

IEEE-USA POSITION STATEMENT

REVERSE ENGINEERING

***Adopted by the IEEE-USA
Board of Directors, 18 June 2016***

IEEE-USA encourages the protection of intellectual property rights associated with each computer software product sold in domestic and international markets, including copyrights, trademark rights, trade secret rights and patent rights. We believe that development of high-value software products in the United States should be encouraged by:

1. Incorporating high-value intellectual work content into these computer software products
2. Establishing and maintaining appropriate worldwide protection for the intellectual property rights associated with this intellectual work content

We also believe that the high-value intellectual content of a computer product, and its competition, are enhanced -- when computer products developed by one vendor are capable of operating with computer products developed by another vendor. This compatibility promotes the development of interoperable products by independent and competing vendors, thereby promoting enhanced value to the vendee at a competitive price.

The authors of the U.S. Constitution realized that scientific and cultural advantages are fostered by providing forms of legal protection for limited periods of time to intellectual property originators. Congress passed the *U.S. Copyright Act* to provide authors, including computer programmers, exclusive rights to the expression contained in their work(s). On the other hand, Congress did not, under the *Copyright Act*, protect the ideas contained in that expression. Rather, Congress desired that the ideas contained in works, including computer programs, should be available for use by, and to reach, others. Accordingly, we consider it appropriate to perceive and learn those ideas by lawful means of reverse engineering.

We further believe that lawful reverse engineering of computer programs is fundamental to the development of programs and software-related technology. The term, *reverse engineering*, means using engineering techniques to discover the underlying ideas and principles governing how a machine, computer program, or other technological device works. Engineers use this information for many purposes, including making other products interoperate with the target product that is the subject of the reverse engineering.

Engineers also use this information for designing competing products that are not substantially similar in expression; as well as to discover patentable subject matter and ideas not otherwise disclosed in the literature the originator provides with the product. We further believe that

lawful reading, analysis, or disassembly of machine language is a reverse engineering technique, by which an engineer can reconstruct the ideas of a computer program.

Accordingly, an engineer having the right to use a copy of a computer program should be entitled, without the authorization of the author to observe, study, or test the functioning of the program -- to determine the ideas that underlie the program -- if it is accomplished while performing any of the acts of reading, displaying, running, transmitting, receiving, or storing the program; or other lawful acts involving the program that the engineer or programmer is entitled to do.

We support the fair use rulings in the Sega Enterprises vs. Accolade, 977 F.2d 1510 (9th Cir. 1992) and Nintendo vs. Atari, 975 F.2d 832 (Fed Cir. 1992) decisions pertaining to disassembly of computer code. Further, when the object code of a program is widely distributed (so that the object code is no longer a trade secret) -- contractual provisions accompanying the object code limiting an engineer's or programmer's fair use privileges to reverse engineer the object code -- should not be enforceable.

This statement was developed by the IEEE-USA Intellectual Property Committee, and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public policy interests of the more than 200,000 engineering, computing and allied professionals who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE, or its other organizational units.