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Distribution of Core Technology, 7 Computer L.J. 469 (1987)

Mark L. Gordon
Francoise Gilbert

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DISTRIBUTION OF CORE TECHNOLOGY

"To Disclose Or Not To Disclose, 
That Is The Question"*

by MARK L. GORDON AND FRANCOISE GILBERT**

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I. INTRODUCTION

The computer industry has for years strived constantly to improve methods of protecting proprietary technology components. The industry now finds itself struggling for standardization, which requires public availability of those same proprietary components. It has always been difficult to determine an appropriate proprietary rights program for a company that seeks to protect underlying code, concepts, structure and protocols. Now the task is more complicated by industry battles over standardization. Standardization requires that many market participants, including potential as well as actual competitors, be given access to proprietary information so that, as additional products evolve, standardization is functionally available. Put more dramatically, given current standardization trends, the industry, already schizophrenic about disclosure of proprietary information, needs certain products to have the same "look and feel" and, worse, compatible underlying technological characteristics.

For example, a number of companies distribute communications utilities, and yet, if each of those companies determines its own independent "standard" for the use of those utilities, the essential purpose of the product, its ability to communicate with other products, will be hampered. Thus, there is significant controversy as to whose "features" should be the basis of all communications products, and how others in the industry will be encouraged to develop products compatible with that standard so that third-party companies can prosper along with the developer of the initial standard. This article will use the term "Core Technology" to refer to that product or component that is striving to be, or has already become, a standard (the core for desired third-party development).

For the professional in the trenches trying to define and resolve these issues, a new dimension in an already multi-dimensional world

1. The situation has become even more confusing in the last few years, given the trend of the "look and feel" decisions.
2. We recognize that the use of the term "Core Technology" might have different meanings and might relate to different concepts, and thus we only use it here for purposes of shorthand to refer to a given product, the owner of which has an interest in seeing the distribution and utilization prosper by allowing third-party development, modification and enhancement to be integrated to the Core Technology.
has now emerged. On one hand, the author or distributor of Core Technology does not want the product disseminated without adequate proprietary rights control or, put more practically, without the ability to protect ongoing revenue opportunity. On the other hand, revenue opportunity will be severely limited to the extent that a proprietary rights program unduly discourages the development of software by third parties for use in connection with the Core Technology.

This article will attempt to present some of the industry developments on this issue and, while not seeking to resolve any particular issue, provide a textual checklist of legal and contractual considerations that, by necessity, must be applied on a case-by-case basis given the character and perceived value of a particular Core Technology.  

II. THE ENVIRONMENT

To analyze the problem of the distribution of Core Technology, one should first focus on the historical evolution and tension between standardization and proprietary rights protection.

A. TRADITIONAL DISTRIBUTION OF SOFTWARE

It is commonly recognized that the distribution of both main-frame and microcomputer technology has evolved through several stages. The most traditional mode of distribution over the last few years has been the availability of off-the-shelf and/or custom software products flowing from the publisher/author through distributors to end-users. These various traditional channels include the use of OEM's, VAR's, VAD's, distributors, wholesalers, dealers, mail order houses, redistribution companies, private label transactions, and a whole host of other variations. In that regard, any number of valuable commentaries exist that address the appropriate considerations of distribution and licensing agreements necessary to achieve the purposes of this intended distribution. Figure 1 illustrates the various channels traditionally used in connection with the distribution of Software.

Within the traditional structure described below, the presence of a number of stronger participants has resulted in the development of standards, which are now used throughout the industry. For instance, it is recognized that, in the past twenty to thirty years, IBM® has been one of the most dynamic forces in the computer hardware market, setting, by itself, a number of standards. The success of the introduction

3. The article does not attempt to analyze all of the legal or contractual considerations that might be relevant to an analysis of the protection and distribution of Core Technology; but rather it will identify certain areas of the law that are relevant such as selected contract provisions. The authors urge a review of the cited treatments of these topics, and other relevant sources in the field.
on the micro-computer market of the IBM-PC series equipped with PC-DOS®, the operating system built by Microsoft® for IBM, prompted software publishers to develop software that would run on IBM-PC's in conjunction with PC-DOS. The interest for personal computers created, in part, by the IBM-PC's and the availability of software programs developed to run on IBM-PC's, in turn prompted the development of several personal computers cloning the IBM-PC's, also known as "IBM-Compatibles". In order to be able to take maximum advantage from the similarity with the IBM-PC, the manufacturers of these clones adopted as their operating system MS-DOS, the generic product equivalent to PC-DOS, also developed by Microsoft® and which was similar to PC-DOS. The development of the IBM-Compatible market might have been impossible, or at least, would have taken much more time, if IBM had not disclosed some of the features of the IBM-PC's and encouraged the development of software and hardware compatible with its products. Today, the features of both the IBM-PC series and those of the Microsoft® operating systems have become standards in the industry.

UNIX® can also be cited as one of the milestones in the development of the computer industry. Originally, the UNIX was developed by Bell Laboratories to fulfil its need for a single operating system that would be able to run on the various computers built and used by the company. When UNIX® was made available to the universities, several generations of computer science students became familiar with the UNIX® features. They brought their experience with UNIX® and their
interest for this operating system when they entered the professional market, inciting hardware manufacturers, such as Digital Equipment Corporation, to use UNIX® as one of the operating systems for their machines. Other hardware manufacturers, such as NCR, Control Data and Honeywell, Sun MicroSystems, Inc. or Apollo also adopted UNIX® as a standard software that could be used on their machines. Although the computers manufactured by the various companies were not compatible with each other, the use of UNIX® as an operating system allowed access to a variety of programs that had been developed to run in conjunction with UNIX®. This compensated for the lack of unity which previously hampered the development of software for the non-IBM computer market. Figure 2 illustrates how the traditional distribution pyramid could be distorted by the presence of a standard, such as UNIX®, which could historically precede and influence the development of a piece of hardware by a manufacturer.

B. LICENSES TO USE AND MODIFY THE SOFTWARE

1. The Notion of Core Technology

Just like goods, software can be found either in the form of finished products or in the form of raw materials. Finished products include off-the-shelf software, often distributed to the end-users in pre-packaged form, and custom software developed or customized for a licensee who is not allowed to modify or transfer the software to third parties. The raw materials available on the software market are those Core Technologies that are distributed to serve as a base for the creation of new software and are licensed with a right to reproduce, edit, merge, translate, enhance, or otherwise modify the Core Technology to create and distribute derivative products.

2. The Advantages of Core Technology Distribution

If a software program possesses such features that it could be of interest not only for its author but also for third-parties, it might be useful to assess the advantages of using that software as a development tool or a standard for development of software by third parties.

a. Advantages for the Software Owner

By licensing the right to develop products that make use of an original program, the author may expand the useful commercial life of that product or leverage the original work to capitalize on a demand for new products.
b. Advantages for the Subsequent Developer

Developing software around a preexisting Core Technology saves time and costs by using programs that require no further testing. Whenever one work is based on another, the second party benefits from the first, either by reduced time and effort in developing the second product, or by access to the market created by the original product. Another motivation relates to the notion of compatibility with existing systems, where a popular system has established a de facto standard.4

3. The Dilemma

Obviously there are numerous advantages to Core Technology distribution, however, before deciding whether and how to distribute Core Technology, the author or publisher who has spent time and money in software development, has to balance the available alternatives: obtaining the maximum protection by disclosing the minimum features of the software, or promoting the free exchange of ideas by allowing others to make use of the original feature and build on the creativity of the original author. Figure 3 illustrates a number of the considerations that have to be taken into account in connection with the distribution of Core Technology.

Understandably, the author will desire to preserve its proprietary right in the Core Technology in order to reap the benefit of its research and development efforts. However, publishing internal file formats or offering developer toolkits encourages innovative and compatible extensions to the capabilities of the original product and opens new markets for that product. Furthermore, the ability to build on each others’ work allows the development of standards which are imperative to the success of any industry. Widespread use of standardized utilitarian functions promotes efficiency.

4. The Participants

As seen in the chart set forth in Figure 4, which describes the evolution of UNIX, an original Core Technology might become the object of a multitude of successive evolutions. The original developer might license the right to use and modify the Core Technology to a first developer, who in turn will license the modified product to a second tier developer for further modifications, and so on, so that successive generations of software programs could be built from the original Core Technology. The various developments can be horizontal; a certain version could be licensed to various parties who would integrate the Core Technology into other software and might sublicense the modified product to end-users. The evolution might also be vertical; a certain version could be modified by successive developers or could be modified several times by the same developer. Ultimately, over the years, a sort of web might be developed around the Core Technology.

5. The authors wish to acknowledge the contribution of the designer of this “Instant Guide to UNIX”, who, unfortunately, will have to remain anonymous, the authors having found this chart in their files without any indication of the magazine or book from which it was copied. The authors have thus been unable to secure the designer’s permission to reprint this chart; it is their hope, however, that the “fair use” defense will apply. Copyright Act, 17 U.S.C. § 107 (1984).
C. THE CORE TECHNOLOGY EXAMPLE

One method of documenting the multi-dimensional facets of Core Technology distribution is to look at the history of the development of the UNIX® operating system. Figure 4 is a flow chart of the development of UNIX® from inception in 1965 through 1986.

The point in providing this material is not to analyze the Core Technology distribution issues with respect to UNIX®. Instead it is intended to emphasize the complexity of Core Technology distribution and to illustrate all of the points at which the distribution—and thus the revenue generated—could have been altered. Consider the following questions had you been counsel of the Core Technology developer or user in 1965:

1. Would you have licensed the product without charge to Bell Labs or others?
2. Would you have required that Bell Labs provide their developed and modified technology to your client for commercial distribution?
3. Would you have precluded subsequent development of modifications or enhancements to the product without permission?
4. Would you have tried to dictate pricing of the technology to the extent it was made available to the commercial marketplace?
5. What would you have done when Bell Labs made the product available to the University of California at Berkeley in 1978?
6. What would you have done when, in 1976 through 1981, there were
off-shoot of UNIX® derivatives, "lookalikes", coded from scratch, as indicated at the far right of the chart?

7. Would you have advised someone to seek a patent with respect to the UNIX® capability as being an integral component of the equipment for which the UNIX® operating system was developed?

8. What would you have done during the years 1984 and forward when anti-trust and fair trade complications entered the notion of the AT&T market?

Questions similar to these historical questions should be prominent in the analysis of Core Technology distribution issues today.

The obvious complexity that stems from the existence of several versions of a Core Technology and the number of participants in the evolutionary process emphasizes the importance of building an appropriate structure for the distribution and licensing of Core Technology. The legal issues that will have to be taken into account when structuring a Core Technology License and distribution agreement must first be analyzed.

III. THE LEGAL ISSUES

A number of legal considerations must be taken into account in connection with Core Technology distribution.6 This article will only analyze those issues that relate to copyright and other proprietary rights protection and to antitrust and fair trade laws.

A. COPYRIGHT

1. The Exclusive Right of the Developer of the Original Product

A software program built around a Core Technology might be deemed a "derivative work", as defined in the Copyright Act, because it incorporates some or all of the original software and adds value to, or modifies, the pre-existing product.7 Under the 1976 Copyright Act, the owner of a copyright in a software program has the exclusive right to prepare derivative works based on the copyrighted work. The underlying policy is that subsequent programmers should not be free to use identical sequences or methods to achieve a certain result.8 Thus, the

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6. The authors wish to caution that because of the inevitable delay between the date of the production of this article and its publication date, certain citations and legal observations might be outdated.

7. The Copyright Act of 1976 defines a derivative work as "a work based upon one or more preexisting works, such as a translation, . . . , abridgement, condensation, or any other form in which a work may be recast, transformed or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship is a 'derivative work.'" Copyright Act, 17 U.S.C. § 101 (1984).

developer of a software program must enter into specific agreements, in
general licensing or distribution agreements, authorizing third-parties
to reproduce, edit, merge, translate, enhance, amend, develop or modify
the original software to create and distribute derivative products based
on the Core Technology. Absent a license agreement to that effect, one
who develops computer software around an original program owned by
a third party may infringe upon the rights of that party.

2. The Parties

When a license to Core Technology includes a right to modify the
licensed product, and software is developed around the Core Technol-
ygy, both the licensor and the licensee have contributed to the develop-
ment of product which is ultimately tendered or sublicensed to the
end-user. The contribution of the licensee might have been limited to a
few cosmetic changes, such as, for instance, rearranging the display of
certain screens, or, conversely, it might have resulted in substantial im-
provement or modifications to the Core Technology. In any event, both
the licensor and the licensee might wish to claim ownership rights in
the Core Technology, the value added to the Core Technology, or even
the whole end-product. If the Core Technology, as modified by the li-
censee, is sublicensed and modified again by a second tier licensee, this
third party might also have a claim to the ownership rights in the ulti-
mate product or a part of it.

All of those participating in the development of a software program
have a legitimate claim to a portion of the rewards that the program
will yield. Any rights afforded to each contributor depend, however, on
the amount of value added to the previous product. The subsequent de-
velopers will be deemed to have contributed a "value-added" use to a
Core Technology only if they do more than literally duplicate the first
program, making more than trivial changes in it.9

3. Derivative Works

Any software based in whole or in part upon a preexisting Core
Technology, if it is substantially different from the underlying work
and is not in itself infringing, may be separately copyrightable. In order
to qualify for a separate copyright on the derived software, the licensee
of Core Technology must have added additional programs or functions
that constitute more than a minimal contribution.10 The protection ex-
tends only to the materials contributed by the author of the derivative
work, as distinguished from the preexisting software, and does not ex-
tend to any part of the work in which the original materials have been used unlawfully. The copyright in a derivative work covers only those elements that are original with the copyright claimant.

If those elements of a computer program that were developed by the Core Technology licensee are copied, the licensee may sue for infringement. If it is the Core Technology that has been copied, the licensee has standing to sue for infringement only if it is an exclusive licensee of the underlying work. If the license granted is a non-exclusive license, the licensee does not have standing to sue for copying of the Core Technology even though it appears in, and was directly copied from, the derivative work.

4. How Much Innovation Is Necessary

Whether or not the licensee is entitled to ownership of the value-added technology depends on the extent of the modification to the original product. After having received access to the source code of the Core Technology the licensee could develop a product that merely "looks and feels" like the Core Technology but does not contain any original features. The issue then, is to determine when the modifications are more than cosmetic changes.

During the past six months, several decisions have been rendered concerning copying of computer programs or copyright infringements. These decisions attempt to define the boundaries of innovation versus mere copying and could affect the rights of the owner and the licensee of Core Technology.

It might be that the licensee of the Core Technology translates the software into a different programming language or adapts it for use with a different computer. Or it might be that the licensee of an operating system software develops application software based on the operating system software Core Technology. In Whelan Associates, Inc. v. Jaslow Laboratory, Inc., 797 F.2d 1222 (3d Cir. 1986), cert. denied, 93 L.Ed.2d 831 (1987). In Whelan, the court found that Jaslow had infringed Whelan's copyright in its Dentalab program because the defendant's program contained the same subroutine and file structures as those of the plaintiff's. See also, Plains Cotton Cooperative Ass'n of Lubbock, Texas v. Goodpasture Computer Serv., 807 F.2d 1256 (5th Cir. 1987).

12. Nimmer, supra, note 8, at § 3.05. See also Beutel, Copyright Infringement and Derivative Software: Proving Substantial Similarity of Data Base Products, THE COMPUTER LAW., Mar. 1987, at 12.
13. See, e.g., Whelan Associates, Inc. v. Jaslow Laboratory, Inc., 797 F.2d 1222 (3d Cir. 1986), cert. denied, 93 L.Ed.2d 831 (1987). In Whelan, the court found that Jaslow had infringed Whelan's copyright in its Dentalab program because the defendant's program contained the same subroutine and file structures as those of the plaintiff's. See also, Plains Cotton Cooperative Ass'n of Lubbock, Texas v. Goodpasture Computer Serv., 807 F.2d 1256 (5th Cir. 1987).
14. See, e.g., Siegel and Derwin, Copyright Infringement of the "Look and Feel" of an Operating System by Its Own Applications Programs. THE COMPUTER LAW., Jan. 1987, at 1.
It was held that the defendant's program, designed for an IBM PC computer and written in BASIC, had the same structure, sequence and organization as the plaintiff's program which was written in Event Driven language for the IBM/Series 1 computer, and thus infringed the rights of the plaintiff. Whelan would suggest that the licensee of Core Technology who translates the software into a different programming language has not created a derivative work subject to separate ownership but only a derivative product owned by the developer of the Core Technology.

After a series of decisions following the Whelan ruling were rendered in various circuits, the Fifth Circuit, in Plains Cotton Cooperative Association v. Goodpasture Computer Service, reached an apparently opposite conclusion to that in Whelan. In Plains, the plaintiff had developed a mainframe software system for the cotton market. After hiring four former employees of the plaintiff, the defendant developed a software that contained functional specifications, programming and documentation very similar to that of the plaintiff's software. The court found that many of the similarities between the sequence and organization of the two programs were dictated by the nature of the cotton market, and thus declined to reverse the lower court's denial of injunctive relief.

Although the Fifth Circuit's denial of the plaintiff's copyright claim appears to be at odds with the Third Circuit's holding in Whelan, the two decisions can be harmonized. It has been suggested that if a program is alleged to be similar to another because it contains substantially similar expression, each work should be broken into its various levels of abstraction, including, for example, program, subroutine, algorithm and code levels. This approach permits a more careful evaluation of the author's creative contribution at each level of abstraction. The Whelan court found that the plaintiff had exhibited creativity at the organizational level, and held that the organization of the program had to be protected. In Plains, the two programs were similar only at a higher level of abstraction, and those similarities were dictated by the externalities of the cotton market. Thus, the court could not grant protection to the plaintiff's program because it would have foreclosed the use of an organization for data that was a standard in the cotton industry.

In the case of the licensing and distribution of Core Technology, if

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DISTRIBUTION OF CORE TECHNOLOGY

the licensee or former licensee develops a program that "looks and feels" like the Core Program, it might be deemed to have created an original product deserving separate copyright protection even if the two programs differ only at the highest level of abstraction.

5. Audiovisual Display and Screens

Recent cases have discussed the copyrighting of screens as distinguished from the copyrighting of the underlying program. A federal district court found that the copyright in a screen display is different from the copyright in the program itself. The court held that the defendant's computer software did infringe on the copyrighted screen display although the defendant's program did not infringe on the copyright of the plaintiff's software itself.

The court also defined criteria for copyrighting screen displays. Actual functions, common commands and those expressions that are closely related to the program functions cannot be protected by copyright, whereas the arrangement of terms on the page screen, provided that they are not part of functionality, can be protected. Thus, copyright protection for screen displays need be claimed or registered separately; copyright protection of a computer program does not extend to screen displays generated by the program. In view of this analysis, it might be advisable, in the case of Core Technology licensing, to distinguish the rights associated with copying or modifying the lay-out of screens from those relating to copying or modifying the underlying program.

B. Other Proprietary Rights

Not every work can benefit from copyright protection. Some works must rely on the protection offered by trade secret laws. For example, under the "abstraction levels" analysis described above, the extent of the copyright protection available to communication protocols is uncertain. All communication protocols must have timing and control signal and some type of data format. This leaves little room for creativity. Furthermore, choices of protocol parameters are largely dictated by hardware and network designs. Thus, the contribution of the author might not be sufficiently creative nor possess the characteristics of a


19. This interpretation conflicts with the U.S. Copyright Office's rejection of Lotus' application for copyright registration of the design of the screens of its 1-2-3 software, because textual screen displays are covered by the copyright registration for the underlying computer program. It is too early yet to assess the impact of the Digital decision.

work of authorship which will warrant protection under the copyright laws.

1. Trade Secrets

Software techniques may be protected from misappropriation by trade secret law, provided that the techniques are valuable and secret. The Uniform Trade Secrets Act defines a trade secret as information that is the subject of efforts that are reasonable under the circumstances to maintain secrecy.\(^\text{21}\) Although courts do not require absolute secrecy, there are no statutorily or judicially defined techniques which will ensure that the information falls under the above definition.\(^\text{22}\) Obviously, the owner of a trade secret must exercise all reasonable safeguards to ensure that secrecy is maintained within the place of business.

The trade secret owner that discloses confidential information and proprietary materials to a third party could lose the protection of trade secret laws. The information that has been disclosed could have lost its status as a secret. Where the developer of the Core Technology discloses the source code of the licensed product and also provides the licensee with detailed documentation, it is questionable whether the secrecy described above has been maintained. Moreover, disclosing the program in object code form only might not be enough to preserve the secrecy. This is because competent programmers, with access to software tools able to decompile and disassemble object code, can reverse engineer the program logic from the object code, derive the source code of the program, thus learning the trade secrets contained within.\(^\text{23}\)

Thus, disclosing the source code or the object code of Core Technology might result in losing access to the protection afforded by trade secret laws. The alternative to ensure protection of the original software as a trade secret is to condition the availability of the source and the object code to the execution of an agreement restricting the use, duplication, and disclosure of the Core Technology.

2. Patent

Compared with copyright or trade secret protection, a patent offers distinct advantages and disadvantages. Given the uncertainty of the future of the "look and feel" theory applied in the Whelan case and its progeny, copyright might not protect against independently created software that functions the same way as a copyrighted Core Technology. If the author of Core Technology is concerned that competitors


\(^{22}\) R. Milgrim, Milgrim on Trade Secrets, § 9.03(2) (1986).

can independently produce software that is functionally equivalent to that author's, then patenting should be considered. In certain cases, the patent owner may claim infringement by a product that does substantially the same work, in substantially the same way, to achieve substantially the same result. Patent applications, however, require extensive disclosure. Most software developers have decided that the disclosure involved in filing a patent application makes them more susceptible to competitive repercussions. Thus, they feel it is to their advantage to delay or forego patent filing and to keep their ideas and form of architecture relatively secret until they can gain an advantage in the marketplace.

Before applying for patent protection, the developer should attempt to determine whether the software is eligible for such protection. Despite review by the Supreme Court, uncertainty still exists concerning what is patentable in the software field. Mathematical formulas and principles, abstract principles, and algorithms cannot be patented. Thus, to the extent that a computer program is viewed merely as a step-by-step procedure for solving a mathematical problem, it may not be patented. However, patent protection should be afforded to Core Technology that otherwise satisfies the patent law requirements of being a useful, novel and nonobvious invention even if it includes computer programs. Current law is clear that the protection does not extend to the program per se, but only to the process of which the program is a part.

The patent application must be filed within one year after the Core Technology has been in "public use". Public use is defined as any non-secret use of an invention in its natural and intended way provided that such use is not for experimental purposes. Thus, the use of the Core technology by someone other than the developer will be deemed a

24. This is called the doctrine of equivalents. See, e.g., R. Bernacchi, Bernacchi on Computer Law § 3.4 (1986); see also Hughes Aircraft Co. v. United States, 717 F.2d 1351 (1983).


27. To qualify for patent protection an invention must: (1) fall within a statutory subject matter classification; (2) be new; (3) be useful; (4) be nonobvious to one skilled in the art in view of prior art. 35 U.S.C. §§ 101-103 (1984). See also, Sumner and Lundberg, The Versatility of Software Patent Protection: From Subroutine to Look and Feel, The COMPUTER LAW., June 1986, at 1.


29. A person is entitled to a patent unless "the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States". 35 U.S.C. § 102(b) (1984).
public use. Consequently, the author or publisher should take appropriate steps to prevent premature public use of the Core Technology. One safeguard would be to enter into an agreement with the licensee of the Core Technology which would provide that: the use of the Core Technology is for an experimental purpose and must remain secret, the Core Technology owner retains ultimate control over the Core Technology; and the results of the experimental use will be regularly reviewed by the Core Technology owner.30

3. Trademark

Copyright, trade secret and patent laws protect mostly the internal features of a Core Technology, specifically its code, screens, and functionalities. On the other hand, trademark laws deal with the manner in which the Core Technology will be disseminated to third parties, licensees, sublicensees or end-users or how the Core Technology will be identified. Publishing internal file formats or offering developer toolkits opens new markets for the Core Technology. It can be of significant benefit in maintaining a market share against competitive products to establish identity and name recognition in the market-place, which can be transferred to the licensor's succeeding generation of products. The primary function of a trademark is to establish and maintain this name recognition. In today's highly competitive market, it is mandatory to establish and protect trademarks for computer-based products.31

Whether or not the product developed around Core Technology has added minimal or extensive value, the developer of the Core Technology is entitled to receive recognition of its participation in the development of the ultimate product licensed to the end-user. The Core Technology publisher might require that its trademark, whether registered or not, be displayed on the documentation, the screen, the software packages, as appropriate, with an indication of the connection between the software being licensed and the Core Technology and an acknowledgment of the ownership of the mark such as "XUYZ is a trademark of TTZZ Corporation".

C. Antitrust

An inquiry into the various methods through which Core Technology is distributed and the restrictions on such methods triggers questions regarding the applicability and effect of the federal antitrust laws.32 Where distribution includes: price, territorial, and customer re-

32. This analysis of antitrust aspects of distribution of Core Technology is limited to
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strictions, or grant of exclusivity and tying arrangements, the software owner becomes vulnerable to antitrust claims.

1. Price Restraints

Agreements to fix or abide by resale prices are unreasonable per se, and therefore illegal under Section 1 of the Sherman Act. Such agreements are viewed as unreasonable restraints because they foreclose price competition. Thus, it is not possible to dictate to licensees of Core Technology the amount of license fees to be charged to sublicensees. Arguably, however, such limitations are irrelevant in the case of Core Technology licensing. The purpose of such licensing is to allow the second developer to produce new software based on the Core Technology. To the extent that the Core Technology will be licensed to a number of licensees, price competition among the various licensees is unlikely because the deviations produced by the various licensees will be different from the original Core Technology and each other.

2. Restraints Incident to Licensing

In making arrangements for the distribution of Core Technology, the software owner may wish to impose a number of restraints on the licensee. Vertical restrictions, in general, are deemed to promote inter-brand competition by allowing the developer of a product to achieve efficiencies in the distribution of that product, and are examined under the rule of reason standard.

a. Territorial and Customer Restrictions

Territorial and customer restrictions are generally valid under Continental T.V., Inc. v. GTE Sylvania, Inc., except where the software publisher has a high market share. Thus, the licensor of Core Technology might be able to restrict the license granted to certain geo-

34. Although it has been characterized as a hazardous approach to take, a Core Technology licensor may invoke the purported "safe harbor doctrine" articulated in United States v. General Electric Co., 272 U.S. 476 (1926). See also Webb, Antitrust Aspects of Software Distribution, The COMPUTER LAW., Vol. 2, No. 6 (1985).
graphic areas or to certain type of end-users. For instance the license could be limited to use of the Core Technology in connection with a type of computer or to a certain programming language. The licensee could also be limited to developing software for certain types of applications or certain specified types of sublicensees, such as original equipment manufacturers. Limits could also be specified as to categories of end-users; such as, the health or the banking industries.

b. Restrictions on Disclosure

Restrictions against disclosure of trade secret information to third parties is ordinarily not deemed unreasonable under the antitrust law. The Core Technology owner can lawfully restrict its licensee from disclosing the licensee's independent improvements to third parties if it might risk disclosure of the licensor's secrets.\textsuperscript{38}

c. Quality Requirements

A Core Technology license might include a provision for the use of the Core Technology owner's trademark. The licensor may impose over a licensee of its trademark other restraint than those described above if they are considered reasonably necessary to assure uniformity of quality and protect the validity of the licensor's mark. In that case, the licensee might be either required to follow procedures spelled out by the licensor or to permit reasonable inspection of the modified Core Technology by the licensor. So long as these arrangements are used for the manifest purpose of protecting the goodwill of the licensor, they are open to no objection.\textsuperscript{39}

3. Exclusive Licenses

Section 2 of the Sherman Act prohibits monopolization and attempts or conspiracy to monopolize.\textsuperscript{40} An exclusive license to use and modify Core Technology might come under judicial scrutiny. The holder of an exclusive patent license receives, to the extent the patent is valid, assurances of nonuse of the Core Technology by anyone other than as contemplated in the license agreement. Exclusive patent licenses are coming under intensified judicial scrutiny where the exclusivity conferred exceeds permissible bounds implicit in the patent.\textsuperscript{41} Absent a patent, however, the developer of Core Technology does not

\begin{footnotes}
\item[39] SULLIVAN, ANTITRUST, § 173 (1976).
\item[41] R. MILGRIM, MILGRIM ON TRADE SECRETS, § 6.05(2) (1986).
\end{footnotes}
have exclusionary rights because the independent development of software programs having similar functionality is permissible and possible. In that case, the Core Technology license might be free from Section 2 actions; whether the licensee is in a monopoly position might depend on the market conditions and the availability of comparable products.

4. Tying Arrangements

A tying arrangement arises when the owner of certain Core Technology conditions the grant of a license to the Core Technology to the sale or license of other products. If the software publisher has sufficient economic power to exert leverage in one market, it may be in a position to require the licensee to acquire licenses or products that the licensee could have acquired from other sources. If a substantial amount of commerce in the tied product is restrained by that arrangement, such tying constitutes a per se violation of Section 1 of the Sherman Act. For instance, if the licensor requires the licensee to acquire an elaborate package of hardware, equipment and software, a court might find the Core Technology license to be a tying product to which the equipment package is wrongfully tied. Exceptions are recognized in cases in which the tying is dictated by some overriding business purpose independently of an attempt to secure a competitive advantage. Courts might take into account the business or technological realities to determine whether the alleged tie is in fact reasonable.42

5. Price Discrimination

The Robinson-Patman Act prohibits price discrimination in the sale of commodities.43 Since the Robinson-Patman Act applies to sales of commodities,44 and many commentators argue that the Act does not apply to the distribution of software because a license is not a sale and


44. Generally, the term "commodities" applies to tangible goods under the Robinson-Patman Act. Intangible goods do not fall under the act's aegis; the tangible-intangible distinction is the source of widespread litigation. See, e.g., City of Kirkwood v. Urnian Elec. Co., 671 F.2d 1325 (2d Cir. 1982), cert. denied, 459 U.S. 1170 (electricity is a "commodity" for the purposes of the Robinson-Patman Act); Ball Memorial Hospital Inc. v. Mutual Hospital Ins., Inc., 784 F.2d 1325 (7th Cir. 1986) (memorial services are not "commodities" under the Robinson-Patman Act).
software is not a commodity.\textsuperscript{45}

IV. STRUCTURING AND DRAFTING THE CORE TECHNOLOGY DISTRIBUTION AGREEMENT

In the structuring and drafting of a Core Technology Distribution Agreement, the practitioner will have to take into account the legal issues described above and other legal issues, additionally, the practitioner should consider the complexity that stems from the existence of several versions of a Core Technology and the number of participants in the licensing and distribution process. This section will analyze some of the provisions that would commonly be found in a Core Technology Distribution Agreement. Other provisions might be necessary depending on the nature of the Core Technology being licensed and distributed and the nature of the participants in the transaction.

A. THE VARIOUS PRODUCTS

1. Source or Object Code Form

Depending on the nature of the software product distributed pursuant to a Core Technology Distribution Agreement, the Core Technology will be provided either in source and object code form, or only in object code form. The choice will often be made at the time of the development of the Core Technology and will depend mainly on the degree and the nature of the modifications expected to occur. For instance, a software firm distributing computer programs for management of a hospital might only need to furnish the object code and provide the end-users with the information necessary to write the code that generates the screen lay-outs adapted to the requirement of their database. On the other hand, if part of the code is to be incorporated in the ultimate product, the licensee will need the source code to be able to make the necessary modifications. For instance, the desktop publishing software Pagemaker\textsuperscript{\circledR} incorporates some of the features of Microsoft\textsuperscript{\circledR} Windows\textsuperscript{\circledR}; in order to create Pagemaker\textsuperscript{\circledR}, it was necessary to have access to the source code of Microsoft\textsuperscript{\circledR} Windows\textsuperscript{\circledR}.

2. Enhancements or Modifications

The Core Technology Distribution Agreement should address whether enhancements or modifications to the Core Technology made after the parties have entered into the Agreement will be part of the products furnished under the Agreement. The licensee will wish to ensure the availability of all updates, new versions or enhancements of the

Core Technology. On the other hand, the licensor might prefer to limit the license to a more narrowly defined product in order to keep control over the distribution of its future technology.

B. DURATION

While software licenses are usually perpetual, Core Technology distribution licenses are usually limited in time. Given the sensitivity of the information provided to the licensee, the developer of Core Technology should be advised to limit the term of a Core Technology Distribution Agreement, which permits keeping better control over the use of the Core Technology. Further, the payments required for the renewal of the distribution license can be the source of future reassessment.

C. LICENSE GRANT

1. Transferability, Exclusivity and Limited Uses

   Like most software products licenses, the license granted in a Core Technology Distribution Agreement, in general, will be personal, non-transferable and non-exclusive. Use could be limited to a designated equipment or to the licensee's internal business purposes (for instance in order to prevent the licensee from running a service bureau or other data processing service company), unless the agreement provides for royalties on that additional use of the software. The license to modify the Core Technology could be limited to the development of software for certain markets in the same manner as distribution agreements for the sale of goods or equipment provide for a certain territory. Those markets could be defined as a given geographic area or a certain category of end-users. For instance, Unix® could be licensed for the development of software to run on a specified computer; Microsoft® Windows® could be licensed only for the development of application software for hotel reservations or for banking services.

   If it is intended that the modified Core Technology will be sublicensed to third parties, the Core Technology Distribution Agreement could provide that the source code may be used for internal use of the licensee only, whereas sublicenses may be granted for use of the software in object code only.

2. Modification

   The purpose of a Core Technology Distribution Agreement is mainly to grant the licensee the ability to modify the Core Technology. The rights granted could include the right to reproduce, edit, merge, translate, or enhance the Core Technology to create derivative products.
3. **Sublicenses**

If the modified Core Technology is to be distributed to third parties, the license should include the right to grant end-user sublicenses and distributor sublicenses. The software publisher can choose to limit this right to object to code only, rather than source and object code, to certain kinds of market or to a designated type of computer equipment or programming language.

4. **Documentation**

As user's manuals and other documentation necessarily will accompany the ultimate product, the license granted could include a license to reproduce, edit, translate and modify the Core Technology documentation, or to incorporate it in materials produced by the licensee. For that part of the documentation concerning the source code, the grant might be limited to the right to use the documentation internally to further the licensee's support, maintenance and development efforts in connection with the Core Technology.

D. **FUTURE PRODUCTS**

As mentioned earlier, the licensee, like the distributor of goods or equipment, needs to be informed of the new products created by the owner of the Core Technology. The Core Technology Distribution Agreement might provide for the licensee's right of first refusal to secure a license to use, modify and distribute enhancements or new versions of the Core Technology or new software products related to the Core Technology. If such right is granted, then, the licensee might request a warranty that the enhancements and new versions will be compatible with the original version or release of the Core Technology in order to preserve the technology developed around the initial Core Technology.

E. **PAYMENT**

1. **Perpetual License or Renewable License**

If the license granted is perpetual, the developer of the Core Technology, most likely, will receive a flat license fee at the time of the execution of the agreement. It is possible, however, to provide instead for a short term license with possible renewal terms which would require quarterly or yearly payments of a license fee. If the Core Technology Distribution Agreement provides for a limited duration with renewal terms, the licensor will preserve the ability to receive periodic payments and thus ensure a steady income.
2. Royalty Based on the Number of Copies

Another way to ensure a regular income is to provide for royalty payments based on the use of the Core Technology by the licensee. The licensor could require the licensee to furnish a list of the sublicensees of the Core Technology and to make the corresponding royalty payments when sublicenses are granted. The licensor could require the licensee to affix "tokens" or stamps on diskettes or other media on which the Core Technology is reproduced and distributed. The Core Technology provided to the licensee could include a serial number generation program, which could be used to serialize a limited number of disks or diskettes. Each time the master program is copied to produce end-products that incorporate the Core Technology it would indicate the remaining number of authorized copies. Generation of additional serial numbers beyond the number allocated would require the licensee to obtain a new serial number generation program from the licensor. If the Core Technology is used in connection with a third party's data base, its owner might request royalty payments based on the number of times that each end-user has access to that database or on length of the connection time.

3. Monitoring Required

In order for the Core Technology developer to monitor the payment of the adequate royalties, the Core Technology Distribution Agreement should provide for the licensee's obligation to transmit to the licensor the name of each sublicensee and a copy of each sublicense, and for the right to audit the licensee's books.

F. Proprietary Rights

The Core Technology might be modified and adapted by a number of licensees, sublicensees and second tier developers before it ultimately reaches the end-user. Thus it is important that the proprietary rights of the developer of the Core Technology, as well as those of each participant in the development of the ultimate product, be identified and preserved. The Core Technology Distribution Agreement should provide for the obligation of the licensee and sublicensees to ensure that the screens, underlying programs, accompanying documentation and packaging include the appropriate copyright or trademark notices.

46. Micro Data Base Systems, Inc. (MDBS) requires certain licensees to purchase "tokens". The tokens must be affixed on each diskette on which a program that uses the MDBS software has been recorded.
G. CONFIDENTIALITY AND NON-COMPETITION

1. Confidentiality

Confidentiality requirements are necessary in any relationship in which one party receives the trade secrets or the proprietary information of another. Those include such precautions as using for the Core Technology and the information related to the Core Technology the same degree of care as that given to the licensee's own products, limiting disclosure to only those persons who need access to the information, and ensuring that these persons are advised of the confidential nature of the information and are precluded from taking any action prohibited by the Agreement.

2. Non-Competition

Because of the sensitivity of the information provided to the licensee, the Core Technology developer might require a covenant not to compete. The limitations could include a restriction on the development of products that have the same functionalities, sequences, structure or organization as the Core Technology for the duration of the license and for a number of years after termination of the license.

H. WARRANTY

1. Warranty on the Core

In the recent years, most software publishers have ceased licensing software "as is" but have rather begun offering some level of warranty of the quality of their products. The warranty section of a Core Technology Distribution Agreement should at least include the now usual warranties that the Core Technology will function according to its specifications for a limited time period.

2. Warranty on the Future Versions of the Core Technology

The licensee might require a warranty that any enhancements, modifications or new versions of the Core Technology will be compatible with the previous ones, so that the software built around the Core Technology does not require extensive modifications each time the Core Technology evolves. An alternative might be to provide for a warranty that the licensor will continue supporting for a minimum period of time that version of the Core Technology as in existence at the time of the execution of the agreement.

3. Warranty Against Proprietary Rights Infringements

Given the fact that the Core Technology, as modified, might be sublicensed to third parties, the licensee should insist on receiving a war-
ranty that the Core Technology does not violate the proprietary rights of other parties, and unlimited indemnification if a proprietary rights infringement claim were filed against the licensee or the sublicensees.

4. **Limitation of Warranty**

The warranty section of a Core Technology Distribution Agreement might also address the issue of developments made by the licensee and sublicensees around the Core Technology. It might be advisable for the licensor to disclaim any warranty that the functions contained in the Core Technology will operate as described in conjunction with the software developed around the Core Technology.

5. **Passage of Warranty to Sublicensees**

Finally, the warranty provision might address the passage of the warranty to sublicensees. The licensee will wish to avoid any liability on a product that was developed outside of its direct control and will request that the warranty pass through to its sublicensees in order to be shielded from potential liabilities. Conversely, the licensor will try to avoid having to deal with an uncontrollable number of sublicensees.

I. **QUALITY CONTROL**

Just like manufacturers or franchisors might require certain standard of quality from their distributors or franchisees, such as proper appearance of a store or quality of the merchandise sold, the Core Technology developer might wish to reserve the right to inspect the software products developed by the licensee in order to verify the quality of those products and to be able to terminate the license granted if certain standards of quality are not met. The Core Technology Distribution Agreement could require submission of the new software to the Core Technology developer approval. This requirement could include a review of the media and packaging to ensure that the adequate notices are displayed, or that proper license terms are used.

J. **ISSUES RAISED BY THE PRESENCE OF SUBLICENSEES**

A number of issues related to the fact that the Core Technology, as modified, will be sublicensed to third parties developers or end-users, will have to be addressed throughout the Core Technology Distribution Agreement.

1. **Provisions Required in Sublicense Agreement**

If sublicenses are permitted, the Core Technology Distribution Agreement should provide for an obligation that the sublicenses contain
certain clauses protective of the rights of the Core Technology developer, including confidentiality and proprietary rights protection requirements, as well as an obligation that the licensee's promotional materials and other documentation state that the licensee's product is derived from the Core Technology, and indicate the name of the Core Technology developer.

2. Warranty and Indemnity

The warranty provided on the Core Technology might have to be passed through to the sublicensees. The Core Technology developer might be required to agree to indemnify the licensee against any liability for malfunction of the Core Technology in connection with the licensee's software. If corrections are made on the Core Technology during the warranty period or if support is provided thereafter, the licensee might request that the same be provided directly to the sublicensees.

3. Sublicensees' Rights Upon Termination

The agreement might also provide for the rights of the sublicensees at the time of termination or expiration of the license. The sublicensees could subsist and the rights and obligations of the licensee could be assumed by Core Technology licensor.

K. DOCUMENTS ACCOMPANYING A CORE TECHNOLOGY DISTRIBUTION AGREEMENT

1. Source Code License

The licensor of Core Technology might wish to ensure additional protection for its product. To the extent that the Core Technology Distribution Agreement has not fully defined the conditions of use of the source code of the Core Technology, or if the source code will be sublicensed to a second tier software developer, a source code license could be provided for execution by those parties.

2. End-User Sublicense

In order to ensure that the Core Technology, even in object code form, will be licensed under terms that are sufficiently protective of the licensor's interest, it is suggested that the licensor request that a specific End-User Software License be used.

V. CONCLUSION

The effort at being clever in the title of this article may have failed, but worse, it is inaccurate. It should have been "Not To Disclose Or How To Disclose, That Is The Question." As most practitioners in the
area of technology distribution have long recognized, it is critical to un-
derstand the nature of the technology and the proposed distribution and
marketing plans for a product and its owner. The struggle between pro-
tection and standardization has just begun and those companies who
best map their strategies will be those that will be the most successful.
Those that do not recognize the significance of early life cycle distribu-
tion structures will be those that will be most likely to fail. While it
may not be the practitioners' role to determine those strategies, it is un-
doubtedly their role to understand these tensions, to be in a position to
bring them to the attention of their clients and to otherwise be able to
negotiate structured documentation with an understanding of the criti-
cal, and often ethereal, nature of the distribution of Core Technology.