

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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MICROSOFT CORPORATION and HP INC.,  
Petitioner,

v.

SYNKLOUD TECHNOLOGIES, LLC,  
Patent Owner.

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IPR2021-00175  
Patent 7,870,225 B2

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Before SALLY C. MEDLEY, LYNNE E. PETTIGREW, and  
JESSICA C. KAISER, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Microsoft Corporation and HP Inc. (collectively “Petitioner”) filed a Petition for *inter partes* review of claims 1–4 and 13–22 of U.S. Patent No. 7,870,225 B2 (Ex. 1001, “the ’225 patent”). Paper 1 (“Pet.”). Synkcloud Technologies, LLC (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we decline to institute review of the challenged claims of the ’225 patent.

### *A. Related Matters*

The parties identify district court proceedings involving, or relating to, the ’225 patent. Pet. 2; Paper 7 (Patent Owner’s Mandatory Notices). Patent Owner also indicates that the ’225 patent is the subject of IPR2021-00174. Paper 7.

### *B. The ’225 Patent*

The Specification of the ’225 patent describes “a disk system or interface that can be directly attached to a network.” Ex. 1001, 1:17–18. The ’225 patent aims to address the shortcomings of other network-based storage systems by allowing a disk system to be “accessed like a local disk without the need of adding an additional file server or special equipment.” *Id.* at 1:30–2:2.

Figure 1 illustrates an operating environment of the network-attached disk (NAD) system described in the '225 patent, and is reproduced below.

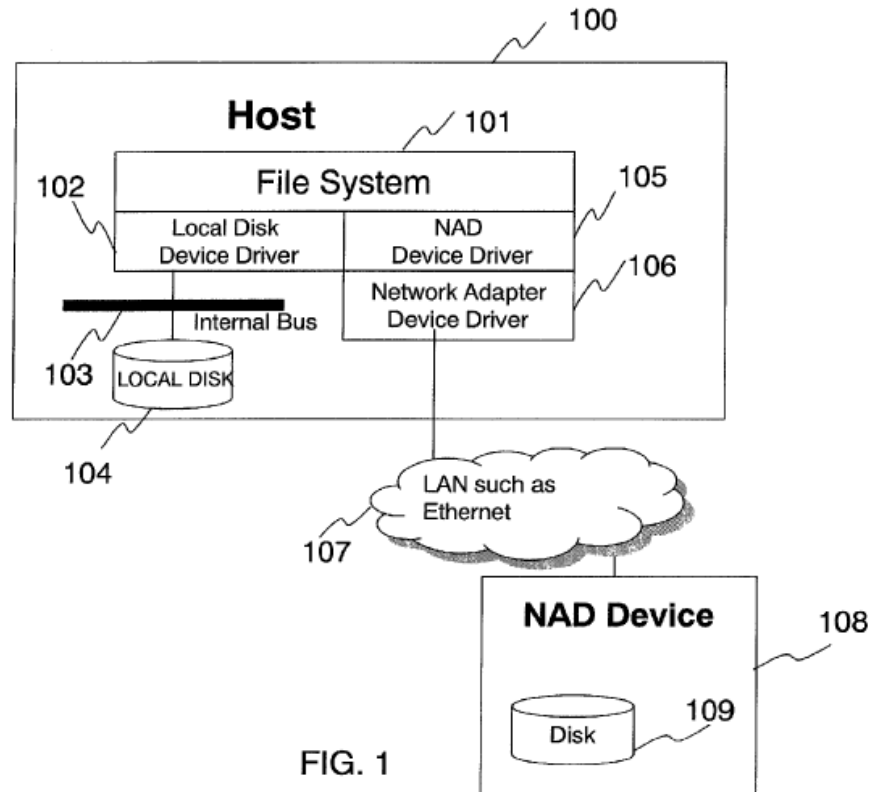


Figure 1 shows “host 100 has a file system 101, which may contain a local disk device driver 102 that controls a local disk 104 connected to an internal system bus 103.” *Id.* at 3:31–33. Local devices are connected to system bus 103 through a host bus adapter that allows “the host to communicate with the devices without going through any network.” *Id.* at 3:35–38. Network devices, on the other hand, are “connected through an interface called a network interface card (NIC) installed on [the] system bus.” *Id.* at 3:39–41. The '225 patent describes that host 101 contains NAD device driver 105 for controlling NAD device 108, which is connected via general-purpose network 7. *Id.* at 3:30–51. The '225 patent additionally describes that multiple NAD devices may be accessible to multiple hosts

over the same network (*see id.* 3:59–65, Fig. 2), and that each NAD device may have multiple disks that are independently accessible to multiple hosts (*see id.* 4:33–44, Fig. 4).

The '225 patent describes that NAD devices are identified during an initial hardware scan and “their corresponding drivers acting as a virtual host bus adapter must be generated.” *Id.* at 7:41–44. According to the '225 patent, each NAD disk “appears to the host as if it is a local disk [] connected to the system bus of the host so that each disk can be dynamically installed or removed.” *Id.* at 3:66–4:1. The '255 patent accomplishes this “by creating a virtual host bus adapter in purely software means that recognizes a[] NAD device as if it is connected to the system bus although there is no physical host bus adapter connected [to] the NAD.” *Id.* at 4:2–5; *see also id.* at code (57) (“the device driver creates a virtual host bus adapter so that the host recognizes the NAD device as if it is a local device to the host”). Once a NAD device is in use, “there is no need to use network addresses such as IP addresses for the host,” rather “data link frames containing storage commands are exchanged between the host and the NAD device.” *Id.* at 11:22–26.

### *C. Illustrative Claim*

Petitioner challenges claims 1–4 and 13–22 of the '225 patent. Claim 1 is independent, and claims 2–4 and 13–22 depend therefrom. Claim 1 is reproduced below.

1. A network-attached device (NAD) access system wherein a host, having an internal host system bus and running an operating system, controls an external device through a carrying general-purpose network traffic using a certain network protocol, the system comprising:

- a network interface card (NIC) installed at the host for providing a general purpose network connection between the host and the network and via the network to other devices coupled to the network;
  - a network-attached device (NAD) having a data storage to store data, the NAD coupled to the network for receiving device level access commands from the host in data link frames according to the certain network protocol through the network; and
  - a device driver, running at the host, for creating a virtual host bus adapter in software controlling the NAD through the network via the NIC, the device driver enumerating NAD that are available over the network, not directly attached to the host internal system bus, to make the host recognize the NAD as a host local device;
- the virtual host bus adapter controlling the NAD in a way indistinguishable from the way as a physical host bus adapter device controls device so that the host recognizes the NAD as if it is a local device connected directly to the system bus of the host.

Ex. 1001, 23:2–26.

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