

United States Court of Appeals for the Federal Circuit

02-1137, -1138

ALTIRIS, INC.,

Plaintiff-Appellant,

v.

SYMANTEC CORPORATION,

Defendant-Cross Appellant.

C. Kevin Speirs, Parsons Behle & Latimer, of Salt Lake City, Utah, argued for plaintiff-appellant.

Robert T. Haslam, Heller Ehrman White & McAuliffe LLP, of Menlo Park, California, argued for defendant-cross appellant. With him on the brief were Robert D. Fram and Sarah Elizabeth Mitchell, Heller Ehrman White & McAuliffe LLP, of San Francisco, California.

Appealed from: United States District Court for the District of Utah

Judge Dale A. Kimball

United States Court of Appeals for the Federal Circuit

02-1137, -1138

ALTIRIS, INC.,

Plaintiff-Appellant,

v.

SYMANTEC CORP.,

Defendant-Cross Appellant.

DECIDED: February 12, 2003

Before MICHEL, LOURIE, and LINN, Circuit Judges.

MICHEL, Circuit Judge.

Plaintiff-appellant Altiris, Inc. (“Altiris”) appeals the grant on October 9, 2001 of summary judgment of noninfringement of Altiris' United States Patent No. 5,764,593 (“the '593 Patent”) by the United States District Court for the District of Utah. Altiris, Inc. v. Symantec Corp., No. 2:99CV 0013K (D. Utah Oct. 9, 2001). Because the trial court erred in the construction of each of the five claim limitations giving rise to the grant of summary judgment, we vacate and remand for a determination of infringement under the correct constructions as set forth herein. In addition, because the trial court also erred in the construction of another limitation challenged before us by defendant-cross appellant Symantec Corp. (“Symantec”), we also overturn that construction, as it too may be relevant to the remand determination of infringement. As to the construction appellant Altiris challenges, although it did not form the basis of the summary judgment, we affirm, for it too may be germane on remand.

I.

Altiris' '593 patent claims a method for intercepting and controlling the boot process of a digital computer and a digital computer system programmed to perform that method. The technology claimed by the '593 patent is used in a computer network, which is a group of computers connected through "communications links" and typically managed by a "server computer." The invention of the '593 patent is the use of software to allow a network administrator working from the network server to remotely access individual network computers as they are booted in order to, for example, update or install software. Prior to the '593 patent, this could only be accomplished through the serial installation of hardware -- called a "BootROM" -- on each individual computer in the network. This was time-consuming and costly.

Booting is the process of starting or resetting a computer. The computer boot process on a typical IBM-compatible computer using either a DOS or Windows operating system proceeds as follows.^[1] When the computer is first turned on, it loads and executes the "Basic Input/Output System" ("BIOS"). The BIOS transfers control to a "boot loader" that loads the first sector of the first track of the hard drive. This sector contains a software program, the Master Boot Record ("MBR"), that controls the computer until it loads the operating system. The MBR contains a small database called a "partition table" that specifies the location and type of partitions on the disk.^[2] The MBR examines the partition table to determine which of the partitions to load and execute. The computer code, including the operating system, in the partition identified as "bootable" by the MBR is then loaded. After that code is loaded and executed, the computer is "booted" and ready for operation by the user.

The method described by the '593 patent interrupts this normal booting process and puts the computer through an alternate "automation" boot sequence. As described in the specification, the preferred embodiment accomplishes this through the use of a customized MBR. The partition table in this MBR contains a special flag system, the "boot selection flag." Unlike the normal MBR, this customized MBR tests the contents of this "boot selection flag" to determine whether the computer should load and execute an "automation partition" rather than

the normal operating partition (as described in the preceding paragraph). If the test of the "boot selection flag" indicates the alternative boot, the automation partition code is loaded and it links the computer to the network server and a specialized "Bootwork routine" runs. The "Bootwork routine" examines a database on the server to determine whether there are any automation commands (e.g., to install or update software) to be executed on the individual computer. If there are automation commands to be executed, those commands are executed on the individual computer. Following execution of the automation commands (or if there are no such commands specified), the "boot selection flag" is reset to indicate that a normal boot should take place. During this second boot the MBR detects the normal setting of the "boot selection flag" and loads and executes the normal partition. The MBR also resets the "boot selection flag" to indicate an automation boot is to occur the next time the computer is rebooted. As a result, the automation partition always gains control of the normal operating system when the computer is turned on or rebooted.

In January 1999, Altiris sued Symantec for infringement of the '593 patent. On August 13, 2001, after a two-day Markman hearing, the court issued an order construing the claim limitations at issue. Altiris, Inc. v. Symantec Corp., 160 F. Supp. 2d 1274 (D. Utah 2001). There are twelve claims in the '593 patent (independent claims 1 and 8, dependent claims 2-7, 9-12). On appeal, only the construction of certain limitations of claims 1 and 8 is at issue.

Claim 1 reads (disputed claim language underlined):

A method for gaining control of a computer prior to the normal boot sequence operating on a digital computer system, said digital computer system including:

means for storing data;

means for processing data;

means for connecting said digital computer system to an external source of commands;

means for displaying data; and

means for inputting data;

the method comprising:

testing automatically for automation boot sequence data, said test including reading a boot selection flag and comparing said boot selection flag with a known flag setting;

transferring control of said computer system to automation code, if said testing automatically step indicates an automation boot sequence;

executing a control process for said means for connecting said digital computer system to an external source of commands, if said testing automatically step indicates an automation boot sequence;

performing said external commands, if said testing automatically step indicates an automation boot sequence;

setting said boot selection flag; and

booting normally, if said testing automatically step indicates a normal boot sequence.

'593 patent, col. 195, lines 1-29. As relevant to this appeal, the court made the following constructions of claim 1: (1) the “setting” step must occur after the “testing automatically” step and before the “booting normally” step; (2) the preamble is a limitation that requires the

“setting” step to be performed prior to the “booting normally” step; (3) the “boot selection flag” is the system ID byte of the first partition; (4) “automation boot sequence data” is a particular value assigned to the system ID byte of the first partition which indicates to the custom boot loader that the computer should boot in automation mode; (5) “automation code” is the code in the automation partition that loads an operating system, local area network (“LAN”) drivers for the resident network interface card (“NIC”), and a program for reading a database on the network server to ascertain the automation commands to be executed; and (6) “means for connecting” does not include an NIC with a “BootROM.”

Claim 8 reads (disputed terms underlined):

A digital computer system programmed to perform the method of gaining control of the boot procedure of a digital computer, said digital computer comprising:

- (A) a central processing unit;
- (B) a memory unit;
- (C) a long term storage device; and
- (D) a means of booting said computer, said means of booting including a first set of commands, said first set of commands resident on said storage device of said digital computer for booting said digital computer, and a second set of commands, said second set of commands resident on a storage device external to said digital computer, for booting said digital computer,

the method comprising:

testing automatically for source of said means of booting; said testing including reading a boot selection flag and comparing said boot selection flag with a known flag setting;

transferring control of said computer system to said source of said means of booting;

performing said external commands, if said testing automatically step indicates a boot sequence stored externally to said digital computer;

setting said boot selection flag; and

booting normally, if said testing automatically step indicates a boot sequence stored internal to said digital computer.

'593 Patent, col. 196, lines 13-40. Two of the court's constructions of terms in claim 8 are relevant on this appeal. The first is that the order of the steps must take place in the same order as the steps in claim 1. The second is "means of booting," which the court construed as a means-plus-function limitation and for which the court identified the corresponding structures as the software programs for booting described in the specification.

After the court's construction of the disputed limitations, the parties stipulated to Symantec's noninfringement of the '593 patent. Specifically, the parties stipulated that the accused Symantec products do not satisfy four limitations of claim 1: (1) the required order of steps, (2) the preamble phrase "gaining control of a computer prior to the normal boot sequence," (3) the steps that contain the phrase "boot selection flag," and (4) the "testing automatically" step containing the phrase "automation boot sequence data." The parties also stipulated that the accused Symantec products do not meet three limitations of claim 8: (1) the required order of steps, (2) the steps that contain the phrase "boot selection flag," and (3) the limitation beginning with the phrase "means of booting." Based upon these stipulations, on October 9, 2001, the court granted summary judgment of noninfringement. A timely appeal

followed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a).

On appeal, Altiris challenges the court's construction of: (1) the required order of steps in claims 1 and 8; (2) the preamble of claim 1; (3) "boot selection flag" in claims 1 and 8; (4) "automated boot sequence data" in claim 1; (5) "automation code" in claim 1; and (6) "means of booting" in claim 8. All but the construction of "automation code" in claim 1 formed the basis of the stipulated summary judgment. On cross-appeal, Symantec argues that the court erred in construing "means for connecting" in claim 1.

II.

Where, as here, noninfringement is conceded by stipulation, we need only address the district court's construction of the claims. Claim construction is an issue of law that we review *de novo*. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (*en banc*).

When construing the claims, we begin with an examination of the intrinsic evidence, *i.e.*, the claims, the other portions of the specification, and the prosecution history (if any, and if in evidence). Gart v. Logitech, Inc., 254 F.3d 1334, 1339, 59 USPQ2d 1290, 1293-94 (Fed. Cir. 2001). Additionally, dictionary definitions may be consulted in establishing a claim term's ordinary meaning. Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202, 64 USPQ2d 1813, 1818 (Fed. Cir. 2002). In analyzing the intrinsic evidence, we start with the language of the claims and engage in a "heavy presumption" that claim terms carry their ordinary meaning as viewed by one of ordinary skill in the art. CCS Fitness Inc. v. Brunswick Corp., 288 F.3d 1359, 1366, 62 USPQ2d 1658, 1662 (Fed. Cir. 2001). Courts may also review extrinsic evidence, always to assist them in comprehending the technology in accordance with the understanding of skilled artisans and as necessary for actual claim construction. Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1309, 51 USPQ2d 1161, 1168 (Fed. Cir. 1999). Extrinsic evidence may never be relied upon, however, to vary or contradict the clear meaning of terms in the claims. Markman v. Westview Instruments, Inc., 52 F.3d 967, 981, 34

USPQ2d 1321, 1331 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996).

A. Order of the Steps in Claims 1 and 8.

The district court held that, even though the claims did not recite a specific order, the “setting” step must occur after the “testing automatically” step and before the “booting normally” step. The district court so concluded because the “specification consistently indicates that the ‘setting’ step must precede the ‘booting normally’ step.” Altiris, 160 F. Supp. 2d at 1282-83. Altiris argues that the “setting” step can occur before, after, simultaneously with, or between any of the other steps, because the plain meaning of the language of the claims imposes no order. Essentially, Altiris argues the district court ran afoul of our prohibition against importing a limitation from the specification into the claims -- here the order of steps used by the sole, preferred embodiment. We agree.

The district court’s conclusion was based, in part, on its understanding of our decision in Interactive Gift Express, Inc. v. CompuServe Inc., 256 F.3d 1323, 59 USPQ2d 1401 (Fed. Cir. 2000). In Interactive Gift we stated: “Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one. However, such a result can ensue when the method steps implicitly require that they be performed in the order written. In this case, nothing in the claim or the specification directly or implicitly requires such a narrow construction.” Id. at 1342-43, 59 USPQ2d at 1416 (citations omitted). This is the proper standard to apply, but as with much of our case law on claim construction, careless application of so ambivalent a standard can be a recipe for error. The proper application here of that standard becomes clear only upon a close look at our related precedent.

Interactive Gift recites a two-part test for determining if the steps of a method claim that do not otherwise recite an order, must nonetheless be performed in the order in which they are written. Id. First, we look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written. Id. at 1343, 59 USPQ2d at 1416. For example, in Loral Fairchild Corp. v. Sony Electronics Corp., 181 F.3d 1313, 1321, 50 USPQ2d

1865, 1870 (Fed. Cir. 1999), we held that the claim language itself indicated that the steps had to be performed in their written order because the second step required the alignment of a second structure with a first structure formed by the prior step. See also Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc., 152 F.3d 1368, 1375-76, 47 USPQ2d 1732, 1739 (Fed. Cir. 1998) (holding that the steps of a method claim had to be performed in their written order because each subsequent step referenced something logically indicating the prior step had been performed). If not, we next look to the rest of the specification to determine whether it “directly or implicitly requires such a narrow construction.” Interactive Gift, 256 F.3d at 1343, 59 USPQ2d at 1416. If not, the sequence in which such steps are written is not a requirement.

The appropriate use of the rest of the specification in claim construction has not always been clear. Several recent cases, however, have clarified the subject. In Texas Digital, we noted that the specification may be useful in determining a claim term’s ordinary meaning where a dictionary has been consulted but it becomes necessary to choose between multiple definitions. 308 F.3d at 1203, 64 USPQ2d at 1819. In CCS Fitness, we discussed, more generally the use of the specification to rebut the presumption that a claim term carries its ordinary meaning:

First, the claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history. Second, a claim term will not carry its ordinary meaning if the intrinsic evidence shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention. Third . . . a claim term also will not have its ordinary meaning if the term “chosen by the patentee so deprives the claim of clarity” as to require resort to the other intrinsic evidence for a definite meaning. Last, as a matter of statutory authority, a claim term will cover nothing more than the

corresponding structure or step disclosed in the specification, as well as equivalents thereto, if the patentee phrased the claim in step- or means-plus-function format.

288 F.3d at 1366-67, 62 USPQ2d at 1662-63 (citations omitted). Essentially then, “claim terms take on their ordinary and accustomed meanings unless the patentee demonstrated an intent to deviate from [that meaning].” Teleflex, Inc. v. FICOSA N. Am. Corp., 299 F.3d 1313, 1327, 63 USPQ2d 1374, 1382 (Fed. Cir. 2002). It follows from that proposition that “the number of embodiments disclosed in the specification is not determinative of the meaning of disputed claim terms.” Id. Nor are claims ordinarily limited in scope to the preferred embodiment. These principles apply with equal force where, as is the case here, the limitation to be imported from the specification is an order of method steps, rather than a limitation on a specific claim term.

In the case before us, nothing in the intrinsic evidence indicates that the “setting” step must be performed before the “booting normally” step. Beginning with the claim language, it neither grammatically nor logically indicates that the “setting” step must occur in a particular order compared to the other steps. The only order mandated by the claim language is the conditional language in several of the steps, indicating that they must be performed after the “testing” step.

Looking next to the written description, it clearly only discusses a single “preferred” embodiment in which the “setting” step occurs after the “testing” step and before the “booting normally” step. Nowhere, however, is there any statement that this order is important, any disclaimer of any other order of steps, or any prosecution history indicating a surrender of any other order of steps. Symantec makes much of the specification’s multiple statements regarding the invention “gaining control” before the computer boots normally. For example, in the “Object of the Invention” section, the patent states: “It is a further object of this invention to

provide a method gaining control of a networked computer prior to the ‘normal’ boot procedure.” ‘593 patent, col. 3, lines 20-22. While this is true, it is clear from the expert testimony at the Markman hearing that one of ordinary skill in the art would understand that the stated purpose could be achieved without performing the “setting” step prior to the “booting normally” step. Both experts indeed testified that it was technologically possible to achieve the invention’s purpose by performing the “setting” step before, during, or after the “booting normally” step. In this regard, the expert testimony serves the permissible purposes of aiding our understanding of the technology and in helping us view the patent through the eyes of the skilled artisan. See Pitney Bowes, 182 F.3d at 1309, 51 USPQ2d at 1168.

For all the reasons stated above, we conclude that the court erred in construing the method claims as requiring the “setting” step to occur prior to the “booting normally” step. Instead, we construe the claims as allowing the “setting” step to occur at any time.

B. Preamble of Claim 1.

The district court also construed the preamble to be a limitation on the claims because it “provides information about when the method steps are to be performed in accordance with the invention that is not otherwise described in the method steps of the claim.” Altiris, 160 F. Supp. 2d at 1284. As construed by the court, the preamble language “gaining control prior to the normal boot sequence” requires the “setting” step to come before the “booting normally” step. Id. The court based this conclusion on the same statements in the specification mentioned above.

Altiris argues that the court improperly used the preamble as a limitation because it only summarizes the requirement of the claims that the “testing” step be performed before the “booting normally” step. We agree. “It is well settled that if the body of the claim sets out the complete invention, and the preamble is not necessary to give life, meaning and vitality to the claim, then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation.” Schumer v. Lab. Computer Sys., Inc., 308 F.3d

1304, 1310, 64 USPQ2d 1832, 1837 (Fed. Cir. 2002) (citations and internal quotation marks omitted). “Whether a preamble stating the purpose and context of the invention constitutes a limitation of the claimed process is determined on the facts of each case in light of the overall form of the claim, and the invention as described in the specification and illuminated in the prosecution history.” Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc., 98 F.3d 1563, 1572-73, 40 USPQ2d 1481, 1488 (Fed. Cir. 1996).

Applying these principles, we hold that the preamble is not a limitation dictating the order of the steps. In light of our determination above that “gaining control prior to the normal boot sequence” can be accomplished even if the “setting” step is not performed prior to the “booting normally” step, we share Altiris’ view that the preamble does not require the “setting” step to be performed in any particular order. Thus, under this proper view of “gaining control prior to the normal boot sequence,” the preamble merely recites a purpose of the invention and does not add anything to the body of the claims. The body of the claims, by using conditional language in the “booting normally” step (“if said testing step indicates a normal boot sequence”) indicates that the “testing” step must occur before the computer boots normally. It is the result of this “testing” step that determines whether the automation boot sequence, and thus the “transferring control” step, occurs, or whether the “booting normally” step occurs. Thus, because the claim language indicates that the “testing” step always occurs prior to the “booting normally” step and also that the “testing” step determines whether the automation boot sequence occurs, the body of the claim itself indicates that the invention will “gain[] control prior to the normal boot sequence.” Thus, the court erred in holding the preamble to be necessary to and hence a limitation on the claim.

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C. “Boot Selection Flag”.

The district court held that “boot selection flag” means the system ID byte of the first partition because: (1) “it is not a phrase commonly used in the computer industry”; (2) “[t]he patent does not give a clear indication that anything other than the system ID byte could be used as the boot selection flag”; and (3) “the singular form of flag is used in both the claim and the specification.” Altiris, 160 F. Supp. 2d at 1285-86. Altiris argues that the court erred in not considering the meaning of the individual words and also in limiting the claim to the preferred embodiment. Again, we agree.

The court committed two errors here. First, simply because a phrase as a whole lacks a common meaning does not compel a court to abandon its quest for a common meaning and disregard the established meanings of the individual words. See Tex. Digital, 308 F.3d at 1206, 64 USPQ2d at 1821 (construing “repeatedly substantially simultaneously activating”); Hockerson-Halbertstadt, Inc. v. Avia Group Int’l, Inc., 222 F.3d 951, 955, 55 USPQ2d 1487, 1490 (Fed. Cir. 2000) (construing “central longitudinal groove”); K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1363, 52 USPQ2d 1001, 1004 (Fed. Cir. 1999) (construing “permanently affixed”). As we stated above, resort to the rest of the specification to define a claim term is only appropriate in limited circumstances. Here, the district court seems to have applied the maxim that looking to the specification is necessary where “the [phrase] chosen by the patentee so deprives the claim of clarity as to require resort to the other intrinsic evidence for a definite meaning.” CCS Fitness, 288 F.3d at 1366-67, 62 USPQ2d at 1663 (citing Johnson Worldwide Assocs. v. Zebco Corp., 175 F.3d 985, 990, 50 USPQ2d 1607, 1610 (Fed. Cir. 1999); Gart, 254 F.3d at 1341, 59 USPQ2d at 1295 (internal quotation marks omitted)). This is not the case here because the other words (“boot” and “selection”) quite clearly are descriptive modifiers of “flag,” a term that does have a common meaning in the art. Second, also as noted above, merely because the specification only describes one embodiment is not a sufficient reason to limit the claims to that embodiment. Again, here the specification gives no reason to interpret the limitation so narrowly. Nor is there any prosecution history to narrow the interpretation of the phrase. The preferred embodiment simply identifies the system ID byte as

the preferred “boot selection flag.”

The two decisions relied on by the district court are inapposite. We held in Toro Co. v. White Consolidated Industries, Inc., 199 F.3d 1295, 1302, 53 USPQ2d 1065, 1070 (Fed Cir. 1999), that the limitation “said cover including means for increasing the pressure,” as used in a patent claiming a hand-held vacuum/blower, meant the cover had to have the “restriction ring” physically attached to it. We so limited the claims because the specification described the “unitary structure” between the cover and the ring as “important to the invention.” Id. at 1301, 53 USPQ2d at 1069. Toro is not dispositive here because, as we noted above, there is no such statement of importance present in the specification of the '593 patent.

In Wang Laboratories, Inc. v. America Online, Inc., 197 F.3d 1377, 1381, 53 USPQ2d 1161, 1163 (Fed. Cir. 1999), the parties agreed that in general usage the claim term “frame” could be applied both to “bit-mapped display systems” and to “character-based systems.” The court, however, construed the claims as limited to character-based systems. The court noted that the “only system that is described and enabled” in the patent specification “uses a character-based protocol,” and that the specification’s references to bit-mapped protocols did “not describe them as included in the applicant’s invention, and that the specification would not be so understood by a person skilled in the field of the invention.” Id. at 1382, 53 USPQ2d at 1164. Importantly for our analysis, the inventors disclaimed the broader construction in a statement during prosecution. Id. at 1383-84, 53 USPQ2d at 1165-66. Again this case is distinguishable, as the claims of the '593 patent were neither amended, nor was a broader construction disclaimed by argument during prosecution.

Because we conclude the district court’s construction was erroneous, we must now construe the limitation. To this end, Altiris points to a technical dictionary defining “flag” as:

a marker of some type used by a computer in processing or interpreting information; a signal indicating the existence or status of a particular condition. . .

. [A] flag can be a code, embedded in data, that identifies some condition, or it

can be one or more bits set internally by hardware or software to indicate an event . . .

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Microsoft Press Computer Dictionary (3d ed.). Based upon this definition, Altiris argues that a “flag” can be one or more bits of data or information that act as a signal or marker to identify a status, a condition, or an event. A “boot selection flag” then, Altiris asserts, is one or more bits of data or information indicating which boot cycle (automation or normal) has been selected. We agree. Indeed, these particular arguments are unchallenged in this appeal.

The parties do, however, dispute whether the limitation can properly be construed to read on a system using more than one “boot selection flag.” The parties agree that “a” generally means “one or more” in open-ended claims such as those at issue here. KCJ Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356, 55 USPQ2d 1835, 1839 (Fed. Cir. 2000). Symantec, however, contends that this general rule does not apply here because the sole embodiment described in the patent uses a single flag. Once again, however, there are no statements in the specification or the prosecution history inviting, much less requiring, us to limit the claims to the only disclosed embodiment. This is merely another attempt to limit the invention to the preferred embodiment. We therefore hold that “boot selection flag” encompasses the use of multiple flags to select the boot cycle.

D. “Automated Boot Sequence Data”.

The district court determined first that “automation boot sequence data” is “something that indicates that the computer should boot in automation mode.” Altiris, 160 F. Supp. 2d at 1287. From this, and its construction of “boot selection flag,” the court held that “automation boot sequence data” is “a particular value assigned to the system ID byte of the first partition which indicates to the custom boot loader that the computer should boot in automation mode.” Id. The court based its conclusion on the context provided by the surrounding claim language and its construction of “boot selection flag.” Id. Although Altiris agrees that the “automation

boot sequence data” indicates that the computer should boot in automation mode, it disagrees with the court’s interpretation that it must be “a particular value assigned to the system ID byte.” Once again, Altiris argues that the court erred by limiting its construction to the preferred embodiment. Again, we agree.

There is no support in the specification for the court’s narrow construction. Indeed, “automation boot sequence data” is not even mentioned in the written description. Thus, given our construction of “boot selection flag,” we hold the proper construction of “automation boot sequence data” is the one or more bits of data or information in a boot selection flag that indicates that the computer should boot in automation mode.

E. “Automation Code” (Non-germane to the Summary Judgment Grant).

The district court held that “automation code” “means the code in the automation partition which loads an operating system, LAN drivers for the resident NIC, and a program for reading a database on the network server to ascertain the automation commands to be executed.” *Altiris*, 160 F. Supp. 2d at 1288. The court reached this decision because “this phrase is not commonly used in the industry and the claim language is not clear” and because its construction is what an “ordinary person in the field would understand the phrase to mean based upon the information and embodiment contained in the claim specification.” *Id.* Once again Altiris argues the court erred by limiting its construction to the preferred embodiment. Altiris argues that the claim language defines “automation code” as any booting code separate from the normal booting code that can boot the computer without manual intervention. Symantec argues this construction is so broad as to be meaningless.

We think the trial court correctly construed this limitation. As we stated earlier, the lack of a common meaning of a phrase as a whole does not permit the court to define a term based upon its use in the preferred embodiment or elsewhere in the specification. Here, however, unlike with our analysis of “boot selection flag,” a look at the individual words in the phrase is also unhelpful. “Automation” is defined as “making an apparatus, a process, or a system

operate automatically.” Webster’s Ninth New Collegiate Dictionary (1987). It follows that “automation code” is that code which boots the system “automatically.” Altiris argues that this indicates that the “automation code” is any code other than the normal booting code for booting the computer without manual intervention. This is far from a clear definition. Indeed, it is so broad as to lack significant meaning. The surrounding claim language is similarly unhelpful. The limitation appears only once in claim 1: “transferring control of said computer system to automation code” This use tells us nothing about what the “automation code” is; it only states that control is transferred to it from the normal booting code. The surrounding limitations mention an “external source of commands” but do not describe what those commands are. Indeed, the claim language indicates only that the “automation code” is located externally and is used to boot the computer in automation mode. Thus, we conclude that here the patentee chose a phrase that “so deprives the claim of clarity as to require resort to the other intrinsic evidence for a definite meaning.” CCS Fitness, 288 F.3d at 1366-67, 62 USPQ2d at 1663 (citing Johnson Worldwide, 175 F.3d at 990, 50 USPQ2d at 1610; Gart, 254 F.3d at 1341, 59 USPQ2d at 1295 (internal quotation marks omitted)).

A look at the specification demonstrates the correctness of the district court’s construction. Because here the patentee has made only a limited disclosure, the only other intrinsic evidence we can consult is the description of the preferred embodiment. That description references an “automation partition on the hard disk populated with a common operating system (such as PC DOS), LAN drivers for the NIC, and a program for reading a database on the network server to ascertain the automation commands to be executed.” ’593 patent, col. 3, lines 50-55; see also id. at col. 6, lines 6-13. Therefore, the court did not err by looking to that description to define an otherwise unclear claim limitation. We affirm the district court’s construction of “automation code.”

F. Means-Plus-Function Limitations.

Section 112, paragraph 6, provides that:

An element of a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6 (2000). Where a claim uses the word “means” to describe a limitation, we presume “that the inventor used the term advisedly to invoke the statutory mandates for means-plus-function clauses.” Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427, 44 USPQ2d 1103, 1109 (Fed. Cir. 1997) (citation omitted). This presumption can be rebutted where the claim, in addition to the functional language, recites structure sufficient to perform the claimed function in its entirety. Id. at 1427-28, 44 USPQ2d at 1109. Once the court has concluded the claim limitation is a means-plus-function limitation, the court must first identify the function of the limitation. Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1258, 52 USPQ2d 1258, 1263 (Fed. Cir. 1999). The court next ascertains the corresponding structure in the written description that is necessary to perform that function. Id. “Structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” B. Braun Med. v. Abbott Labs., 124 F.3d 1419, 1424, 43 USPQ2d 1896, 1900 (Fed. Cir. 1997).

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1. “means of booting”

The fourth step of claim 8 reads:

a means of booting said digital computer, said means of booting including a first set of commands, said first set of commands resident on said storage device of said digital computer for booting said digital computer, and a second set of commands resident on a storage device external to said digital computer for booting said digital computer.

'593 patent, col. 196, lines 19-25. The district court concluded that this was a means-plus-function limitation because “the language referring to two sets of commands states only the location of the commands and is insufficient to define the structure that performs the function of booting.” Altiris, 160 F. Supp. 2d at 1288. Altiris argues the recitation of the first and second set of commands is sufficient structure. Altiris reasons that “commands” are structure in the form of software that will boot the computer. We disagree.

Although “commands” represent structure (in the form of software), it is not sufficient structure to perform the entirety of the function. The claim language uses “including” -- an open term -- which suggests that the two sets of “commands” are not sufficient structure; rather, something else is needed. In addition, the claim only recites “commands . . . for booting” and states a location. This is really a restatement of “means of booting”; the commands are still described solely in functional terms and one must still refer to the specification to determine the structure of those “means” or “commands.” In the cases where we have found sufficient structure in the claims, the claim language specifies a specific physical structure that performs the function. Envirco Corp. v. Clestra Cleanroom, Inc., 209 F.3d 1360, 1365, 54 USPQ2d 1449, 1452-53 (Fed. Cir. 2000) (holding sufficient structure was recited where the limitation was “second baffle means” because it used the word “baffle” (a physical structure) and the claim “described the particular structure of this particular baffle”); Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1303-04, 50 USPQ2d 1429, 1435-36 (Fed. Cir. 1999) (holding a claim recited sufficient structure where the limitation was

“positioning means” and the claim “provid[ed] a list of the structure underlying the means”); Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531-32, 41 USPQ2d 1001, 1006-07 (Fed. Cir. 1996) (holding that the limitation “perforation means for tearing” was not a means-plus-function claim because the word “perforation” constituted sufficient structure). Here, merely pointing out that the relevant structure is software rather than hardware is insufficient. As stated above, because “commands” (i.e., software) is so broad as to give little indication of the particular structure used here and is described only functionally, one must still look to the specification for an adequate understanding of the structure of that software. This is unlike the cases cited above, wherein the exact structure used to accomplish the function appears in the claim language. E.g., Envirco Corp., 209 F.3d at 1365, 54 USPQ2d at 1452-53. For this reason, we uphold the court’s determination that the presumption that the claim is a means-plus-function claim was not rebutted.

Having concluded that “means of booting” is a means-plus-function limitation, we turn now to its proper construction. The district court’s identification of the function as the process of booting the computer is unchallenged. Altiris does challenge the court’s identification of the corresponding structures in the specification. The court construed the first set of commands “to include the normal operating system on the computer and the customized MBR or equivalent, two operating systems, and communications software.” Altiris, 160 F. Supp. 2d at 1288. The court construed the second set of commands “to include batch files, commands, or instructions on the server.” Id.

As to the first set of commands, Altiris argues the court erred by failing to allow for equivalents to the elements (other than the customized MBR) described, by failing to include a normal MBR as a corresponding structure, and by requiring two operating systems in addition to a “normal operating system.” First, under § 112 every structure disclosed in the specification and its equivalents should be considered. Thus, the court erred in only including the equivalents of the custom MBR in its construction. Second, a look at the specification indicates that Altiris is also clearly correct that only two operating systems are required (one

normal and one automation), not a normal operating system and two others, as the court concluded. The third and most contentious issue is whether the specification described the use of a “normal MBR” as part of the first set of commands. The specification does mention the use of a normal MBR saved on the computer’s hard drive to boot the computer. '593 patent, col. 5, lines 55-60. Thus, the normal MBR clearly is a “set of commands resident on said storage device of” the digital computer. Symantec, nonetheless, argues that the specification makes clear that the custom MBR must be used as a part of every boot sequence. Again, however, the description of the preferred embodiment is not a sufficient reason for so limiting the claims. We hold the district court erred and we construe the first set of commands to include each of the following and its equivalents: the normal operating system on the computer, another automation operating system, a customized or a normal MBR, and communications software.

As to the second set of commands, Altiris argues error in the court’s limit of the commands to those present on the server. Once again, we agree with Altiris. The patent describes locating the second set of commands “on an external disk drive unit attached to a network server,” *id.*, col.6, lines 66-67, making it clear that the commands can be located on a server or a storage device connected to a server. The patent also describes locating the commands on “another processor or drive within the computer” if the computer is used “without a network connection or a server.” *Id.*, col. 5, lines 29-32. It is clear, then, that the specification describes locating the commands on a secondary processor or storage device within the individual computer. Symantec argues that even if such structures were disclosed, they were not claimed because a processor or drive within the computer, cannot be said to be “external to said digital computer.” *Id.*, col. 196, lines 24-25. Altiris responds that claim 8 recites only a single processor and a single long-term storage device, and therefore anything other than that is “external.” We resolve this in favor of Altiris, in large part because Symantec’s argument on this point is so brief as to be unhelpful. We therefore construe the second set of commands to include batch files, commands, or instructions on a storage device

other than the main processor and long term storage device present in the digital computer.

2. “means for connecting” (Symantec’s cross-appeal, not germane to grant of summary judgment)

The district court construed “means for connecting” as excluding NICs with bootROMs because “a bootROM is not a common hardware component as contemplated by the specification language.” *Altiris*, 160 F. Supp. 2d at 1289. In a change of roles, Symantec argues that Altiris improperly attempts to impose an additional limitation on this corresponding structure by asserting that the NIC must be a standard or common NIC that does not include a bootROM. Symantec argues that the portion of the specification that characterizes the parts of the computer as “common hardware components” only mentions NICs and does not specifically exclude NICs with bootROMs. We agree.

There is no reason why an NIC with a bootROM should be excluded. The specification clearly identifies NICs and the computer network as the means for connecting. Because an NIC with a bootROM is still an NIC, we reject the district court’s construction of “means for connecting” to the extent it excludes those NICs containing a bootROM.

III.

We hold the district court erred in its construction of each of the five claim limitations that formed the basis for the grant of summary judgment. We therefore vacate the district court’s grant of summary judgment of noninfringement and remand for further proceedings in accordance with the correct claim constructions as set forth in this opinion. We were also presented with two constructions that were raised on appeal and cross-appeal although not germane to the stipulated summary judgment of noninfringement. Because they may well be

pertinent to the trial court's remand redetermination of infringement, we reviewed them as well. With respect to those two constructions, we reverse the construction that was cross-appealed and affirm the construction that was appealed. On remand, the district court may, as appropriate, redecide infringement on summary judgment, or by trial.

AFFIRMED-IN-PART, REVERSED-IN-PART, VACATED-IN-PART, AND REMANDED.

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COSTS

No costs.

[1] Other computers and operating systems use different booting sequences. For example, a computer utilizing a UNIX or Macintosh operating system does not have a master boot record or a system ID byte.

[2] A partition is a distinct portion of memory or a storage device that functions as though it were a physically separate unit.