Nos. 2013-1021, -1022

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

ORACLE AMERICA, INC.,
Plaintiff-Appellant,

v.

GOOGLE, INC.,
Defendant-Cross Appellant.

On Appeal from the United States District Court for the Northern District of California, Case No. 10-cv-3561, Hon. William H. Alsup

BRIEF *AMICUS CURIAE* OF THE COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION IN SUPPORT OF CROSS-APPELLANT GOOGLE URGING AFFIRMANCE

Matthew Schruers
Vice President, Law & Policy
Computer & Communications
  Industry Association
900 17th Street NW, Suite 1100
Washington, DC 20006
(202) 783-0070
mschruers@ccianet.org

Jonathan Band
Jonathan Band PLLC
21 Dupont Circle NW, Suite 800
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com

Counsel of Record

May 30, 2013

CERTIFICATE OF INTEREST

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Federal Circuit Rule 47.4, Jonathan Band, counsel for *amicus curiae* the Computer & Communications Industry Association certifies the following:

1. The full name of the party represented by me is the Computer & Communications Industry Association.

2. The name of the real party in interest represented by me is the Computer & Communications Industry Association.

3. The Computer & Communications Industry Association is not a subsidiary of any corporation and has issued no stock.

4. The names of all law firms and attorneys that appeared for the party now represented by me in this proceeding are Jonathan Band PLLC, Jonathan Band, and Matthew Schruers.

May 30, 2013

/s/ Jonathan Band
Jonathan Band
Jonathan Band PLLC
21 Dupont Circle NW, Suite 800
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com
Counsel of Record

TABLE OF CONTENTS

TABLE OF AUTHORITIES

v

STATUTES

MISCELLANEOUS

INTEREST OF *AMICUS CURIAE*[1]

The Computer & Communications Industry Association ("CCIA")

represents over twenty companies of all sizes providing high technology

products and services, including computer hardware and software, electronic

commerce, telecommunications, and Internet products and services –

companies that collectively generate more than $250 billion in annual

revenues.[2]

Effective intellectual property protection gives developers incentive to

create new applications. At the same time, improper extension of copyright

law to functional elements will impede innovation and inhibit competition in

the computer industry.

For more than twenty-five years, CCIA has supported interpreting the

intellectual property laws to permit the development of interoperable

products. For example, CCIA filed an *amicus* brief with this Court in

Chamberlain Group v. Skylink Techs., 381 F.3d 1178 (Fed. Cir. 2004),

arguing that the Digital Millennium Copyright Act's interoperability

---

[1] No counsel for any party authored this brief in whole or part; no such
party or counsel made a monetary contribution intended to fund its
preparation or submission; and no person other than *amicus* made such a
contribution. All parties have consented to the filing of this brief.

[2] A list of CCIA members is available at http://www.ccianet.org/members.
Google is a CCIA member, and Oracle and Sun were formerly members of
CCIA, but none of these parties took any part in the preparation of this brief.

exception, 17 U.S.C. 1201(f), provided an alternative ground for affirmance.

CCIA also filed *amicus* briefs with the U.S. Court of Appeals for the Ninth

Circuit in *Sega Enters., Ltd. v. Accolade, Inc*., 977 F.2d 1510 (9th Cir. 1992)

(holding that the reverse engineering technique known as disassembly is a

fair use as a matter of law when it is the only way to obtain functional

elements such as the information necessary for achieving interoperability)

and in *Sony Computer Entm't, Inc. v. Connectix Corp*., 203 F.3d 596 (9th

Cir.), *cert. denied*, 531 U.S. 831 (2000) (affirming *Sega*).

In this appeal, Oracle America ("Oracle") asks this Court to overturn

longstanding principles concerning the scope of copyright protection for

computer programs and follow instead discredited thirty year old dicta from

the Third Circuit in *Apple Computer v. Franklin Computer*, 714 F.2d 1240,

1253 (3d Cir. 1983), *cert. denied*, 464 U.S. 1033 (1984) (stating that

compatibility is "a commercial and competitive objective which does not

enter into the somewhat metaphysical issue of whether particular ideas and

expression have merged"). Adopting the position that copyright protects the

elements of computer programs necessary to achieve interoperability poses

serious anticompetitive consequences for CCIA members and the

technology industry as a whole.

INTRODUCTION AND SUMMARY OF ARGUMENT

Oracle and its *amici* repeatedly compare the Java Application

Program Interface ("API") to novels. Computer applications, however, are

different from artistic works. A novel stands by itself. A computer

application, however, can function only in conjunction with hardware and

other software. For example, a word processor requires an operating system

in order to perform its task; otherwise, it is a useless set of magnetic

impulses. This requirement is "interoperability" – a term "used to describe a

situation in which a program from one vendor is able to exchange

information with a program from a different vendor."[3] Two applications can

interoperate only by conforming to the same set of rules, or interface

specifications.[4] The APIs at issue here are an example of such

specifications.

---

[3] U.S. Congress, Office of Technology Assessment, *Finding a Balance: Computer Software, Intellectual Property, and the Challenge of Technological Change*, at 127, OTA-TCT-527 (Washington, DC: U.S. Government Printing Office, May 1992), *available at* http://ota.fas.org/reports/9215.pdf.

[4] *See amicus* brief filed by CCIA and the American Committee for Interoperable Systems (ACIS) in *Lotus Dev. Corp. v. Borland Int'l*, 516 U.S. 233 (1996). CCIA has advanced similar arguments in numerous other *amicus* briefs, including *Lotus*; *Pulse Commc'ns v. DSC Commc'ns Corp.*, 528 U.S. 923 (1999); *Sony Computer Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir.), *cert. denied*, 531 U.S. 831 (2000); *DVD Copy Control Assoc. v. Brunner*, 113 Cal. Rptr. 2d 388 (Cal. Ct. App. 2001); *Bowers v. Baystate*, 320 F.3d 1317 (Fed. Cir. 2003); *Chamberlain Group v. Skylink*

If a company could exercise proprietary control over the interface

specifications implemented by its products, that company could determine

which products made by other firms – if any – could interoperate with its

software. And should that company have a dominant position in a particular

market, it could use its control over interoperability to expand its dominant

position into adjacent markets.[5] Moreover, such authority would extend the

rights under copyright beyond what is necessary to protect the original

expressive elements that have traditionally been offered protection under

American copyright law, and it would override limitations on copyright

crafted to protect the public good.

Such a broad monopoly would have serious implications for consumer

welfare.[6] In the absence of competition during the effective lifespan of the

product, the first developer would have little incentive to develop more

innovative and less costly products. These negative consequences would be

compounded by the fact that the personal computer revolution and the

---

Techs., 381 F.3d 1178 (Fed. Cir. 2004); *Lexmark v. Static Control*, 387 F.3d
522 (6th Cir. 2004); and *Davidson v. Jung,* 422 F.3d 630 (8th Cir. 2005).
CCIA's reverse engineering arguments in section I.A., *infra*, and the DMCA
in section I.C.3., *infra*, have also been advanced in many of these cases.
  [5] Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095, 1113,
1133 (2003).
  [6] *See, e.g.*, Peter S. Menell, *An Analysis of the Scope of Copyright
Protection for Application Programs*, 41 STAN. L. REV. 1045, 1082, 1097
n.281 (1989).

emergence of the Internet have produced an overwhelming need for interconnection between different elements of computer systems. Prohibiting competitors from accessing *de facto* standard interface specifications would lock users into a particular operating system or network software environment, and would inhibit the transfer of data between users with different computing environments. *See Lotus Dev. Corp. v. Borland Int'l*, 49 F.3d 807, 821 (1st Cir. 1995) (Boudin, J., concurring), *aff'd by an equally divided Court*, 516 U.S. 233 (1996).

In short, in the computer industry, overly broad intellectual property protection directly restricts competition and innovation. This was the status quo in the computing environment in the 1970s. Once a buyer purchased a computer system, the buyer was essentially locked-in to that system: the system was incompatible with products manufactured by other companies, and conversion costs were high. Although "locking in" was extremely profitable for dominant vendors such as IBM, competitors and users suffered from high prices, indifferent service, limited choice, and slow innovation. Jonathan Band & Masanobu Katoh, *Interfaces on Trial 2.0* (2011), at 1.

Fortunately, as the district court explained in detail, U.S. courts rejected the approach embodied by the Third Circuit's *dicta* in *Franklin* and holding in *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222

(3d Cir. 1986), *cert. denied*, 479 U.S. 1031 (1987), and found instead that interface specifications fall on the idea (or unprotected) side of copyright's idea/expression dichotomy. These more recent rulings have enabled the transition from the locked-in computer environments of the 1970s to today's interoperable Internet. These courts, including the district court, have not created software-specific copyright doctrines. Rather, they have applied traditional copyright principles to software, concluding that "[t]o give one creator a monopoly over these basic elements would effectively stunt the efforts of other creators to elaborate on these elements in the production of their own works." *See* Office of Tech. Assessment at 143. As courts have become more familiar with software, they have understood that although computer programs are classified under the Copyright Act as literary works, an application has little in common with actual works of literature other than that both are expressed in symbols. An application is more like an appliance than a Harry Potter novel in that, while both the appliance and the application manifest aspects of design and creativity, both are fundamentally used to "bring about a certain result." 17 U.S.C. § 101 (defining "computer program"). Accordingly, the copyright protection in computer programs is "thin," protecting lines of code, detailed structure, and graphical user interfaces, but leaving unprotected the elements necessary to achieve

6

interoperability and other systems and methods of operation. This is neither

a value judgment nor a suggestion that engineers are less creative than

novelists. Rather, it recognizes the basic fact that an applied work of

engineering functions differently from a work of art or entertainment, and as

a consequence, works of engineering receive a different scope of copyright

protection. To say that interface specifications necessary for interoperability

are not protected, and that software copyright is thin, is not to withhold

copyright protection from software platforms. Title 17 still provides ample

protection, without going through the effort of a patent prosecution, and

offers robust remedies for copyright infringement in appropriate cases.[7]

This brief will not repeat the parties' substantive arguments. Instead,

following Chief Justice Roberts' teaching that "a page of history is worth a

volume of logic," *eBay v. MercExchange*, 547 U.S. 388, 394 (2006)

(Roberts, J., concurring) (citations omitted), it provides an overview of how

U.S. courts, Congress, and jurisdictions around the world have, over the past

25 years, arrived at a consensus interpretation of the copyright question of

---

[7] *See, e.g.*, Karen Gullo & Cornelius Rahn, "SAP to Pay Oracle $306 Million for Copyright Breach," Bloomberg.com, Aug. 3, 2012, *available at* http://www.bloomberg.com/news/2012-08-02/oracle-says-sap-to-pay-306-million-in-copyright-deal.html.

interoperability.[8] This pro-interoperability approach has two related

principles. First, copyright protection does not extend to program elements

necessary for interoperability, such as interface specifications. Second, the

copying incidental to the reverse engineering necessary to identify these

interface specifications does not infringe copyright.

At the outset of the "interoperability debate," CCIA and another

organization with overlapping membership, the American Committee for

Interoperable Systems ("ACIS"), along with leading members of both

organizations,[9] encouraged a pro-interoperability interpretation of copyright

law in *amicus* briefs in at least sixteen different cases. CCIA and ACIS also

lobbied vigorously, and successfully, for an interoperability exception in the

Digital Millennium Copyright Act ("DMCA"), a provision now mandated

by eleven free trade agreements to which the United States is a party. A

sister organization to ACIS, the European Committee for Interoperable

---

[8] This history is discussed in detail in two books co-authored by counsel of record on this brief. Jonathan Band & Masanobu Katoh, *Interfaces on Trial: Intellectual Property and Interoperability in the Global Software Industry* (1995), *available at* http://www.policybandwidth.com/interfaces-2-0 (hereinafter "*Interfaces 1.0*"); and Band & Katoh, *Interfaces on Trial 2.0* (2011), *available at* http://mitpress.mit.edu/books/interfaces-trial-20 (hereinafter "*Interfaces 2.0*").

[9] Companies from across industry, ranging from Amdahl to Zenith, and including Oracle and Sun Microsystems (which developed the Java APIs prior to its 2010 acquisition by Oracle), were active CCIA and/or ACIS members. Sun's Deputy General Counsel chaired ACIS for much of its existence.

Systems ("ECIS"), also supported interoperability principles in the European

Union Software Directive. In fact, industry advocacy for interoperability

extended to the Pacific Rim and the Middle East.

After reviewing the history of the adoption of a global copyright

framework supportive of software interoperability, this brief turns to

arguments by Oracle's *amici*. While professing to support the principle that

copyright should not prevent the reproduction of program elements

necessary for interoperability, these *amici* nevertheless invite this Court to

turn back the clock on a quarter century of established domestic and

international software copyright jurisprudence. CCIA urges the Court to

decline that invitation.

ARGUMENT

I. COURTS AND LEGISLATURES AROUND THE WORLD RECOGNIZE THAT COPYRIGHT MUST NOT INTERFERE WITH INTEROPERABILITY.

A. The Two Principles Fostering Interoperability

Over the past twenty-five years, U.S. courts, Congress, and foreign

jurisdictions have repeatedly applied copyright law in a manner that supports

interoperability. Decision-makers around the world have adopted two

related principles to this end. First, they have determined that copyright

does not protect interface specifications and other program elements

necessary for interoperability. Second, they have refused to treat as

copyright infringement any reproductions performed in the course of the

reverse engineering necessary to discern these interface specifications.

The first principle – the non-protectability of interface specifications –

was correctly decided by the district court, and has been briefed extensively

in this appeal. The second principle – the permissibility of reverse

engineering – is not directly at issue in this case, but its treatment reflects

how decision-makers view the first principle. Because a program's interface

specifications usually are not readily apparent, and may not be available,

developers seeking to interoperate often must research the interface

specifications of the original program. This research, known as reverse

engineering, is a basic tool of software product development. Without it,

interoperability can be difficult or impossible to achieve.[10]

---

[10] The U.S. Supreme Court has long recognized that there is nothing
inherently wrong with studying a competitor's product to understand how it
works and to figure out how to make a better product. Thus, in *Kewanee Oil
Co. v. Bicron Corp.*, 416 U.S. 470, 476 (1974), the Court stated that "trade
secret law … does not offer protection against discovery by fair and honest
means, such as … by so-called reverse engineering, that is by starting with a
known product and working backward to divine the process which aided in
its development or manufacture." The Court has also recognized the
benefits of reverse engineering: "Reverse engineering … often leads to
significant advances in technology." *Bonito Boats, Inc. v. Thunder Craft
Boats, Inc.*, 489 U.S. 141, 160 (1989).

Copyright law, however, has the potential of raising obstacles to

software reverse engineering. Because of the nature of computer

technology, software reverse engineering almost always requires the making

of a reproduction or derivative work. Since this Court's 1992 decision in

Atari Games Corp. v. Nintendo of America, 975 F.2d 832 (Fed. Cir. 1992),

however, no less than five U.S. courts have permitted reproduction during

the course of software reverse engineering under the fair use doctrine.[11]

Other courts have prevented enforcement under a copyright misuse theory.[12]

The permissibility of reverse engineering is relevant to this case in

that courts and legislatures logically would allow reverse engineering only if

the reverse engineer could *use* the information he learned by the reverse

engineering. The cases cited above all involved reverse engineering for

purposes of interoperability. Likewise, as will be discussed below, Congress

and foreign legislatures have adopted copyright exceptions that permit

reverse engineering for purposes of achieving interoperability. Such

---

[11] *Sega Enters., Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992); *DSC Commc'ns Corp. v. DGI Techs.*, 898 F. Supp. 1183 (N.D. Tex. 1995), *aff'd*, 81 F.3d 597 (5th Cir. 1996); *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532 (11th Cir. 1996); *DSC Commc'ns Corp. v. Pulse Commc'ns, Inc.*, 976 F. Supp. 359 (E.D. Va. 1997), *aff'd in part, rev'd in part, and vacated in part*, 170 F.3d 1354 (Fed. Cir. 1999); *Sony Computer Entm't v. Connectix Corp.*, *supra* n.4.

[12] *DSC Commc'ns Corp. v. DGI Techs.*, *id.*; *Alcatel U.S.A. v. DGI Techs.*, 166 F.3d 772 (5th Cir. 1999).

exceptions make sense only if the information necessary to achieve

interoperability (here, APIs) are not covered by copyright.

B. The Global Debate Over Interoperability

The courts and legislatures did not adopt interoperability principles in

a vacuum. Two competing industry constituencies, one representing the

dominant software and hardware companies, the other representing new

entrants, engaged in a fierce "two-decade global debate" that included

litigation advocacy and lobbying on all continents except for Antarctica. *See*

Interfaces 1.0, at 14.

Oracle *amicus* Business Software Alliance ("BSA") was one

association advocating the perspective that copyright could be used to

restrict access to interface specifications and prohibit reverse engineering.

These positions concerned leaders from new entrants in the hardware and

software industry. Troubled by the competitive implications of copyright-

restricted interface specifications, they first convened in Silicon Valley at

Sun's corporate headquarters on December 5, 1991, to organize a response

to this threat. Chaired by Sun's Deputy General Counsel Peter Choy, this

group – ACIS – agreed upon a Statement of Principles, chiefly, that "[t]he

rules or specifications according to which data must be organized in order to

communicate with another program or computer, i.e., interfaces and access

protocols, are not protectable expression under copyright law", and that

copyright does not "restrict the ability of others to reproduce all or part of a

lawfully obtained program as a step in the development of competing

products…." American Committee for Interoperable Systems, Statement of

Principles (1991), *available at* http://www.ccianet.org/interop.

Subsequently joining CCIA and ACIS in the global interoperability

debate were ECIS, the Canadian Association for Interoperable Systems

("CAIS") and the Supporters of Interoperable Systems in Australia

("SISA"), all of whom subscribed to the position that copyright should not

extend to interface specifications, nor restrict reverse engineering.[13]

1.   Advocacy in Interoperability Cases

The district court has extensively recounted prior case law concerning

the non-protectability of interface specifications. In many of these disputes,

CCIA or ACIS participated as *amici* in support of copyright principles

favorable to interoperability.[14] These included cases on non-protectability of

---

[13] *See Interfaces 1.0, supra.* Both Oracle and Sun were CCIA members at this time, as well as members of ACIS, ECIS, and SISA. *Interfaces 1.0, id.* at 308. Sun joined CCIA in 1993 and remained a member until its 2010 acquisition by Oracle. Oracle was a member of CCIA from 1993 until 2011. Google only joined CCIA in 2006, decades after CCIA's pro-interoperability advocacy began.

[14] *See* http://www.ccianet.org/interop. BSA and other associations, such as the Computer and Business Equipment Manufacturers Association, filed

interface specifications,[15] permissibility of software reverse engineering,[16] and the interoperability exception of the DMCA.[17] U.S. copyright law ultimately settled on a rule now internationally recognized: that copyright protection does not extend to interface specifications necessary for interoperability.

The resolution of the interoperability debate in the courts precipitated a change in U.S. domestic and foreign policy. In 1994, it was reflected in competition policy, as Assistant Attorney General Anne K. Bingaman noted in a speech that

---

briefs in various cases opposing this view. *See generally Interfaces 1.0*, 99-101 (recounting parties' general arguments).

[15] *See Computer Assocs. Int'l v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992) (brief by ACIS); *Gates v. Bando*, 9 F.3d 823 (10th Cir. 1993) (brief by ACIS); *Unix Systems v. Berkeley Software*, 832 F. Supp. 790 (D.N.J. 1993) (brief by ACIS); *Apple Computer v. Microsoft Corp.*, 35 F.3d 1435 (9th Cir. 1994) (brief by ACIS); *Engineering Dynamics v. Structural Sys.*, 26 F.3d 1335 (5th Cir. 1994); (brief by ACIS); *Lotus Dev. Corp. v. Borland Int'l*, 49 F.3d 807 (1st Cir. 1995) (brief by ACIS); *aff'd by an equally divided Court*, 516 U.S. 233 (1996) (briefs by ACIS and CCIA).

[16] *See Sega v. Accolade*, 785 F. Supp. 1392 (N.D. Cal. 1992) (brief by ACIS), *rev'd*, 977 F.2d 1510 (9th Cir. 1992) (briefs by ACIS and CCIA); *Bateman v. Mnemonics, Inc.*, *supra* n.11 (brief by ACIS); *ProCD v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996) (brief by ACIS); *Pulse Commc'ns v. DSC Commc'ns Corp.*, *supra* n.4 (brief by CCIA); *Sony Computer Entm't v. Connectix Corp.*, *supra* n.4 (briefs by ACIS and CCIA); *DVD Copy Control Assoc. v. Brunner*, *supra* n.4 (briefs by ACIS and CCIA); *Bowers v. Baystate*, *supra* n.4 (brief by CCIA).

[17] *See Chamberlain v. Skylink, supra* n.4 (brief by CCIA); *Lexmark Int'l v. Static Control*, *supra* n.4 (brief by CCIA); *Davidson v. Jung*, *supra* n.4 (brief by CCIA).

[t]he substantive reach of the exclusive rights granted under the intellectual property laws has been a matter of particular concern and ferment in the software industry.... The scope of copyright protection for computer software has, we believe, important competitive implications, as well as important implications for incentives to innovate.[18]

The U.S. Government eventually took the position that interface specifications should not receive copyright protection in its antitrust case against Microsoft. The Justice Department had objected to certain restrictions in licensing agreements, and, citing *Computer Associates v. Altai*, argued that copyright is not an unbounded property right, but rather a limited power designed to incentivize creation. The Government stated, "it is by now well established that the copyright in a computer program cannot extend to the functional aspects of that computer program; to design choices dictated by necessity, cost, convenience or consumer demand."[19] To support this statement, it summarized *Mitel v. Iqtel*, 124 F.3d 1366 (10th Cir. 1997), as follows: "interface specifications of a communications protocol are freely copiable because they are functional rather than expressive."[20]

Interoperability also found support elsewhere in the U.S. Government, as the Federal Trade Commission also expressed concern in relation to

---

[18] Quoted in *Interfaces 1.0*, at 64.

[19] Response of the United States to Microsoft's Motion for Summary Judgment, *U.S. v. Microsoft*, 1998 U.S. Dist. LEXIS 14231 (D.D.C. Sept. 14, 1998), at 77.

[20] U.S. Response, *supra*, at 79.

Article 2B of the Uniform Commercial Code, insofar as it could limit the

reverse engineering permitted under *Sega*, and thereby dampen competition

in the software industry. *See Interfaces 2.0*, at 67-70.

2.   The Interoperability Exception in the DMCA

Section 1201 of the Digital Millennium Copyright Act, enacted by

Congress in 1998, restricts the development, distribution, and use of

technologies that circumvent other technologies that protect an author's

copyrights. While the DMCA was pending before Congress, CCIA and

ACIS explained that the act of reverse engineering could require the

circumvention of a technological protection measure.[21] Moreover, the

incorporation of these specifications in competitive products could run afoul

of the DMCA's prohibition on the manufacture and distribution of

circumvention technologies. This would particularly be the case when a

company placed a software "lock" on a program that prevented access to the

program, and the competitor circumvented that software lock to achieve

interoperability. Thus, Section 1201 could prevent a developer of

---

[21] In a 1998 press release, Michael Morris, then Vice President and General Counsel of Sun Microsystems, argued that the legislation would "impose[] a new and unnecessary layer of restraint on lawful access to those unprotected elements of computer programs that are necessary to achieve interoperability, thus placing developers of interoperable products at the mercy of proprietary vendors." Press Release, Sun Microsystems, House IP Subcommittee Action Threatens Internet Competition (Mar. 1, 1998).

interoperable products from exercising his fair use privileges recognized in *Sega* and its progeny.

Notwithstanding opposition from BSA, CCIA and ACIS's pro-interoperability advocacy ultimately prevailed, and Congress included in the DMCA an exception explicitly directed at software reverse engineering and interoperability. Section 1201(f) specifically allows software developers to circumvent technological protection measures in a lawfully obtained computer program in order to identify the elements necessary to achieve interoperability of an independently created computer program with other programs.[22] Furthermore, a person may develop, distribute, and employ the means to circumvent technological protection measures for the purpose of achieving interoperability.

The Senate Judiciary Committee report on the DMCA explained the policy underlying Section 1201(f) as being "intended to allow legitimate software developers to continue engaging in certain activities for the purpose of achieving interoperability to the extent permitted by law prior to the enactment of this chapter." S. Rep. No. 105-190 (1998), at 29. The Committee evidently understood that if a company placed on its program a

---

[22] Section 1201(f)(4) defines interoperability "as the ability of computer programs to exchange information, and of such programs mutually to use the information which has been exchanged."

17

technological measure that prevented interoperability, a legal prohibition on circumventing that technological protection could preclude other companies from developing products capable of operating in that company's computing environment. Citing *Sega*, the Committee stated that "[t]he objective is to ensure that the effect of current case law interpreting the Copyright Act is not changed by enactment of this legislation for certain acts of identification and analysis done in respect of computer programs." *Id*. The Committee concluded by noting that "[t]he purpose of this section is to foster competition and innovation in the computer and software industry." *Id.*

In a 2003 rulemaking adopting exemptions to the DMCA, the U.S. Copyright Office affirmed that Section 1201(f) has the effect of "enabling competitive choices in the marketplace." Recommendation of the Register of Copyrights, Rulemaking on Exemptions from Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, at 172 (Docket No. RM 2002-4, Oct. 27, 2003), *available at* http://www.copyright.gov/1201/docs/registers-recommendation.pdf. In particular, the Office found that Section 1201(f)(3) permitted the

incorporation of interface information in products for the purpose of

achieving interoperability.[23] *Id.*

3. Free Trade Agreements Mandate Protections for Interoperability

Pro-interoperability principles also influenced the contours of U.S.

trade agreements. Since 2002, the United States has negotiated a series of

free trade agreements ("FTAs"), which, *inter alia*, include provisions

modeled on DMCA section 1201. In addition to requiring parties to adopt

prohibitions on the circumvention of technological protection measures,

these provisions permit countries to adopt exceptions for reverse engineering

for the purpose of achieving interoperability. Thus, each party may permit

> [n]oninfringing reverse engineering activities with regard to a
> lawfully obtained copy of a computer program, carried out in
> good faith with respect to particular elements of that computer
> program that have not been readily available to the person
> engaged in those activities, for the sole purpose of achieving
> interoperability of an independently created computer program
> with other programs.

U.S.-Korea Free Trade Agreement, art. 18.4.7(d)(i), June 30, 2007, 8 U.S.T.

2217.[24] The FTAs with the following countries include similar language

---

[23] CCIA and ACIS lobbied Congress and the Administration against other
proposals that may have threatened interoperability, including legislation
regarding criminal penalties for infringement of software (S. 893 in the
102nd Congress), industrial design protection (H.R. 1790 in the 102nd
Congress), database protection, and software patents. Additionally, these
groups sought a reverse engineering exception to the proposed Article 2B of
the Uniform Commercial Code. *See Interfaces 2.0*, at 68.

permitting the adoption of exceptions for reverse engineering for purposes of

interoperability: Australia, Bahrain, Chile, Colombia, Costa Rica,

Dominican Republic, El Salvador, Guatemala, Honduras, Morocco,

Nicaragua, Oman, Panama, Peru, and Singapore. As in the United States,

many of these countries have adopted reverse engineering exceptions in their

domestic law.[25]

C.   Copyright Laws Around the World Protect Interoperability

In addition to the reverse engineering exceptions adopted pursuant to

the FTAs, legislation favoring interoperability has been adopted in over 40

countries, including many major U.S. trading partners.

1.   European Union Law Mirrors the U.S. Pro-Interoperability Approach

a.   The Software Directive

In 1991, after a vigorous three-year lobbying battle between BSA and

ECIS, the European Union adopted the Software Directive.[26] Council of

Ministers Directive 91/250/EEC of 14 May 1991 on the Legal Protection of

Computer Programs, 1991 O.J. (L 122). The Directive that emerged from

---

[24] CCIA assisted the Office of the United States Trade Representative in the drafting of this language.

[25] CCIA and ACIS advocated pro-interoperability positions in connection to other international agreements such as TRIPS and the World Intellectual Property Organization Copyright Treaty.

[26] This legislative battle between BSA, ECIS, including ECIS members Oracle and Sun, is discussed in detail in *Interfaces 1.0*, at 227-41.

this political process reflects a policy judgment that copyright should not interfere with interoperability. The Software Directive has been implemented by all member states of the EU, as well as Croatia, Norway, Russia, Switzerland, and Turkey. *Interfaces 2.0*, at 6.

Article 5(3) of the Directive provides a broad exception from liability for "black box reverse engineering" – activities such observing the behavior of a program as it runs, input/output tests, and line traces. Article 6 provides a narrower exception for decompilation – what *Atari* and other U.S. courts have called "disassembly." Decompilation or disassembly involves translating machine-readable object code into a higher level, human readable form. Article 6 permits decompilation for purposes of achieving interoperability when the information has not previously been made available; the decompilation is limited to those parts of the program necessary for interoperability; and the final product created by the reverse engineer does not infringe on the copyright of the original product.

b. *SAS Institute v. World Programming Ltd.*

The Software Directive does not directly address the protectability of interface specifications. Rather, Article 1(2) provides that "[i]deas and principles which underlie any element of a computer program, including those which underlie its interfaces, are not protected by copyright…."

Commentators interpreted this to mean that interface information necessary to achieve interoperability must fall on the idea side of the idea/expression dichotomy; otherwise, the detailed decompilation provision in Article 6 would be of little utility. However, this issue received scant attention from European courts for 20 years, until May 2012, when the European Union's highest court, the Court of Justice of the European Union ("CJEU"), ruled in *SAS Institute v. World Programming Limited*[27] that program functionality, programming languages, and data formats were not protectable under the Software Directive.

The case concerned SAS Institute's computer program for statistical analysis. SAS users typically create "scripts" or programs that run on top of the SAS System through a programming language known as the SAS Language. World Programming Limited ("WPL") sought to compete with SAS by creating "middleware" software that could run users' scripts written in the SAS Language just like the SAS System did. To do so, WPL created a program that emulated SAS. SAS sued, claiming that even though WPL did not copy SAS's source code, WPL's program nonetheless infringed on SAS's copyrights, *inter alia*, by replicating (i) the SAS programming language, (ii) the data and programming interfaces used in the SAS system

---

[27] Case C‑406/10, May 2, 2012, ¶ 71, *available at* http://curia.europa.eu/juris/liste.jsf?num=C-406/10.

and (iii) the functionality offered by the SAS System.

The CJEU ruled that Article 1(2) of the Software Directive "must be interpreted as meaning that neither the functionality of a computer program nor the programming language and the format of data files used in a computer program in order to exploit its functions constitute a form of expression of that program and, as such, are not protected by copyright in computer programs for purposes of that directive." *Id.* The CJEU explained that "to accept that the functionality of a computer program can be protected by copyright would amount to making it possible to monopolise ideas, to the detriment of technological progress and industrial development." *Id*., ¶ 40. The CJEU observed that "the main advantage of protecting computer programs by copyright" as opposed, presumably, to patents, "is that such protection covers only the individual expression of the work and thus leaves other authors the desired latitude to create similar or even identical programs," *id*., ¶ 41, provided that they refrain from copying protected expression. In other words, the CJEU reached precisely the same conclusion as the district court here.

2. **Pacific Rim Policy Aligns with U.S. and European Pro-Interoperability Law**

The policy battles described above between the members of BSA and the members of CCIA and ACIS repeated themselves throughout the Pacific

Rim, where policymakers have also arrived at a view consistent with that of

U.S. and Europe. During a decade-long copyright law review in Australia,

SISA filed numerous submissions in support of an exception for reverse

engineering for purposes of interoperability.[28] SISA was opposed by

dominant companies organized in the Computer and Business Equipment

Manufacturers Association. In the end, SISA prevailed; Australia adopted

reverse engineering exceptions modeled on articles 5(3) and 6 of the EU

Software Directive.

The Attorney-General of Australia, the Hon. Daryl Williams QC,

explained the government's rationale for introducing these exceptions. With

the advent of the Internet, "there is an obvious need for computers and the

programs which drive them to communicate, connect, or 'interoperate' with

each other." Speech on Copyright Amendment (Computer Program) Bill

1999, Second Reading (Aug. 11, 1999) (quoted in *Interfaces 2.0*, at 152).

The Attorney-General then explained the need for interface information in

order to achieve interoperability, and how this information as a technical

matter can often be obtained only through reverse engineering. The

Attorney-General noted that "the law of the leading software producing

country in the world, the United States, allows makers of new programs to

---

[28] *See Interfaces 2.0*, at 136-58.

use decompilation to find out the interface information of existing programs for achieving interoperability. The countries of the European Union, and other countries, also allow this to be done." *Id*.

A similar discussion occurred in Hong Kong, in the months before the turnover to China, where the Legislative Council worked on revising its copyright laws.[29] The Bills Committee in April 1997 held a public hearing on software reverse engineering. For ACIS, Sun's counsel Peter Choy testified in favor of a reverse engineering exception; a BSA representative testified against it. The Legislative Council decided to broaden Hong Kong's fair dealing provision to more closely resemble the fair use provision of the U.S. Copyright Act. The Secretary of Trade and Industry explained that this amendment was intended "to encourage competition in the information technology industry by facilitating timely access to information and ideas underlying computer programs." Speech by Secretary of Trade and Industry on Resumption of Second Reading, Debate at 10 (June 24, 1997) (quoted in *Interfaces 2.0*, at 175). She added that "the object is to allow decompilation to be deemed a fair use…." *Id*.

---

[29] *See Interfaces 2.0*, at 168-75.

Singapore also amended its fair dealing provision to more closely track fair use.[30] In introducing the amendment, the Attorney-General of Law stated that it "will bring us in line with the United States, the United Kingdom, other European Union countries, Hong Kong, and Australia, which do not bar the use of copyright materials for commercial research."[31] *Id.* at 166. Professor Chin Tet Yung, in the brief debate of the amendment in Parliament, said that it "is very important to ensure that there is a fair balance in any Copyright Bill between the interests of holders of rights in 'cutting edge' software and the interest of competitors who want to design and market non-infringing competing programmes which interface or are inter-operable with the basic programmes." *Id*. In 2004, Singapore further amended its copyright law to include provisions modeled on the black box reverse engineering and the decompilation provisions of the Software Directive.

The copyright laws of other Pacific Rim countries have been amended to encourage interoperability. In the Philippines, the legislature in 1997 inserted the following sentence in the fair use provision: "Decompilation, which is the reproduction of code and translation of the form of the

---

[30] *See Interfaces 2.0*, at 158-68.
[31] *See* Second Reading of Copyright (Amendment) Bill of 1998 (Sing.) (February 19, 1998) (quoted in *Interfaces 2.0*, at 166-67).

computer program indispensable to obtain the information necessary to achieve the inter-operability of an independently created computer program with other programs may also constitute fair use."[32] Taiwan in 2007 added a fair use provision similar to section 107, as well as a reverse engineering exception to its circumvention prohibition. In 2008, the Parliament in New Zealand adopted reverse engineering exceptions based on the EU Software Directive, permitting decompilation "necessary to obtain information necessary for the objective of creating an independent program that can be operated with the program decompiled or with another program…."[33] In 2012, Malaysia added a circumvention prohibition, with an exception for "the sole purpose of achieving interoperability of an independently created computer program with the original program or any other programs."[34]

---

[32] ACIS submitted comments to the Philippine government arguing in favor of an interoperability exception. ACIS also argued in favor of interoperability exceptions in Japan and Korea. *See Interfaces 1.0*, at 297-316; *Interfaces 2.0*, at 178-80.

[33] Copyright (New Technologies) Amendment Act 2008, § 43 (N.Z.) (2008 No. 27) *at* http://www.legislation.govt.nz/act/public/2008/0027/latest/ DLM1122604.html (amending Copyright Act 1994, § 80A(2)). CCIA submitted comments to the New Zealand government in support of interoperability.

[34] Copyright (Amendment) Act 2012, Laws of Malaysia, Act A1420, § 36A(2)(a), *available at* http://malaysianlaw.my/attachments/Act-A1420-Copyright-A-Act_81389.pdf.

3. Other Regions Also Embrace Interoperability

India permits "the doing of any act necessary to obtain information essential for operating interoperability of an independently created computer programme with other programmes...."[35] Kenya provides that authorization "shall not be required to decompile [a] program, convert the program into a version expressed in different programming language, code, notation for the purpose of obtaining information needed to enable the program to operate with other programs."[36] Likewise, Israel allows the copying of a computer program to "obtain[] information which is needed to adapt a different and independently developed computer system or program, in such a way that it will be interoperable with the computer program."[37] Canada last year amended its copyright law to permit the owner or licensee of a copy of a computer program "to reproduce the copy for the sole purpose of obtaining information that would allow the person to make the program and any other

---

[35] Copyright Act, No. 14 of 1957; India Code (1999), § 52(1)(ab), *available at* http://www.wipo.int/wipolex/en/text.jsp?file_id=128098.
[36] Copyright Act, (2009) Cap. 130 § 26(5) (Kenya), available at http://www.wipo.int/wipolex/en/text.jsp?file_id=202207.
[37] Copyright Act, 5767-2007, 2007 LSI 2199 (Israel), § 24(c)(3), *available at* http://www.wipo.int/wipolex/en/text.jsp?file_id=132095. For ACIS, Sun's Choy submitted comments to the Israeli Knesset arguing in favor of an interoperability exception.

computer program interoperable." Copyright Modernization Act (Bill C-

11), S.C. 2012, c. 20 (Can.), s. 30.61.[38]

II. ORACLE'S *AMICI* AGREE THAT ELEMENTS NECESSARY FOR INTEROPERABILITY DO NOT RECEIVE COPYRIGHT PROTECTION.

Even Oracle's *amici* largely acknowledge as a matter of law and

policy what jurisdictions around the world have concluded: copyright does

not and should not apply to program elements necessary to achieve

interoperability.

> Oracle *amicus* BSA
>
> recognizes that interoperability between computer programs is in many instances desirable both from the perspective of developers and their customers. Operating systems work harmoniously with microprocessors; applications work harmoniously with operating systems; and different types of computers work harmoniously when interacting over the Internet.

BSA Br. at 32. For this reason, courts allow "limited copying of computer

programs to make new programs interoperable with existing software or

hardware." *Id*. at 32-33.

---

[38] Further, the amendment permits circumvention "for the sole purpose of obtaining information that would allow the person to make the program and any other computer program interoperable." *See id.*, 41.12(1). CAIS, whose members included Sun, submitted comments in favor of interoperability exceptions in the Canadian copyright law.

Computer scientists Eugene Spafford, et al., similarly acknowledge the "practical concern … that a developer could leverage its copyright primarily to prevent interoperable products from being developed." Spafford Br. at 21. Spafford asserts that "the creator of a word processor who wants to be able to open Microsoft Word files in the .doc file format so that they can be used in that creator's word processing program (i.e., so that the programs are interoperable) must be able to copy the .doc file format." *Id*. at 22. Spafford adds that "we do not advocate restraining copying that is required for purposes of interoperability…." *Id*. at 21.

Notwithstanding the strong support expressed by Oracle's *amici* for the principle that copyright should not impede interoperability, they seek reversal of the district court's decision. BSA punctiliously faults the district court for finding that Oracle's APIs were not copyrightable, rather than that they were not infringed when Google copied them; *see* BSA Br. at 27. However, the district court quoted and followed *Sega*'s explicit holding that functional aspects "are not protected." *See Oracle Am., Inc. v. Google, Inc.*, 872 F. Supp. 2d 974, 994 (N.D. Cal. 2012) (quoting *Sega*, 977 F.2d at 1522). Moreover, the district court did not hold that *no* API received copyright protection, only that *these* particular APIs did not. *See id*. at 1002. And it certainly did not hold that the source code implementing the API did not

30

receive copyright protection. Thus, the vast majority of the software created

by Sun and acquired by Oracle remains protected.

Oracle's *amici* also contradict the facts of the case, suggesting that

Google's copying was not motivated by the imperative of interoperability,

but by a desire to appeal to programmers skilled in Java. BSA Br. at 33;

Spafford Br. at 20. The district court, however, found that "in order for at

least some [preexisting] code to run on Android… Google replicated what

was necessary to achieve a degree of interoperability."[39] *Oracle v. Google*,

872 F. Supp. 2d at 1000.

CONCLUSION

The United States and over 40 other countries have recognized that

permitting copyright law to impede interoperability would harm legitimate

competition in the computer industry and impair the growth of the Internet

economy. CCIA, its members, and several litigants and *amici* here played a

major role in creating this global legal environment that fosters

interoperability and innovation. This case should not provide a basis for

relitigating or legislating against more than two decades of established

---

[39] Whether the district court correctly found that Google was attempting
"to achieve a degree of interoperability" is a finding of fact reversible only if
it is clearly erroneous. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802
F.2d 1367, 1375 (Fed. Cir. 1986); *see also Saltarelli v. Bob Baker Group
Med. Trust*, 35 F.3d 382, 384 (9th Cir. 1994).

international law and jurisprudence. Even now, Congress is undertaking a comprehensive review of copyright law; if litigants or *amici* wish to undo a quarter century of copyright jurisprudence, that debate should be had before Congress.

Respectfully submitted,

Matthew Schruers
Vice President, Law & Policy
Computer & Communications
 Industry Association
900 17th Street NW, Suite 1100
Washington, DC 20006
(202) 783-0070
mschruers@ccianet.org

<u>/s/ Jonathan Band</u>
Jonathan Band
Jonathan Band PLLC
21 Dupont Circle NW, Suite 800
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com
Counsel of Record

May 30th, 2013

CERTIFICATE OF COMPLIANCE

1.   This brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B) because it contains 6,726 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii) and Federal Circuit Rule 32(b).

2.   This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the types style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in 14 point Times New Roman.

/s/ Jonathan Band
Jonathan Band
Jonathan Band PLLC
21 Dupont Circle NW, Suite 800
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com
Counsel of Record

May 30th, 2013

CERTIFICATE OF SERVICE

I hereby certify, that on this 30th day of March 2013, a true and correct copy of the foregoing Brief of *Amicus Curiae* the Computer & Communications Industry Association was timely filed electronically with the Clerk of the Court using CM/ECF, which will send notification to all counsel registered to receive electronic notices.

/s/ Jonathan Band
Jonathan Band
Jonathan Band PLLC
21 Dupont Circle NW, Suite 800
Washington, DC 20036
(202) 296-5675
jband@policybandwidth.com
Counsel of Record