

**United States Court of Appeals
for the Federal Circuit**

AC TECHNOLOGIES S.A.,
Appellant

v.

**AMAZON.COM, INC., BLIZZARD
ENTERTAINMENT, INC.,**
Appellees

2018-1433

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2015-
01802.

Decided: January 9, 2019

MINGHUI YANG, Hardy Parrish Yang, LLP, Austin,
TX, argued for appellant. Also represented by VICTOR G.
HARDY; ANDREW DiNOVO, NICOLE E. GLAUSER, DiNovo,
Price, Ellwanger & Hardy LLP.

DANIEL T. SHVODIAN, Perkins Coie, LLP, Palo Alto,
CA, argued for appellees. Also represented by
CHRISTOPHER LEE KELLEY, WING LIANG, VICTORIA Q.
SMITH; DAN L. BAGATELL, Hanover, NH.

Before MOORE, SCHALL, and STOLL, *Circuit Judges*.
STOLL, *Circuit Judge*.

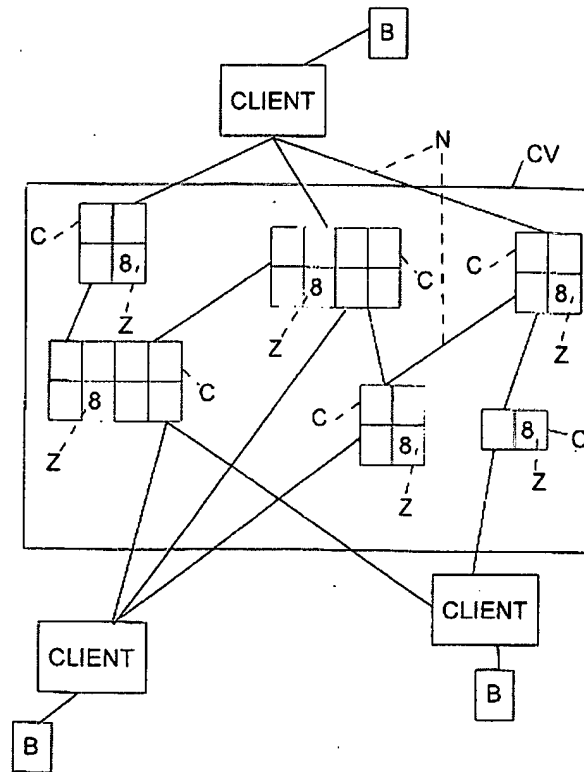
The Patent Trial and Appeal Board issued a final written decision ruling certain claims of AC Technologies S.A.'s U.S. Patent No. 7,904,680 unpatentable. On reconsideration, it invalidated the remaining claims based on a ground of unpatentability raised by Amazon.com, Inc. and Blizzard Entertainment, Inc. (collectively, "Amazon") in their petition but not addressed in the final written decision. AC appeals, arguing that the Board exceeded its authority and deprived it of fair process by belatedly considering this ground.

We disagree. Precedent mandates that the Board consider all grounds of unpatentability raised in an instituted petition. The Board complied with due process, and AC does not persuade us that the Board erred in either its claim construction or its ultimate conclusions of unpatentability. Accordingly, we affirm.

BACKGROUND

I. The '680 Patent

The '680 patent relates generally to data access and management. As shown in Figure 1, clients, such as users' (B) personal computers, may store data in or request data stored in clusters (C), each composed of one or more cells (Z), via a network (N).



'680 patent col. 7 ll. 45–46, 53–56, col. 9 ll. 55–56. The patent teaches that storing copies of data across a network improves data integrity and reduces network lag. *Id.* at col. 1 l. 28–col. 2 l. 5, col. 2 ll. 21–31. To achieve this, the system copies data—either “the entire data GD or the fields [data subsets] F”—redundantly across the network. *Id.* at col. 7 ll. 1–3, col. 7 l. 65–col. 8 l. 2. The system determines when and where to copy and store particular data as a function of predetermined data transmission parameters. *See, e.g., id.* at col. 2 ll. 21–27.

Representative claim 1 reads as follows:

1. A data management system comprising:
at least two data storage units;

at least one computer unit that stores at least one complete file, each file including a plurality of individual pieces, the pieces containing parts of the files, *wherein at least one piece is stored in a redundant manner in the at least two data storage units;*

a controller to enable data transmission between the data storage units and the computer unit;

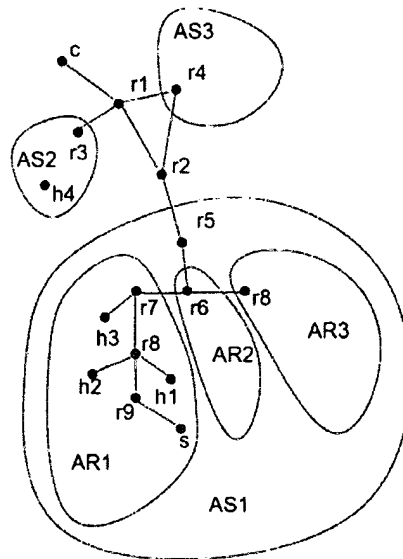
wherein at least one of the data storage units and computer unit measures a data transmission performance between at least one of the data storage units and the computer unit, *the at least one piece being stored by the computer unit in a redundant manner* in the data storage units as a function of the measured data transmission performance, and the computer unit accessing the at least one of the data storage units as a function of the measured data transmission performance; and

wherein at least one of the at least two data storage units measures a data transmission performance between at least two of the at least two data storage units and the *data storage units copy pieces that are redundantly stored in the system* from one of the data storage units to another of the data storage units *independently of an access of the computer unit* based on the data transmission performance measured between the data storage units.

(emphases added to indicate limitations relevant to the parties' disputes). Claim 2 depends from claim 1 and further recites that the data storage units and computer unit "are connected over a wireless network." Claims 4 and 6 depend from claims similar to claim 1 and likewise require connection over a wireless network.

II. Rabinovich

Amazon challenged the '680 patent in an IPR. It based its unpatentability arguments on a single prior art reference: "Dynamic Replication on the Internet," by Dr. Michael Rabinovich. See Michael Rabinovich, et al., AT&T Labs Research, *Dynamic Replication on the Internet* (1998) (J.A. 567-601). Figure 1 shows the Rabinovich system, which, as relevant here, includes both a client (c), which requests files, and hosts (h and s), which maintain those files and service client requests.



J.A. 573. To better manage client requests, Rabinovich defines an algorithm for making and placing file copies across hosts. Among other things, that algorithm considers both " $\text{cnt}(s, x_s)$," defined as the total number of requests for file x_s from a particular host (s) for a particular period of time, and " $\text{cnt}(E, x_s)$," defined as the number of times those requests for file x_s have passed an entity (E) as they pass from the client to host (s). J.A. 577-78.

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