does not show a Home Network Server. Ellis's **server 2** is part of the Internet  
25 Service Provider's equipment and is not in the Subscriber's home.

26 2. As such, its computing resources are not the resources being traded by the PC User for  
27 something of value such as Internet access. Instead, it is the resources of **PC 1** which are  
28 being traded.

29 3. Ellis's financial arrangement requires that the PC User and the Network Provider be  
30 different entities.

31 4. The PCs shown in Ellis Figure 9 are not home network client devices. They are  
32 networked PCs participating in parallel processing. Applicant's invention does not use the  
33 resources of the Home Network clients for its distributed computing agreement. It uses the  
34 resources of **Home Network Server 101**.