

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERNARD JOSEPH BURG and CRAIG PETER SAYERS

Appeal 2007-1695
Application 10/418,835
Technology Center 2100

Decided: July 30, 2007

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-4, 6, 8-11, 13-16, and 18-20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

THE INVENTION

The disclosed invention relates generally to organizational charts. More particularly, the disclosed invention relates to visualization of organizational structures (Specification 1).

Independent claims 1, 6, 11, and 16 are illustrative:

1. A method comprising:
 - adding organization information to an organizational database, wherein organization information includes hierarchy, names, and titles of members of an organization;
 - adding overlay information to an information database, wherein the overlay information includes sales information and purchaser information;
 - constructing a list of relevant people from the overlay information, wherein relevant people include people who have been contacted or who have made a purchase;
 - constructing a list of relevant organizations from the organization information in the organizational database, wherein relevant organizations include at least one organization having a person from the constructed list of relevant people;
 - extracting an organizational subtree from the plurality of organizations that includes the relevant people from each relevant organization;
 - processing the organization information and the overlay information in a computer; and
 - displaying the organizational subtree with the overlay information overlaid thereon.

6. A method of visualizing organizational information for managing a meeting comprising:
 - obtaining organization information from an organization database, wherein the organization information includes names and titles of attendees to a meeting;
 - obtaining overlay information from an information database wherein the overlay information includes meeting information;
 - obtaining active information from an active environment, wherein the active information includes information obtained from the attendees of the meeting; and
 - processing the organization information, the overlay information, and the active information in a processing module to provide a visualization for managing the meeting.

11. An organizational visualization system comprising:
 - an organization database containing organization information;
 - an information database containing overlay information;
 - an interface module for connecting to an active environment to receive active information, wherein the interface module receives active information by linking with a portable user device as the portable user device enters the active environment;
 - a computer connected to the organization database and the information database for processing organization information, active information, and overlay information;
 - a presentation module connected to the computer; and

a display module connected to the presentation module to provide a visualization of the overlay information, the organization information, and the active information.

16. An organizational visualization system comprising:

an organization database containing organization information, wherein the organization database includes information about expected attendees to a meeting and information about attendees;

an information database containing overlay information, wherein the information database includes meeting information;

an active environment including a portable information device

an interface module for connection to the portable information device for obtaining active information from an active environment, wherein the interface module obtains attendee information from the attendees;

a processing module connected to the organization database, and the information database, and the interface module for processing the organization information, the overlay information, and the active information to provide organizational charting information;

a presentation module connected to the processing module to format the organizational charting information; and

a display module connected to the presentation module to provide a visualization of the affect of the active information on the organization information and the overlay information, wherein the display module includes a meeting display for providing a visualization for managing the meeting and a personal display for providing a visualization for the meeting and accessing the information about the attendees.

THE REFERENCES

Huemoeller	US 5,855,006	Dec. 29, 1998
Barnett	US 6,369,840 B1	Apr. 9, 2002

THE REJECTIONS

Claims 1-4, 6, and 8-10 stand rejected under 35 U.S.C. § 101 as being directed to non statutory subject matter.

Claims 1-4, 6, 8, 10, 11, 13, 15, 16, 18, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Huemoeller.¹

Claims 9, 14, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Huemoeller in view of Barnett.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for the respective details thereof.

35 U.S.C. § 101

We consider first the Examiner's rejection of claims 1-4, 6, and 8-10 as being directed to non statutory subject matter under 35 U.S.C. § 101.

Appellants argue that independent claim 1 does not recite a mathematical algorithm and does not preempt a mathematical principle. Appellants assert that the constructing steps of claim 1 are directed to useful,

¹ We note that the Examiner erroneously includes dependent claim 9 in the rejection heading on page 4 of the Answer as being unpatentable over Huemoeller. However, we find claim 9 is only rejected as being unpatentable over Huemoeller in view of Barnett (*See Answer 15*). We consider the inclusion of claim 9 in the rejection heading on page 4 of the Answer as a typographical error.

concrete, and tangible results. Appellants further argue that the step of displaying the organizational subtree recited in claim 1 is a useful, concrete, and tangible result (Br. 18-19).

Regarding independent claim 6, Appellants argue that the processing of various information and the subsequent visualization of the processed information (which is used to aid in the management of a meeting), is a tangible result. Appellants assert that the result is extremely useful because it allows various information to be processed, and a meeting to be conducted more effectively. Appellants conclude that the visualization is concrete and tangible because it results in the physical display of information (Br. 19).

The Examiner disagrees. The Examiner argues that the claimed invention sets forth functional descriptive material but fails to set forth physical structures or materials comprised of hardware (e.g., a computer), or a combination of hardware and software, within the technological arts to produce a “useful, concrete and tangible” result (Answer 19). The Examiner asserts that the methods of claims 1-4, 6, and 8-10 are directed to mental constructs and/or abstract ideas, or a computer program, per se. As such, the Examiner concludes that the claims are not limited to statutory subject matter and are therefore non-statutory.

With respect to independent claim 1, we note that the Board held in *Ex parte Lundgren*, 76 USPQ2d 1385 (BPAI 2005) (precedential) that there is no judicially recognized separate “technological arts” test to determine patent eligible subject matter under §101 (in part, because there is no way to determine what is meant by “technological”). *Id.* at 1388. We further note that claim 1 explicitly recites “a computer” that at least performs the recited

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step of “processing the organization information and the overlay information ...” (claim 1). We acknowledge that a claim is not directed to statutory subject matter just because it includes a machine. *See Gottschalk v. Benson*, 409 U.S. 63, 71-72, 175 USPQ 673, 675 (1972).² However, here we agree with Appellants that claim 1 is not directed to a mental construct and/or an abstract idea (i.e., a mathematical formula). Specifically, we agree that the step of displaying the organizational subtree recited in claim 1 is a useful, concrete, and tangible result. Therefore, we find the subject matter of instant claim 1 distinguishable from *Benson*’s computer-implemented formula for converting BCD numerals to pure binary numerals. We further find that the recited extraction and processing steps of claim 1 transform data. Our reviewing court has held that transformation of intangible subject matter (i.e., data or signals) by a computer may qualify as a § 101 process. *See State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998). Lastly, we agree with Appellants that claim 1 is not directed to a computer program, per se, because a computer is explicitly claimed. Therefore, we will reverse the Examiner’s rejection of claim 1 and associated dependent claims 2-4 as being directed to non statutory subject matter under 35 U.S.C. § 101.

² *See Benson*, 409 U.S. at 71-72, 175 USPQ at 675: “It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting BCD numerals to pure binary numerals were patented in this case. The mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.”

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However, with respect to independent claim 6, we do not agree with Appellants' assertion that the processing of "various information" and the subsequent "visualization" of the processed information is a tangible result (*see* Br. 19). Appellants contend that the recited "visualization" is concrete and tangible because it results in the physical display of information (*id.*). We disagree. We find no step of displaying information positively recited in claim 6. Indeed, no "physical display" of information is claimed (claim 6). Thus, we find the scope of the claimed "visualization" broadly but reasonably encompasses a mental construct and/or an abstract idea (e.g., "visualization" within one's mind). In addition, we note that claim 6 fails to recite a computer for performing the steps of the method. While claim 6 does recite a database, we find that the scope of the term "database" may broadly encompass a database of "information" in the abstract. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *In re Schrader*, 22 F.3d 290, 294-95, 30 USPQ2d 1455, 1458-59 (Fed. Cir. 1994).

In contrast, "when a claim containing [an abstract idea] implements or applies that [idea] in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101." *Diamond v. Diehr*, 450 U.S. 175, 192, 209 USPQ 1, 10 (1981); *see also Gottschalk v. Benson*, 409 U.S. 63, 70, 175 USPQ 673, 676 (1972) ("Transformation and reduction of

an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.”³

Here, we find no *physical transformation* of an article to a different state or thing. While claim 6 recites “processing the organization information, the overlay information, and the active information ...” We find no recitation in claim 6 of the processing step transforming the data, rather the claim merely recites visualizing the data.⁴ As discussed *supra* visualization is an abstract concept. Even if the visualization of data were construed as a transformation of data the claim would not be drawn to statutory subject matter as the language of the claim *does not require any machine or apparatus to perform the visualization*. We note that our reviewing court has found transformation of data by *a machine* constitutes statutory subject matter if the claimed invention as a whole accomplishes a practical application. That is, it must produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d 1368, 1373, 47 USPQ2d 1596 at 1600-02. We note that *State Street* required transformation of data by a *machine* before it applied the “useful, concrete, and tangible test.” However, *State Street* did not hold that a “useful, concrete and tangible result” alone, *without a machine*, is sufficient for statutory subject matter. *Id.* at 1373, 47 USPQ2d at 1601. Therefore, for at least the aforementioned reasons, we

³ The principal exception to this rule, as explained *supra*, is when the machine-implemented method merely manipulates abstractions. See *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77.

⁴ We note the recited steps of “obtaining organization information ... obtaining overlay information . . .”, and “obtaining active information” are

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will sustain the Examiner's rejection of claim 6 and associated dependent claims 8-10 as being directed to non statutory subject matter under 35 U.S.C. § 101.

Claims 1-4

We consider next the Examiner's rejection of claims 1-4 as being unpatentable over the teachings of Huemoeller. Since Appellants' arguments with respect to this rejection have treated these claims as a single group which stand or fall together, we will select independent claim 1 as the representative claim for this rejection. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Appellants argue, *inter alia*, that Huemoeller does not teach or suggest a system that performs the step of constructing a list of relevant people from sales information and purchase information (Br. 14).

The Examiner disagrees. The Examiner points out that Huemoller teaches a display produced when the user activates the "Contacts" tab, T4 (*see* Huemoeller, Fig. 10, col. 8, ll. 8-9). The Examiner notes the display comprises a window ("ABI") which comprises a listing of an "address book" (*see* Huemoeller, col. 8, ll. 9-11). The Examiner argues that since typical address books comprise relevant contacts, it is reasonable to interpret Huemoeller's address book of contacts as a list of people who are relevant. The Examiner points out that Huemoller teaches various embodiments including ticket information, as well as travel planning comprising airline

steps of gathering data. Therefore, these steps of obtaining information do not transform data (claim 6).

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flight scheduling and hotel information (*see* Huemoller col. 2, ll. 25-45). The Examiner contends that since the above typically involves buying and selling, it would have been obvious to the skilled artisan to use Huemoller's scheduling system to incorporate a listing of buyers and sellers (*see also* Huemoller, Fig. 19, which shows sales information from various organizations). The Examiner argues that since Huemoller's scheduling system mimics a physical scheduling book, it would have been obvious to keep track of the buying and selling of relevant people (*see e.g.*, Huemoller, i.e., Fig. 10 contains a "Notes" tab, which can include relevant information accordingly) (Answer 16-17).

After carefully considering the evidence before us, we find the Huemoeller reference does not fully support the Examiner's position. We note that the language of the claim requires a step of "constructing a list of relevant people from *the overlay information*, wherein relevant people include people who have been contacted or who have made a purchase" (claim 1, emphasis added). The language of claim 1 expressly requires that "the overlay information includes *sales information and purchaser information*" (*id.*). In particular, we note that the "sales" information the Examiner refers to in Fig. 19 is merely a listing of various ticket box offices where tickets may be purchased. In the rejection of claim 1, we find the Examiner merely sets forth a theory that such sales and purchase information would have been "reasonably inherent" to a person of ordinary skill in the art (*See* Answer 6, ¶ 1). Thus, we find no teaching and/or suggestion in Huemoeller of constructing a list of relevant people from overlay information that includes *both* sales information and purchaser information,

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as required by the language of the claim. Furthermore, Huemoeller's address book does not indicate whether listed individuals have made purchases or whether these individuals have actually been contacted (*See* Huemoeller, Fig. 10, col. 8, ll. 7-34). Therefore, we conclude that each element of the claim is not fairly taught or suggested by Huemoeller. Accordingly, we reverse the Examiner's rejection of claim 1 and associated dependent claims 2-4 as being unpatentable over Huemoeller. Significantly, we note that the limitation of "overlay information" that includes *both* sales information and purchaser information is not found in remaining independent claims 6, 11, and 16, as discussed *infra*.

Independent claim 6

We consider next the Examiner's rejection of independent claim 6 as being as being unpatentable over the teachings of Huemoeller.

Appellants argue that Huemoeller fails to teach or suggest the following limitations: (1) a method for visualizing information for managing a meeting, (2) obtaining information for attendees of a meeting, (3) obtaining active information from the attendees of the meeting, and (4) providing a visualization for managing the meeting (Br. 15-16).

We note again that claim 6 does not positively recite a computer or machine for performing the steps of the method. Indeed, we find claim 6 merely recites three steps of obtaining various types of "information" followed by a step of processing the obtained information to provide a "visualization" (claim 6). When we examine claim 6 to identify non-obvious structural and functional relationships between the descriptive

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material (i.e., information) and the substrate, we find no physical substrate explicitly claimed (e.g., a computer or computer-readable medium). We note that the recited “database” may be broadly read on a collection of data in the abstract, as discussed *supra*. Therefore, in considering the recited steps of obtaining and processing information, we give no patentable weight to the specific types of information recited in claim 6. Thus, we broadly construe the information recited in claim 6 as mere data (i.e., descriptive material in the abstract).

We note that descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” Exemplary “functional descriptive material” consists of data structures and computer programs, which impart functionality when employed as a computer component. In contrast, “nonfunctional descriptive material” includes but is not limited to music, literary works and a compilation or mere arrangement of data.

We acknowledge that the Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art. *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983). With respect to information in printed form, the PTO may not disregard claim limitations comprised of printed matter. *See Gulack*, 703 F.2d at 1384-85, 217 USPQ at 403; *see also Diamond v. Diehr*, 450 U.S. 175, 191, 209 USPQ 1, 10 (1981). However, the Examiner need not give patentable weight to descriptive material absent a new and unobvious functional relationship between the descriptive material and the substrate. *See In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir.

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1994); *In re Ngai*, 367 F.3d 1336, 1338, 70 USPQ2d 1862, 1863-64 (Fed. Cir. 2004). Thus, when the prior art describes all the claimed structural and functional relationships between the descriptive material and the substrate, but the prior art describes a different descriptive material than the claim, then the descriptive material is nonfunctional and will not be given any patentable weight. That is, such a scenario presents no new and unobvious functional relationship between the descriptive material and the substrate.

Here, because there is no well defined substrate (i.e., a computer, or computer-readable medium), we find the claim merely recites manipulations of data in the abstract (*See* our discussion of claim 6 with respect to 35 U.S.C. ¶ 101, *supra*). Therefore, we find no new and unobvious functional relationship between the descriptive material (i.e., information) and a substrate in claim 6.

We further find Huemoeller teaches and/or suggests argued limitations (1) and (4), i.e., a method for visualizing information (*see e.g.*, the new appointment description displayed in the window shown in Fig. 4) for managing a meeting (e.g., a start time and an end time, as shown in Fig. 4). We also find Huemoeller teaches and/or suggests argued limitations (2) and (3), i.e., obtaining active information associated with attendees of the meeting, as shown in Figs. 10-13. (*See also* Huemoeller, col. 8, lines 7-44). Therefore, for all of the aforementioned reasons, we will sustain the Examiner's rejection of independent claim 6 as being unpatentable over the teachings of Huemoeller.

Dependent claims 8-10

Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 8-10. In the absence of a separate argument with respect to the dependent claims, those claims stand or fall with the representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004). Therefore, we will sustain the Examiner's rejection of claims 8 and 10 as being unpatentable over the teachings of Huemoeller, and we will sustain the Examiner's rejection of claim 9 as being unpatentable over the teachings of Huemoeller in view of Barnett for the same reasons discussed *supra* with respect to independent claim 6.

Independent claim 11

We consider next the Examiner's rejection of independent claim 11 as being as being unpatentable over the teachings of Huemoeller.

Appellants argue that Huemoeller fails to teach or suggest the following limitations: (1) an interface module for connecting to an active environment to receive active information, wherein the interface module receives active information by linking with a portable user device as the portable user device enters the active environment, and (2) a portable device (or interfacing with a portable device) to receive information for an active environment (Br. 16-17).

We begin our analysis by looking to the Specification for *context*. We find Appellants have defined the recited term "active environment" with broad, sweeping scope, as follows:

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An active environment 101 may be defined as one in which people, places, and things are citizens of a connected wired and wireless world where e-services meet the physical world in which humans are mobile, devices and services are federated and context aware, and everything has a web presence. The active environment 101 may include computer agents that act for and represent a user in a web-connected world.

(Specification 3, ll. 10-14).

Thus, we find the scope of the instant claimed “active environment” broadly but reasonably encompasses Huemoeller’s laptop computer (i.e., a portable device) as connected to the Internet (*See* Huemoeller, col. 2, l. 57, i.e., “Internet on-line service”; *see also* col. 4, l. 5, i.e., “laptop computers”). We find the recited term “active information” broadly but reasonably reads on *any information*, as the term “active information” is not defined within the Specification, nor is a definition for this term argued by Appellants in the Briefs. We further find that accessing information from a laptop computer (i.e., a portable device) necessarily (i.e., inherently) requires software (i.e., an interface module) to retrieve the information from computer storage. Because we find the weight of the evidence supports the Examiner’s position, we will sustain the Examiner’s rejection of independent claim 11 as being unpatentable over the teachings of Huemoeller.

Dependent claims 13-15

Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 13-15. In the absence of a separate argument with respect to the dependent claims, those claims stand or fall with the representative independent claim. *See In re Young*, 927 F.2d

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at 590, 18 USPQ2d at 1091. *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004). Therefore, we will sustain the Examiner's rejection of claims 13 and 15 as being unpatentable over the teachings of Huemoeller, and we will sustain the Examiner's rejection of claim 14 as being unpatentable over the teachings of Huemoeller in view of Barnett for the same reasons discussed *supra* with respect to independent claim 11.

Independent claim 16

We consider the Examiner's rejection of independent claim 16 as being as being unpatentable over the teachings of Huemoeller.

Appellants argue that Huemoeller fails to teach or suggest the following limitations: (1) an organizational database including information for expected attendees to a meeting, (2), an interface module for obtaining active information from a portable device, and (3) a display module including a meeting display for providing a visualization for managing the meeting and a personal display for providing a visualization for the meeting and accessing the information about the attendees (Br. 17).

We disagree. Specifically, we find Huemoeller teaches and/or suggests an organizational database including information for expected attendees to a meeting where the sports spectators correspond to the recited "expected attendees" and where the scheduling of a game corresponds to the recited "meeting," as pointed out by the Examiner (*See Answer 18*). We further find the listing of manager names and positions shown in Fig. 18 necessarily (i.e., inherently) requires data storage (i.e., a database) for retrieval by the user.

We also agree with the Examiner that Huemoeller reasonably suggests an interface module for obtaining active information from a portable device (*see* Huemoeller col. 4, l. 5, i.e., “laptop computers”). As discussed *supra* with respect to independent claim 11, we find the recited term “active information” broadly but reasonably reads on *any information*, as the term “active information” is not defined within the Specification, nor is a definition for this term argued by Appellants in the Briefs. We again find that accessing information from a laptop computer (i.e., a portable device) necessarily (i.e., inherently) requires software (i.e., an interface module) to retrieve the information from computer storage. Finally, we agree with the Examiner that Huemoeller teaches and/or suggests a display module including a meeting display (*see* e.g., the new appointment description displayed in the window shown in Fig. 4) for providing a visualization for managing a meeting (e.g., a start time and an end time, as shown in Fig. 4), and a personal display for providing a visualization for the meeting and accessing information about the attendees, as shown in Figs. 10-13. (*See also* associated description, Huemoeller, col. 8, lines 7-44). Because we find the weight of the evidence supports the Examiner’s position, we will sustain the Examiner’s rejection of independent claim 16 as being unpatentable over the teachings of Huemoeller.

Dependent claims 18-20

Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 18-20. In the absence of a separate argument with respect to the dependent claims, those claims stand

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or fall with the representative independent claim. *See In re Young*, 927 F.2d at 590, 18 USPQ2d at 1091. *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004). Therefore, we will sustain the Examiner's rejection of claims 18 and 20 as being unpatentable over the teachings of Huemoeller, and we will sustain the Examiner's rejection of claim 19 as being unpatentable over the teachings of Huemoeller in view of Barnett for the same reasons discussed *supra* with respect to independent claim 16.

CONCLUSION

We have sustained the Examiner's rejections of claims 6, 8-11, 13-16, and 18-20 over the cited prior art, but we have reversed the Examiner's art rejections of claims 1-4. We have sustained the Examiner's rejection under 35 U.S.C. § 101 for claims 6, and 8-10, but we have reversed the Examiner's rejection under 35 U.S.C. § 101 for claims 1-4. Therefore, the decision of the Examiner rejecting claims 1-4, 6, 8-11, 13-16, and 18-20 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

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AFFIRMED-IN-PART

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