

UCC Article 2B

Cem Kaner J.D., Ph.D.

kaner@kaner.com

408-244-7000

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You can download the latest draft of Article 2B (including its preface) from

<http://www.law.upenn.edu/bll/ulc/ulc.htm>

You can download several public comments on Article 2B at

www.SoftwareIndustry.org/issues/guide/parcom.html

You can download several criticisms of Article 2B, with some articles written for a software development community audience, at my web site,

www.kaner.com

Supplementary Materials

On Disk

Along with these notes, you should have received a floppy disk, containing the following materials:

- ucc2b.wp5** The January, 1997 draft of Article 2B. WordPerfect 5.1.
- stepsavr.txt** software case, rejecting shrinkwrapped warranty modification
- diamond.txt** non-software case; illustrates UCC treatment of post-sale terms
- procd.txt** software case, accepts shrinkwrap terms
- gateway.txt** software case, accepts shrinkwrap terms
- vault.txt** software, rejected shrinkwrap terms.
- shute.txt** non-software, consumer case. Accepts forum selection.
- trw.txt** forum selection is a material term, post-sale term rejected.
- mai.txt** illustrates use restrictions
- ortho.txt** consequentials available despite exclusion, if there is gross negligence.
- transprt.txt** property damage caused by defective software is breach of contract, not tort.
- rockport.txt** property damage caused by defective software is breach of contract, not tort.
- qualcost.doc** explains quality cost analysis. MS-Word 6.0.
- coverage.doc** explains measurement of the extent of testing / quality control done to software. MS-Word 6.0.
- support.doc** paper on liability for bad software and support

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1. BACKGROUND AND SCOPE

- **What is the Uniform Commercial Code?**
- **The UCC revision process**
- **Structure of the UCC**
- **Scope of Article 2B**

What is the Uniform Commercial Code?

The Uniform Commercial Code (UCC) is a model law that is drafted and maintained by

- **American Law Institute (ALI) and**
- **National Conference of Commissioners on Uniform State Laws (NCCUSL)**

The UCC is the best known and most widely adopted of several Uniform laws. Since 1953, all American states have adopted most of the UCC.

The UCC is state law, not federal, but it lays out a consistent set of rules for doing business across the United States.

Structure of the UCC

The UCC is divided into Articles, which are separately maintained bodies of law.

<u>Article</u>	<u>Subject Matter</u>
1	General provisions (definitions, rules of interpretation)
2	Sales (of goods)
2A	Leases (of goods)
3	Negotiable instruments
4	Bank deposits and collections
4A	Funds transfers
5	Letters of collection
6	Bulk sales
7	Warehouse receipts, bills of lading, and other documents of title
8	Investment securities
9	Secured transactions, sales of accounts and chattel paper

The UCC 2B

Revision Process

ALI and NCCUSL formed the Permanent Editorial Board for the UCC to study and control statewide variation in adoption and interpretation of the UCC. Their goal is an orderly update process that keeps the law current and consistent.

Drafts go through years of committee work and review before being adopted by NCCUSL and being presented to the 50 states.

A drafting committee has a Chair (2B's Chair is Carlyle (Connie) Ring). The Chair runs the meetings and does the other usual Chair stuff.

Each drafting committee also has a Reporter (2B's Reporter is Ray Nimmer; 2's Reporter is Dick Speidel.) The Reporter is a widely respected expert in the area under study. The Reporter is the primary drafter of the statute and usually drives the philosophy of the draft.

UCC 2B Revision Process

The drafting committee reviews each draft and makes and votes on motions to change the language. Committee members may also draft sections of the statute, in cooperation with the Reporter.

Committee meetings are open to the public (if poorly advertised). Attendees are often called “Advisors.” Attendees are allowed to speak at meetings and are encouraged to submit memos and draft language.

In the 1996 Article 2B meetings, almost all advisors were attorneys who represented trade associations or large corporations who were publishers/sellers of software or other intellectual property. My understanding is that this has been the pattern since 1988.

UCC Revision History

The Article 2B drafting process began in the American Bar Association's Section on Patent, Trademark & Copyright Law in about 1986. The goal was to develop a set of ground rules for computer-related contracting. The effort gained Industry support in 1988 and published Working Draft 3.0 of the Model Software Licensing Agreement in 1992.

NCCUSL began by trying to incorporate this material into Article 2 (which is also undergoing revision). This was impossibly complex and the software gang was sent into its own corner, to draft a separate Article (2B).

In early 1996, 2B appeared to be on a fast track, with an expected submission to state legislatures in September, 1997. This schedule is slipping, perhaps to September, 1998.

Contracts Under Article 2 and 2B

Article 2 of the Uniform Commercial Code governs sales of goods. It provides several concepts that were not well developed in common law (and are generally still not available for service contracts).

- **gap fillers and implied terms**
- **implied warranty of merchantability**
- **implied warranty of fitness**
- **battle of the forms rules revised:**
 - » **gap fillers for knocked-out terms**
 - » **contract is created by conduct**
 - » **forms are proposals for modification**
 - » **materiality is a factor for modification**
- **modification rules are less formal**
- **some rules apply only to merchants**

Article 2B unifies software development, sale, license, support and other service transactions under one conceptual framework.

Scope of Article 2B

Initially, 2B was to be a law governing software contracting. Unfortunately, technology forced a more general approach:

- **Books with CD's**
- **Programs with digital content**
- **Encyclopedia on a disk**
- **Digital distribution of content vs. digital distribution of code vs. contracts for digital distribution.**

How to distinguish between these?

Scope of Article 2B

SECTION 2B-103. SCOPE OF THE ARTICLE.

(a) This article applies to licenses of information and software contracts whether or not the information exists at the time of the contract, is expected to come into being after the contract is formed, or is to be developed, discovered, compiled, or transformed, and even if the expected development, discovery, compilation, or transformation does not in fact occur. The article also applies to any agreement related to a license or software contract in which a party is to provide support, maintain, or modify information.

(b) Except as otherwise provided in subsections (c) and (d), if another article of this [Act] applies to a transaction, this article does not apply to the part of the transaction governed by the other article.

(c) If a transaction involves both information and goods, this article applies to the information and to the copies of the information, its packaging, and documentation, but Article 2 or 2A governs standards of performance of the goods other than the copies, packaging, or documentation pertaining to the information. If a transaction includes information covered by this article and services outside this article, or elements excluded from this article under subsection (d)(1) and (2), this article applies to the information, copies of the information, its packaging and documentation. A transaction excluded from this article under subsection (d)(3) is governed by Article 2 or 2A.

(d) This article does not apply to:

(1) a contract of employment of an individual who is not an independent contractor, a contract for performance of entertainment services by an individual or group, or a contract for performance of services by a member of a regulated profession with respect to services commonly associated with regulated aspects of that profession;

(2) a license of a trademark, trade name, or trade dress, or of a patent and know-how related to the patent to the extent the license does not pertain to computer software or to an access contract or database contract; or

(3) a sale or lease of a copy of a computer program that was not developed specifically for a particular transaction and that is embedded in goods other than a copy of the program or an information processing machine, if the program is not copied in the ordinary course of using the goods and was not the subject of a separate license with the buyer or lessee.

Customers Have Legitimate Problems

- **Better Business Bureau data listed computer-related complaints to BBB in the top 10 for 1995, even higher than used car dealers.**
- **Customer satisfaction with software technical support has declined for ten straight years. Prognostics Corp. claims the trend has leveled off. Softbank still cites a decline.**
- **A cross-industry study of call hold times showed that complaining software customers were on hold for longer than any other industry, even longer than people calling airlines and government offices.**
- **1996 complaining software customers spent 60,000,000 hours on hold. There were 200,000,000 calls to tech support. This is tip of the iceberg because most American customers don't complain.**

Customers Have Legitimate Problems

- **According to Softbank's chairman, 10-20% of customer complaints to tech support are never resolved. This may be (same talk) because 58% of support staff get less than 1 week of training.**
- **Complaints involving software / hardware from more than one vendor take 18 times as long to resolve.**
- **Business' cost of ownership of a PC is often estimated at \$8000 to \$11,000 per year.**
- **Software is released with known bugs. Published estimates -- Windows 3.1 shipped with 5000 known bugs. *This is common practice in reputable companies.* Pre-ship bug review meetings are driven by more or less responsible risk analyses.**

Customers Have Legitimate Problems

Albert Stark lays out problems that *software support staff* encounter when *they* try to buy and install problem management systems. Stark points out that:

- **“The system will not do everything promised.”**
- **“System functionality is typically overstated.”**
- **“You’ll need to purchase additional modules to get the functionality you need.”**
- **“Features you need are scheduled for a future release.”**
- **“The out-of-box reality is less than expected.”**
- **“You’ll need to purchase additional hardware.”**
- **“The software will be more complex than it appeared during the sales cycle.”**
- **“System customization will not go smoothly” even though “Vendors can make customization look easy.”**

In a parallel session at the same conference, speaker asked an audience of publishers’ technical support staff how many of them would trade in their problem management system if they could. Over half the attendees raised their hands.

Rational Model of Analysis of Quality-Related Costs

The *Cost of Quality* associated with a product is the total amount that the company spends to achieve and cope with the quality of that product.

This includes investments in improving quality and expenses arising from inadequate quality.

One of the key goals of quality engineering is to minimize the total cost of quality associated with a product or project.

Quality-Related Costs

<i>Prevention</i>	<i>Appraisal</i>
Cost of preventing software errors, documentation errors, and any other sources of customer dissatisfaction	All costs of all types of inspection (testing).
<i>Internal failure</i>	<i>External failure</i>
ALL costs of coping with errors discovered during development.	All costs of coping with errors discovered, typically by your customers, after the product is released.

Examples of Quality-Related Costs

<i>Prevention</i>	<i>Appraisal</i>
<ul style="list-style-type: none"> • Staff training • Requirements analysis • Early prototyping • Fault-tolerant design • Defensive programming • Usability analysis • Clear specification • Accurate internal documentation • Pre-purchase evaluation of the reliability of development tools 	<ul style="list-style-type: none"> • Design review • Code inspection • Glass box testing • Black box testing • Training testers • Beta testing • Test automation • Usability testing • Pre-release out-of-box testing by customer service staff
<i>Internal Failure</i>	<i>External Failure</i>
<ul style="list-style-type: none"> • Bug fixes • Regression testing • Wasted in-house user time • Wasted tester time • Wasted writer time • Wasted marketer time • Wasted advertisements • Direct cost of late shipment • Opportunity cost of late shipment 	<ul style="list-style-type: none"> • Technical support calls • Answer books (for Support) • Investigating complaints • Refunds and recalls • Interim bug fix releases • Shipping updated product • Supporting multiple versions in the field • PR to soften bad reviews • Lost sales • Lost customer goodwill • Reseller discounts to keep them selling the product • Warranty, liability costs

Quality Cost Analysis: Consider the Customer's Costs

<i>Seller: external costs</i>	<i>Customer: failure costs</i>
<p><i>These are the types of costs absorbed by the seller that releases a defective product.</i></p> <ul style="list-style-type: none"> • Technical support calls • Preparing answer books • Investigating complaints • Refunds and recalls • Interim bug fix releases • Shipping updated product • Supporting multiple versions in the field • PR to soften harsh reviews • Lost sales • Lost customer goodwill • Reseller discounts to keep them selling the product • Warranty, liability costs • Gov't investigations 	<p><i>These are the types of costs absorbed by the customer who buys a defective product.</i></p> <ul style="list-style-type: none"> • Wasted time • Lost data • Lost business • Embarrassment • Frustrated employees quit • Demos or presentations to potential customers fail because of the software • Failure during tasks that can only be done once • Cost of replacing product • Reconfiguring the system • Cost of recovery software • Cost of tech support • Injury / death

Quality Cost Analysis: Problems with the Rational Model

- **1994 study by Help Desk Institute, 82% of responding support organizations said that they didn't know their cost-per-call (what they spend per complaint).**
- **Few companies have problem resolution systems that report support cost for a given bug in the field.**
- **At 1997 ASP Customer Support Conference, 90% of attendees said they believe they are delivering a reasonable level of customer service & support.**

Quality Cost Analysis: Problems with the Rational Model

- **The relationship between customer dissatisfaction with quality of software or support and future lost sales is frequently guesstimated but essentially unknown and often therefore lost-sale risks are ignored in risk analysis calculations.**

Quality Cost Analysis: Problems with the Rational Model

Capers Jones, prestigious book, Patterns of Software Systems Failure & Success:

The number one root cause of cancellations, schedule slippages, and cost overruns is the chronic failure of the software industry to collect accurate historical data from ongoing and completed projects. This failure means that the vast majority of major software projects are begun without anyone having a solid notion of how much time will be required.

Software is perhaps the only technical industry where neither clients, managers, nor technical staff have any accurate quantitative data available to them from similar projects when beginning major construction activities. . . .

A result that is initially surprising but quite common across the industry is to discover that the software management community within a company knows so little about the technology of software planning and estimating that they do not even know of the kinds of tools that are commercially available.

Quality Cost Analysis: Problems with the Rational Model

Market diffusion of quality-related information is poor. For example, MS spent \$500,000,000 bringing its customer support from blecch to world class.

Customer perceptions still rank MS as average support provider, leading other companies to rethink their investment in customer care.

3. PARTIES TO AN ARTICLE 2B CONTRACT

- **Licensees and licensors**
- **Merchants and non-merchants**
- **Consumers**
- **Mass market licensees**
- **Retailers**
- **Publishers**
- **Access providers**
- **Film talent; multimedia talent**
- **Financiers**
- **Software developers**

**support service provider; data processing
service provider; development (code / test /
write / consult) service provider; Installer;
book publisher / reseller / author; on-line
content developer**

Licensees and Licensors

2B-102(a) (21) ALicense \equiv means a contract for transfer of rights in information which expressly conditions, withholds or limits the rights granted, or expressly grants less than all rights in the information, whether or not the contract transfers title to a copy of the information. The term includes an access contract and software contract. The term does not include an assignment or a software contract that transfers ownership of the intellectual property rights in the information or the reservation or creation of a security interest in information or a financial accommodation contract.

[In this article, the distinction between an unrestricted sale of a copy and a license is simple. In an unrestricted sale of a copy, transferee receives ownership of the copy and, if intellectual property rights apply to the information on the copy, may be subject to implicit restrictions on use of the information derived from intellectual property law. In a license, whether ownership of the copy transfers, the transferee is subject to express contract restrictions or receives a contract grant that expressly gives less than all rights.]

(22) ALicensee \equiv means a transferee of rights or any other person designated in or authorized to exercise rights as a licensee pursuant to a contract under this article, whether or not the contract constitutes a license.

(23) ALicense fee \equiv means the price, fee, or royalty payable pursuant to a contract under this article.

(24) ALicensors \equiv means a transferor of rights in a contract under this article, whether or not the contract constitutes a license. The term includes a provider of services in a contract under this article. In an access contract, as between a provider of services and a customer, the provider of services is the licensor, and as between the provider of services and any provider of informational content for the service, the informational content provider is the licensor. If performance of the contract consists in whole or in part of an exchange of transfers of information, each party making a transfer is a licensor with respect to the information it transfers.

(27) ANonexclusive license \equiv means a license in which the licensor or other person authorized to make a transfer or license is not prohibited from licensing the same information or rights therein to other licensees. The term includes a consignment of copies.

Licensees and Licensors

- **Note that under this definition, it is easy to make a book sale into a license.**
- **Licensing law has historically been developed between sophisticated parties, contracting directly. See the paper at the comments web site by David Rice.**
- **Therefore there is no consumer protection tradition in licensing law and no other history of mass-market, non-negotiated transacting.**
- **Also note that non-exclusive licensees have extremely limited rights, unlike an owner of a copy.**

Merchants and Non-Merchants

2B-102(a) (26) A Merchant \equiv means a person that deals in information of the kind, a person that by occupation purports to have knowledge or skill peculiar to the practices or information involved in the transaction, or a person to which knowledge or skill may be attributed by the person's employment of an agent or broker or other intermediary that purports to have the knowledge or skill.

- **A large hospital is not a software merchant even though it is a big business. Article 2 protections accorded to non-merchants go to anyone who is not an expert in the subject area, not just to consumers.**
- **Article 2B uses “merchant” in 2B-203 (firm offer), 401, 403, 404 (only merchants make warranties), 615 (retailers are merchants), and 619 (waivers operate against merchants).**
- **Current Article 2-209(2) also protects non-merchants from an unexpected “agreement” to no-oral-modifications.**

Consumers

2B-102(a) (7) "Consumer" means an individual who is a licensee of information that at the time of contracting is intended by the individual to be used primarily for personal, family, or household use. The term does not include a person that is a licensee of information primarily for profit making, professional, or commercial purposes, including agricultural, investment, investment management, research, and business management.

FTC REGULATIONS: PART 702 PRE-SALE AVAILABILITY OF WRITTEN WARRANTY TERMS

15 CFR § 702.1 DEFINITIONS.

(a) *The Act* means the Magnuson-Moss Warranty Federal Trade Commission Improvement Act, 15 U.S.C. 2301, *et seq.*

(b) *Consumer product* means any tangible personal property which is distributed in commerce and which is normally used for personal, family, or household purposes (including any such property intended to be attached to or installed in any real property without regard to whether it is so attached or installed). Products which are purchased solely for commercial or industrial use are excluded solely for purposes of this part.

NOTE THAT BY DEFINING A SOFTWARE TRANSACTION AS A LICENSE, WE TAKE IT OUT OF THE REALM OF “TANGIBLE PERSONAL PROPERTY.”

Mass Market Licensees

2B-102(a) (25) “Mass-market license” means a standard form prepared for and used in a retail market for information which is directed to the general public as a whole under substantially the same terms for the same information, if the licensee is an end user and acquired the information in a transaction under terms and in a quantity consistent with an ordinary transaction in the general retail distribution. The term includes consumer contracts. “Mass market license” does not include:

(A) a significant transaction between parties neither or whom is a consumer with respect to that transaction, including:

(i) any transaction in which either the total consideration for the particular item of information or the reasonably expected fees for the first year of an access or similar contract exceeds [\$500] [\$1,000];

(ii) any license that contemplates concurrent use of software by more than one person acting separately;

(iii) any transaction in which the information is customized or otherwise specially prepared for the licensee; or

(B) a license of the right to publicly perform or publicly display a copyrighted work.; or

[(C) an online or access contract between parties neither or which is a consumer with respect to the particular transaction.]

Mass-Market vs. Consumer

Mass-Market

- 2B-105 parties can't opt-in in mass-market (consumer?) contracts
- 2B-304 continuing terms. Customer can cancel if terms change unacceptably.
- 2B-313 duty to not have virus on disk
- 2B-403 implied warranty of merchantability only exists for mass-market software
- 2B-406 disclaimer of implied warranty must be conspicuous
- 2B-502 can transfer a copy (first sale doctrine)
- 2B-601 perfect tender rule (non-internet)

Consumer

- 2B-106 consumer may be protected from choice of law clause
- 2B-107 consumer (not online transaction) protected from choice of forum
- 2B-303 a term requiring an authenticated record for modification requires manifest assent in a consumer contract

Retailers

SECTION 2B-616. PUBLISHERS, DISTRIBUTORS AND RETAILERS.

(a) In a contract between a retailer and an end user, if the parties understand that the end user's right to use the information is to be subject to a license from the publisher, the following rules apply:

(1) The contract between the end user and the retailer is conditional on the end user's assent to the publisher's license.

(2) If the end user refuses the terms of the license with the publisher, the end user may return the information to the retailer and receive from it a refund of any license fee already paid in an amount consistent with Section 2B-113(b) and avoid any obligation for performance of future payments to the retailer regarding the information. Refund by the retailer under this paragraph also constitutes a refund under Section 2B-113.

(3) The retailer is not bound by the terms of, and does not receive the benefits of an agreement between the publisher and the end user unless the retailer and end user adopt those terms as part of their agreement.

(b) An authorized retailer that in good faith compliance with its contract with the publisher performs warranty or remedy obligations of a producer under a publisher's license with the end user is entitled to reimbursement from the publisher for the reasonable costs of the performance.

(c) A retailer that makes a refund in good faith pursuant to Section 2B-113 to its end user because the end user refused the publisher's license is entitled to reimbursement from the authorized party from whom it obtained the copy of the amount paid for the copy paid by the retailer on return of the copy and documentation to that person.

(d) A publisher that makes a refund in good faith pursuant to Section 2B-113 to the end user is entitled to reimbursement from the retailer of the difference between the amount refunded and the price paid by the retailer to the publisher for the refunded product.

(e) If an agreement contemplates distribution of tangible copies of information in the ordinary course, a retailer or other distributor shall distribute such copies and documentation as received from the publisher and subject to any contractual terms provided for end users.

(f) A retailer who enters an agreement with an end user is a licensor in its transaction with an end user for all purposes under this article.

(g) For purposes of this section, the following rules apply:

(1) A retailer is a merchant licensee that receives information from a licensor for sale or license to end users.

(2) A publisher is a licensor that is not a retailer, but that enters into an agreement with an end user with respect to the information.

(3) An end user is a licensee that acquires the information for its own use and not to distribute to third parties by sale, license, or other means.

Retailers

2B imposes penalties for sale at retail, vs. delivery on line:

- **all mass market protections apply only for retail transactions. (No implied warranty of merchantability; disclaimers need not be conspicuous.)**
- **first sale doctrine doesn't extend to on line delivery**
- **virus liability easy to disclaim in on line case**
- **no perfect tender rule in on line delivery**
- **choice of forum applies even to consumers, in on line case**
- **Retailer makes its own implied warranty of merchantability, even if publisher has disclaimed.**

Will software retailing survive 2B?

Talent

2B-103(d) This article does not apply to:

(1) a contract of employment of an individual who is not an independent contractor, a contract for performance of entertainment services by an individual or group, or a contract for performance of services by a member of a regulated profession with respect to services commonly associated with regulated aspects of that profession;

Reporter's comment:

6. The exclusion in subsection (d)(1) deals with employment contracts and services agreements related to entertainment (e.g., actor, musical group performance, producer, etc.). Especially as to the entertainment industry, this exclusion needs to be explored with industry representatives. In the excluded cases, personal services contracts involve different default provisions than here. The motion picture and publishing industries have suggested that the Committee consider exclusion of talent and author contracts generally (e.g., the upstream portion of the industry). A prior draft contained an exception for professional services that has been reinserted to avoid confusion between the interplay of this article and the regulatory standards of regulated professions. Note, that the exclusion only pertains to regulated services and not to other contracts or services (e.g., law firm web site where legal advice is not given is treated the same as any other web site).

3. ABILITY TO SUE

- **Choice of law**
- **Choice of forum**
- **Compulsory arbitration**
- **Statute of limitations**

Choice of Law

- **This draft allows choice of law terms to be fully enforceable even if they are inconspicuous.**
- **The draft anticipates the possibility of law in another country. Maybe this is inevitable (think Internet).**
- **However, even though the title of the section says “Multi-jurisdictional” there is no restriction to multiple-jurisdiction situations here and there is no requirement that the jurisdiction chosen bear a reasonable relationship to either party or to the events under litigation.**

Choice of Law

SECTION 2B-106. LAW IN MULTI-JURISDICTIONAL TRANSACTIONS.

(a) A choice of law term in a contract is enforceable.

(b) If a contract does not have an enforceable choice of law term, the following rules apply:

(1) In an access or other online contract or a contract providing for delivery of a copy by electronic communication, the contract is governed by the law of the jurisdiction in which the licensor is located when the transfer of rights occurred or was to have occurred.

(2) In a consumer contract not governed by subsection (b)(1) in which the contract requires delivery of a physical copy to the consumer, the contract is governed by the law of the jurisdiction in which the copy is located when the licensee receives physical possession of the copy or, in the event of non delivery, the jurisdiction in which receipt was to have occurred.

(3) In all other cases, the contract is governed by the law of the state [with the most significant relationship to the contract] [where the licensor is located].

(c) If the jurisdiction whose law applies as determined under subsection (b)(2) is outside the United States, subsection (b)(2) applies only if the laws of that jurisdiction provide substantially similar protections and rights to the party not located in that jurisdiction as are provided under this article. Otherwise, the rights and duties of the parties are governed by:

(1) the law of the jurisdiction in the United States or in the country in which the licensor does business and has the most substantial connection with the transaction; or

(2) if no such jurisdiction exists, the law of the jurisdiction in the United States in which the licensee is located.

(d) A party is located at its place of business if it has one place of business, at its chief executive office if it has more than one place of business, or at its place of incorporation or primary registration if it does not have a physical place of business. Otherwise, a party is located at its primary residence.

Choice of Forum

- **The forum selection clause lets the licensor specify where it can be sued.**
 - » **Bremen**
 - » **Carnival Cruise**
- **These are much more dangerous than choice of law because they can make the suit prohibitively expensive for one side or both sides.**
- **There is no restriction to USA.**
- **Only “consumers” are protected from unfair terms and then only if there is unfair disadvantage AND lack of personal jurisdiction.**
- **The clause need not be conspicuous.**
- **Not all states’ courts currently honor these clauses. For example, see the TRW case (Minnesota) on the disk.**

Choice of Forum

SECTION 2B-107. CHOICE OF FORUM. An exclusive judicial, arbitration, or other dispute resolution forum may be chosen by the parties, but in a consumer contract [that does not involve an access contract or other online transaction], the choice of a judicial forum is not enforceable if the chosen jurisdiction would not otherwise have jurisdiction over the licensee and the choice [unfairly disadvantage] the consumer. A forum chosen in a term of an agreement is not exclusive unless the agreement expressly so provides.

Compulsory Arbitration

2B-107 includes compulsory arbitration. This will be broken out to a separate section.

Gateway 2000 (on the disk) authorizes compulsory mass-market arbitration.

This need not be conspicuous.

Compulsory Arbitration

Why do many plaintiffs' lawyers hate arbitration clauses?

HINT: NOT because of availability of punitive damages. Punitives aren't available for breach of contract.

- **no public record**
- **limits probability that potential plaintiffs will realize they have a cause of action**
- **potential for biased selection of arbitrators when defendant is a regular customer**
- **no appeal even when there are clear errors of law**
- **limited discovery makes it easier to hide smoking guns**

Statute of Limitations

SECTION 2B-707. STATUTE OF LIMITATIONS.

(a) An action for breach of contract under this article must be commenced within the later of four years after the right of action accrues or one year after the breach was or should have been discovered, but no longer than five years after the right of action accrued. By agreement, the parties may reduce the period of limitations to not less than one year after the right of action accrues and may extend it to a term of not longer than 8 years.

(b) A right of action accrues when the act or omission constituting the breach occurs or should have occurred, even if the aggrieved party did not know of the breach. Breach of warranty occurs when the transfer of rights occurs, except that if a warranty extends to future conduct, breach of warranty occurs when the conduct occurs, but no later than the date the warranty expires.

(c) A right of action for breach of warranty under 2B-401 or for a breach of contract involving disclosure or misuse of confidential information accrues on the later of when the act or omission constituting the breach is or should have been discovered by the aggrieved party. A cause of action for indemnity accrues on the later of when the act or omission that constitutes a breach of the obligation to indemnify is or should have been discovered by the indemnified party.

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- **Need not be conspicuous.**
 - **For mass-market customers, will always be one year from delivery.**

Statute of Limitations

This is slightly more customer-favorable than current 2-725, but compare to Article 2 Draft 2-714:

(c) If a breach of warranty occurs, the following rules apply:

(1) Subject to paragraph (2), a right of action accrues when the seller has tendered delivery of or has completed any agreement to assemble or install nonconforming goods, whichever is later.

(2) If a warranty expressly extends to performance of the goods after delivery, a right of action accrues thereafter when the buyer discovers or should have discovered the breach.

(3) If the seller, after delivery, attempts to conform goods to the contract and fails, the period of limitation is tolled for the time of the attempt.

The tolling period is important because it avoids giving Tech Support groups an incentive to make customers jump through hoops.

4. RESTRICTIONS AND LIMITATIONS IN THE CONTRACT

- **Copyright Act differentiates between a license and a sale**
- **The Basic License**
- **Restrictions: Location of Use, Number of Uses, Purposes of Use**
- **Limitations on parties**
- **Confidentiality**
- **Restrictions on transfer (resale)**

Copyright Act Differentiates Between License & Sale

The Copyright Act gives the “owner of a copy” several rights, such as “first sale” rights. (The owner can make a backup, can resell the software, and can engage in various fair uses including reverse engineering.)

A copyright owner can license fewer rights and can restrict rights more tightly.

Note the court’s analysis of Quaid’s (Vault v. Quaid) rights as an owner of a copy. Under 2B, Quaid would be a licensee and this case might have come out differently.

The License

SECTION 2B-310. INTERPRETATION OF GRANT.

(a) Subject to Sections 2B-312 and 2B-501 and except as otherwise provided in this section, a license grants rights under all rights expressly described and all rights within the licensor's control during the duration of the license that are necessary to use the rights expressly granted in the ordinary course in the manner anticipated by the parties at the time of the agreement. A license grant contains an implied limitation that the licensee will not exceed the granted scope. Use of the information in a manner that was not expressly granted or expressly withheld, exceeds this implied limitation if the use was not necessary to the granted uses and would not otherwise be legally permitted in the absence of the implied limitation.

(b) A license grant dealing with digital information which does not specify the number of simultaneous users permitted grants a right for use by one party at any one time, but if the license authorizes display or performance, it permits participation in or viewing by any number of persons, but only a single performance or display at any one time.

(c) Neither the licensor nor the licensee is entitled to: (i) any rights in improvements or modifications made by the other party after the transfer of rights, or (ii) receive source code, object code, schematics, master copy, or other design material, or other information used by the other in creating, developing, or implementing the information. A licensor's agreement to provide updates or new versions requires that the licensor provide only such updates or new versions that are developed by the licensor from time to time and made generally available unless the agreement expressly requires that the licensor develop and provide new versions or updates in a timely manner.

(d) In interpreting grant language, the following rules apply:

(1) A grant without qualification of "all possible rights and media" in information, or a grant in similar terms, covers all rights then existing or created by law in the future, and all uses, media, modes of transmission, and methods of distribution under such rights in technologies or applications then existing or developed in the future. A grant of "all possible rights" covers all rights then existing or created by law in the future. A grant of "all possible media" covers use in all media, modes of transmission and methods of distribution under technologies or applications then existing or developed in the future.

(2) In a contract between merchants that is not a retail transaction, a "quitclaim" of rights or a grant in similar terms is a transfer of rights without warranties as infringement or the rights actually possessed and transferred by the grantor.

=====

2B-601 (f) For purposes of this section, "contractual use restrictions" include obligations of nondisclosure and confidentiality and limitations on scope, manner, method, or location of use to the extent that those obligations or duties are created by the contract.

5. BREACH OF CONTRACT

- **The perfect tender rule**
- **Substantial performance and material breach**

The Perfect Tender Rule

ARTICLE 2 DRAFT SECTION 2-603. BUYER'S RIGHTS ON NONCONFORMING DELIVERY; RIGHTFUL REJECTION.

(a) Subject to Sections 2-507 and 2-611, if the goods or the tender of delivery fail in any respect to conform to the contract, a buyer may:

- (1) reject the whole;
- (2) accept the whole; or
- (3) accept any commercial unit or units and reject the rest.

(b) A rejection under subsection (a) is not effective unless the seller is notified within a reasonable time after the nonconformity was or should have been discovered.

(This is essentially the same as current law § 2-601.)

The Perfect Tender Rule

SECTION 2B-601. PERFORMANCE OF CONTRACT.

(a) A party shall perform in a manner that conforms to the contract and, in the absence of terms in the contract, in a manner and with a quality that is reasonable in light of the circumstances including the ordinary standards of the relevant trade.

(b) A party's duty to perform, other than with respect to contractual use restrictions, is contingent on there being no uncured material breach by the other party of obligations or duties that precede in time the party's performance.

(c) In a mass-market license, if the performance consists of delivery of a tangible copy that constitutes the initial transfer of rights, the licensee may refuse the performance if the performance does not conform to the contract. (emphasis by Kaner).

(d) If a party is subject to contractual use restrictions or required to render other future or on-going performance, the party's right to exercise the rights under the contract is contingent on there being no uncured material breach of the obligations or duties of that party.

(e) If a party breaches its obligations or duties, including by failure to comply with any contractual use restrictions, the aggrieved party may:

(1) suspend its performance, other than compliance with contractual use restrictions, and demand assurance of future performance pursuant to Section [2B-622]; or

(2) exercise its rights on breach of contract under this article or the terms of the agreement, but the aggrieved party may cancel only if the agreement so provides or the breach is material and has not been cured. (emphasis by Kaner.)

(f) For purposes of this section, "contractual use restrictions" include obligations of nondisclosure and confidentiality and limitations on scope, manner, method, or location of use to the extent that those obligations or duties are created by the contract.

The Perfect Tender Rule

The perfect tender rule has been subject to extensive controversy in Article 2B (and in US commercial law in general). The software-specific rationale is that there is no such thing as bug-free software, therefore there cannot be perfect tender. I agree and I disagree.

- **Perfect tender only applies to acceptance (problems found extremely early), so the issue of subtle bugs is illusory. It is invaluable for quickly resolving clear problems.**
- **Perfect tender is essential for retailers (as purchasers for resale).**
- **A customer “can” claim a bug and return the software (keep the software and be a pirate) but they can do this already by refusing the license. In any case, this is not the source of piracy that drives SPA nuts.**
- **Dropping perfect tender and whining about “minor bugs” can be (and is attempted as) a shield for avoiding all liability for all bugs.**

Substantial Performance and Material Breach

2B-102(a) (36) "Substantial performance" means performance of an obligation in a manner that does not constitute a material breach of contract.

SECTION 2B-108. BREACH OF CONTRACT.

(a) Whether a party is in breach of contract is determined by the terms of the agreement and by this article. Breach occurs if a party fails to perform an obligation timely or exceeds a contractual limitation.

(b) A breach of contract is material if the contract so provides. In the absence of express contractual terms, a breach is material if the circumstances, including the language of the agreement, expectations of the parties, reasonable expectations of ordinary parties in a similar contractual arrangement, and character of the breach, indicate that the breach caused or may cause substantial harm to the interests of the aggrieved party including imposing costs that significantly exceed the contract value, the injured party will be substantially deprived of the benefit it reasonably expected under the contract, or the breach meets the conditions of subsection (c) or (d).

(c) A breach of contract is material if it involves:

(1) an uncured failure to perform in conformance with and substantially in the time required by express performance standards or specifications;

(2) wrongful disclosure or use of confidential information of an aggrieved party not authorized by the license;

(3) knowing infringement of an aggrieved party's intellectual property rights not authorized by the license and occurring over more than a brief period;

(4) an uncured [substantial] failure to pay a license fee when due which is not justified by a bona fide dispute about whether payment is due; or

(5) a failure of performance under a contract term that requires performance to be to the subjective satisfaction of the party receiving that performance

(d) A material breach of contract occurs if the cumulative effect of nonmaterial breaches by the same party satisfies the standards for materiality.

(e) If there is a breach of contract, whether or not material, the aggrieved party is entitled to the remedies provided for in this article and the agreement.

Substantial Performance and Material Breach

Reporter's note to 2B-108:

4. The Restatement (Second) of Contracts lists five circumstances as "significant" in determining whether a breach of contract is material: 1) the extent to which the injured party will be deprived of the benefit he or she reasonably expected; 2) the extent to which the injured party can be adequately compensated for the benefit of which he will be deprived; 3) the extent to which the party failing to perform or to offer to perform will suffer forfeiture; 4) the likelihood that the party failing to perform or to offer to perform will cure the failure, taking into account all the circumstances, including any reasonable assurances; and 5) the extent to which the behavior of the party failing to perform or to offer to perform comports with standards of good faith and fair dealing. Restatement (Second) of Contracts § 241 (1981).

Thinking realistically, apply these to a bug in software. What result?

Note the absence of these factors from the 2B-108 definition.

Substantial Performance and Material Breach

SECTION 2B-403. IMPLIED WARRANTY: QUALITY OF COMPUTER PROGRAM.

A licensor that is a merchant with respect to a mass-market license of a computer program warrants that the computer program and media are merchantable. To be merchantable, the computer program and any tangible media containing the program must:

- (1) pass without objection in the trade under the contract description;
- (2) be fit for the ordinary purposes for which it is distributed;
- (3) substantially conform to promises or affirmations of fact made on the container, documentation, or label, if any;
- (4) in the case of multiple copies, consist of copies that are, within the variations permitted by the agreement, of even kind, quality, and quantity, within each unit and among all units involved; and
- (5) be adequately packaged and labeled as the agreement or circumstances may require.

(b) In cases not governed by subsection (a), if a licensor that is a merchant with respect to computer programs of that kind delivers a program to a licensee, the licensor warrants that any media on which the program is transferred will be merchantable and that the computer program will perform in substantial conformance with any promises or affirmations of fact contained in the documentation or specifications provided by the licensor at or before the delivery of the program. An affirmation of the value of the program or a statement of opinion or commendation does not create a warranty.

This is the warranty of merchantability. Note current UCC 2-314(2)(f) “conform to the promise or affirmations of fact made on the container or label if any.” None of this “substantial” stuff.

6. REMEDIES FOR BREACH

- **Licensor & Licensee Remedies: Material vs. Non-Material Breach**
- **Exclusion of remedies and Exclusive remedies:**
- **A minimum adequate remedy?**
- **Direct damages**
- **Incidental damages**
- **Consequential damages**
- **Consequential damages and indemnification**
- **Licensor's self-help**
- **Tort remedies may be unavailable for property damage**

Remedies and the Difference Between a Material & Non-Material Breach

SECTION 2B-701. REMEDIES AND DAMAGES IN GENERAL.

(a) The remedies provided in this article must be liberally administered with the purpose of placing the aggrieved party in as good a position as if the other party had fully performed.

(b) Except as otherwise provided in this article, an aggrieved party may not recover compensation for that part of a loss that could have been avoided by taking measures reasonable under the circumstances to avoid or reduce loss, including the maintenance before breach of reasonable systems for backup or retrieval of lost information. The burden of establishing a failure to take reasonable measures under the circumstances is on the party in breach.

(c) Rights and remedies provided in this article are cumulative, but a party may not recover more than once for the same injury.

(d) Except as otherwise provided in a term liquidating damages for breach of contract, a court may deny or limit a remedy if, under the circumstances, it would put the aggrieved party in a substantially better position than if the other party had fully performed. If a remedy cannot reasonably be applied to a particular performance, the remedy is not available.

(e) In a case involving published informational content, neither party is entitled to consequential damages unless the agreement expressly so provides.

(f) If a party breaches a contract and the breach is material as to the entire contract, the other party may exercise or pursue all remedies available under this article or the agreement, subject to the conditions and limitations applicable to the remedy, including remedies available for nonmaterial breach. If a breach is material only as to a particular performance, the remedies may be exercised only as to that performance.

(g) If a party breaches a contract, except as limited by the contract, the aggrieved party may recover any unpaid license fees and royalties for performance accepted by the party in breach but not yet paid, and recover other [direct] [general] damages incurred in the ordinary course as measured in any reasonable manner, including, in the case of a proper refusal of a tender of a copy under 2B-608, any fee already paid for the refused copy; together with incidental and consequential damages less expenses avoided as a result of the breach.

(h) The remedy for breach of contract relating to disclosure or misuse of information in which the aggrieved party has a right of confidentiality or holds as a trade secret may include compensation based on the benefit received by the party in breach as a result of the breach. A remedy under the agreement or under this article for breach of confidentiality is not exclusive and does not preclude remedies under other law, including the law of trade secrets, unless the agreement expressly so states.

(i) If a party is in breach of contract, the party seeking enforcement has the rights and remedies provided in this article and the agreement and may enforce the rights and remedies available to it under other law.

Remedies and the Difference Between a Material & Non-Material Breach

SECTION 2B-703. CANCELLATION: EFFECT.

(a) A party may cancel a contract if the other party's conduct constitutes a material breach which has not been cured or if the contract so provides.

Remedies and the Difference Between a Material & Non-Material Breach

SECTION 2B-708. LICENSOR'S DAMAGES FOR BREACH OF CONTRACT.

(a) Subject to subsection (c), for a material breach of contract by a licensee, the licensor may recover as damages compensation for the particular breach or, if appropriate, as to the entire contract, the sum of the following:

(1) as [direct] [general] damages, accrued and unpaid license fees for any performance for which the licensor has not been paid, plus:

(A) the present value of the total unaccrued license fees for the remaining contractual term, less the present value of expenses saved as a result of the licensee's breach;

(B) the present value of the profit and general overhead which the licensor would have received from full performance by the licensee; or

(C) damages calculated pursuant to Section 2B-702; and

(2) the present value of any consequential and incidental damages, as permitted under this article and the agreement, determined as of the date of entry of the judgment.

(b) The date for determining present value of unaccrued license fees and date for determining the sum of accrued license fees under subsection (a) is:

(1) if the licensee never received a transfer of rights, the date of the breach of contract;

(2) if the licensor cancels and discontinues the right to possession or use, the date the licensee no longer had the actual ability to use the information; or

(3) if the licensee's rights were not canceled or discontinued by the licensor as a result of the breach, the date of the entry of judgment.

(c) To the extent necessary to obtain a full recovery, a licensor may use any combination of damages provided in subsection (a), but damages must be reduced by due allowance for the proceeds of any substitute transaction entered into by the licensor regarding the same subject matter and made possible by the breach.

Remedies and the Difference Between a Material & Non-Material Breach

SECTION 2B-709. LICENSOR'S RIGHT TO COMPLETE. On breach of contract by a licensee, the licensor, in the exercise of reasonable commercial judgment for the purposes of avoiding loss and of effective realization, may either complete and identify the information to the contract or cease work on the information. In either case, the licensor may recover damages or pursue other remedies.

SECTION 2B-710. LICENSOR'S RIGHT TO POSSESSION; DISCONTINUE PERFORMANCE.

(a) After a breach of a license by the licensee that is material as to the entire contract, the licensor has a right to take possession of any copies of the licensed information and of any other materials that were to be returned by the licensee pursuant to the contract and to prevent the licensee's continued exercise of rights in the licensed information. Subject to subsection (c), to the extent necessary to enforce these rights, a court may enjoin the licensee from continued exercise of rights in the information and may order that the licensor or an officer of the court take the steps described in [Section 2B-629(b)]. The licensor may proceed by judicial action under this section, but may proceed without judicial process if it complies with Section 2B-712.

(b) If the agreement so provides, a court may require the licensee to assemble all copies of the information and other information relating thereto and make them available to the licensor at a place designated by the licensor which is reasonably convenient to both parties.

(c) The remedies under subsections (a) and (b) are not available if the information, before breach and in the ordinary course of performance under the license, was altered or commingled so as to be no longer reasonably separable or identifiable from other property or information of the licensee to the extent the remedy cannot be administered without undue harm to the information or property of the licensee or another person.

(d) In the event of a material breach of contract, a licensor may discontinue access by the licensee in a continuous access contract; or instruct any third person that is assisting the transfer of rights or performance of the contract to discontinue its performance.

See also licensor's self-help.

Remedies and the Difference Between a Material & Non-Material Breach

SECTION 2B-712. LICENSEE'S DAMAGES.

(a) Subject to subsection (b), on material breach of contract by a licensor, the licensee may recover as damages compensation for the particular breach of performance or, if appropriate, as to the entire contract, the sum of the following:

(1) as [direct] [general] damages, payments made to the licensor for performance that has not been rendered, plus :

(A) the present value, as of the date of breach, of the market value if any of any performance not provided minus the license fees for the performance, both of which must be calculated in the case of damages for the entire contract, for the remaining contractual term plus any extensions available as of right;

(B) damages computed pursuant to Section 2B-701; or

(C) if a licensee has accepted performance from the licensor and not revoked acceptance, the present value, at the time and place of performance, of the difference between the value of the performance accepted and the value of the performance had there been no defect, not to exceed the agreed price plus the amounts reasonably expended by the licensee to make the information usable; and

(2) the present value of incidental and consequential damages resulting from the breach as of the date of the entry of judgment.

(b) The amount of damages calculated under subsection (a) must be:

(1) reduced by expenses avoided as a result of the breach; and

(2) if further performance is not anticipated under the agreement, reduced by any unpaid license fees that relate to performance by the licensor which has been received by the licensee, but increased by the amount of any license fees already paid that relate to performance by the licensor which have not been received by the licensee.

(c) Market value is determined as of the place for performance. Due weight must be given to any substitute transaction entered into by the licensee based on the extent to which the substitute transaction involved contractual terms, performance, and information that were similar in terms, quality, and character to the information or agreed performance.

(d) To the extent necessary to obtain a full recovery, a licensee may use any combination of the measure of damages provided in subsection (a).

Remedies and the Difference Between a Material & Non-Material Breach

SECTION 2B-713. LICENSEE'S RIGHT OF RECOUPMENT.

(a) If a [a party] [licensor] is in breach of contract, the [other party] [licensee], after notifying the [party in breach] [licensor] of its intention to do so, may deduct all or any part of the damages resulting from breach from any part of [payments] [the license fee] still due and owing to the [party in breach] [licensor] under the same contract.

(b) If a nonmaterial breach of contract has not been cured, [an aggrieved party] [a licensee] may exercise its rights under subsection (a) only if the agreement does not require further affirmative performance by the [other party] [licensor] and the amount of damages to be deducted can be readily liquidated under the terms of the agreement.

SECTION 2B-714. LICENSEE'S RIGHT TO CONTINUE USE. On breach of contract by a licensor, the licensee may continue to exercise its rights under the contract. If the licensee elects to continue to exercise those rights, the following rules apply:

(1) The licensee is bound by all of the terms and conditions of the contract, including restrictions as to use, disclosure, and noncompetition, and any obligations to pay license fees or royalties.

(2) Subject to Section 2B-620, the licensee may pursue remedies with respect to accepted transfers or performance, including the right of recoupment.

(3) The licensor's rights and remedies remain in effect as if the licensor had not been in breach.

SECTION 2B-715. LICENSOR'S LIABILITY OVER.

(a) If a licensee is sued by a third party other than for infringement [or other claims under subsection (b)] and the licensor is answerable over to the licensee, the licensee may notify the licensor of the litigation. If the notice states that the licensor may come in and defend and that if it does not do so the licensor will be bound in any action between the licensor and the licensee by any determination of fact common in the two litigations, the licensor is so bound unless the licensor after seasonable receipt of the notice comes in and defends. . . .

(This section continues.)

Exclusion of Remedies and Exclusive Remedies

- **One of the areas of split within the UCC deals with the failure of an agreed remedy.**
- **Current UCC 2-719(2) says “Where circumstances cause an exclusive or limited remedy to fail of its essential purpose, remedy may be had as provided in this Act.”**
- **MANY courts have interpreted this as allowing incidentals or consequential damages even if they had been excluded under 2-719(3).**

Exclusion of Remedies and Exclusive Remedies

SECTION 2B-705. CONTRACTUAL MODIFICATION OF REMEDY.

(a) An agreement may add to, limit, or provide a substitute for the measure of damages recoverable for breach of contract, or limit a party's other remedies such as by precluding the licensor's right to cancel or limiting the remedies to return of all copies of the information and refund of the license fee, or repair and replacement of copies of the information by the licensor.

(b) Resort to a modified or limited remedy is optional, but a remedy expressly described as exclusive precludes resort to other remedies. However, if the agreed remedy requires performance by the party that breached the contract and the performance of that party in providing the agreed remedy fails to give the other party the remedy, the aggrieved party is entitled to specific enforcement of the agreed remedy, or to the extent that the agreed remedy failed, subject to subsection (c), to other remedies under this article.

(c) Failure or unconscionability of an agreed remedy does not affect the enforceability of separate terms relating to consequential or incidental damages unless the separate terms are expressly made subject to the performance of the agreed remedy.

(d) Consequential damages and incidental damages may be excluded or limited by agreement, unless the exclusion or limitation is unconscionable. A conspicuous term enforceable under this Section is not subject to invalidation under 2B-308(b).

Consequential Damages

Orthopedic & Sports Injury Clinic illustrates the point that several states will allow consequential damage recovery despite a disclaimer if the defendant's conduct was grossly negligent.

Minimum Adequate Remedy?

- **Draft Article 2 allows enforceable exclusion, but requires the contract breaker to always give a “Minimum Adequate Remedy.” Comments in current Article 2 also require a minimum adequate remedy.**
- **Article 2B says that if the Agreed Remedy (the one in fine print near the bottom of the click-me license) fails and if all other remedies are excluded, the customer has no other remedy. Excluded remedies don’t un-exclude, and minimum adequate remedies aren’t necessary.**

Consequential Damages

The phrase, “freedom of contract,” is comfortable but it doesn’t capture the effects of the law or the alternatives. The fact is that laws create incentives. What incentives does Article 2B create and what should it create?

In Article 2B, we have a choice about who to protect:

We can protect sellers from unreasonable customers. There *are* unreasonable customers. Article 2B protects sellers by virtually eliminating seller liability for defects.

Or we can protect customers from unreasonable sellers. This is not such a radical idea. In fact, it’s traditional contract law. If I breach a contract with you, I am responsible to you to put you back into the position that you would have been in if I had lived up to my side of the bargain. This is the standard rule.

Unfortunately, this is too risky for sellers. If software publishers can’t fully test the code, they can never be sure that they’re shipping bug-free software. In the 2B meetings, publishers’ representatives are justifiably afraid that this rule could put the software industry out of business.

We don’t have to take one side over the other. Instead, we could build an incentive into the law for sellers to ship good enough software. In the 2B meetings, I have repeatedly argued that:

When the customer suffers losses because of a bug that the software publisher/seller knew about when it shipped the software, the publisher should have to reimburse the customer for her losses. The reimbursement might be for the full consequential loss, or we might cap it at, say, the higher of \$500 or five times the purchase price of the software. This might sound harsh, but it’s a fully manageable risk if we write the law in a way that makes sellers pay these damages *only* for known bugs or for bugs that they would have discovered if they’d done *even a modest job* of testing.

For all bugs, sellers should reimburse their customers for incidental expenses. These are limited damages that don’t begin to cover many losses that are caused by software defects. They include the costs of reporting and returning the software (including the \$95 per call fee that some publishers charge for technical support). The more the publisher/seller gives the customer the run-around, the bigger these expenses get. Reimbursing the customer for these creates a limited, manageable disincentive to bad software and bad support.

These two provisions would make software publishers less likely to ship software with known serious bugs and less likely to run their customers around, but they don’t threaten the industry. Publishers can manage their risk of liability just by doing a modest amount of testing and by not

shipping with serious bugs that they know about.

Cem Kaner, “Not Quite Terrible Enough Software” 1997 Software Engineering Process Group Conference, San Jose.

Licensors' Self-Help

SECTION 2B-314. ELECTRONIC REGULATION OF PERFORMANCE.

(a) A party entitled to enforce a limitation or restriction may include in the information and utilize, a program, code or device that restricts use in a manner consistent with the agreement if:

(1) a term in the contract authorizes use of the program, code or a device;

(2) the program, code or device or the licensor provides reasonable notice to the licensee before the program, code or device prevents further use at the expiration of the term of the license;

(3) the information is obtained for a stated period of not more than thirty days or for a stated number of uses and the code or device merely enforces that time or use limitation;

(4) the program, code or device merely prevents use of the information other than in a manner consistent with the license, but does not destroy or alter the information; or

(5) the program, code or device merely prevents use of the information in a manner inconsistent with a licensor's right under copyright or patent law not granted by law or by contract to the licensee, but does not destroy or alter the information; or

(b) Operation of a program, code or device that restricts use consistent with the agreement is not a breach of contract, and the party that included the code or device is not liable for any loss created by its operation. However, operation of a code or device that prevents use permitted by the agreement is a breach of contract.

(c) This section does not preclude electronic replacement or disabling of an earlier version of information by the licensor with a new version of the information pursuant to an agreement with the licensee.

Licensors' Self-Help

SECTION 2B-628. TERMINATION: ENFORCEMENT AND ELECTRONICS.

(a) On termination of a license, a party in possession or control of information, materials, or copies it does not own, but which are the property of the other party or subject to a possessory interest of the other party, shall return all materials and copies or hold them for disposal on instructions of the other party. If the information, materials, or copies were subject to restrictions on use or disclosure, the party in possession or control following termination shall cease continued exercise of the terminated rights. Continued exercise of the terminated rights or other use is a breach of contract unless pursuant to a contractual term that survives cancellation or which was designated in the contract as irrevocable. If information, materials, or copies are jointly owned, the party in possession or control shall make the materials or copies thereof available to the other joint owner.

(b) Each party is entitled to enforce by judicial process its rights under subsection (a). To the extent necessary to enforce those rights, a court may order the party or an officer of the court to:

(1) take possession of copies or any other materials to be returned under subsection (a);

(2) render unusable or eliminate the capability to exercise rights in the licensed information and any other materials to be returned under subsection (a) without removal;

(3) destroy or prevent access to any record, data, or files containing the licensed information and any other materials to be returned under subsection (a) under the control or in the possession of the other party; and

(4) require that the party in possession or control of the licensed information and any other materials to be returned under subsection (a) assemble and make them available to the other party at a place designated by that other party or destroy records containing the materials.

(c) In an appropriate case, the court may grant injunctive relief to enforce the rights under this section.

(d) A party may utilize electronic means to enforce termination without judicial process pursuant to Section 2B-320. If termination is for reasons other than expiration of the license term, the party terminating the contract by electronic means shall notify the other party before using the electronic means.

Licensors' Self-Help

SECTION 2B-710. LICENSOR'S RIGHT TO POSSESSION; DISCONTINUE PERFORMANCE. (see previous slide.)

SECTION 2B-711. LICENSOR'S SELF-HELP.

(a) A licensor may proceed under Section 2B-710 without judicial process only if there is a breach that is material as to the entire contract without regard to contractual terms defining material breach and acting without judicial process can be done without a foreseeable breach of the peace, risk of injury to person, or significant damage to or destruction of information or property of the licensee.

(b) The limitations on a licensor's right to act without judicial process may not be waived by the licensee before breach of contract.

(c) A licensor may not include in the subject matter of a license the means to enforce its rights under subsection (a) unless the licensee manifests assent to a term of the license providing that it may do so. If a contractual term authorizes the licensor to include a means to enforce its rights, the following rules apply:

(1) The licensor's use of electronic remedies to prevent further use of the information is subject to the limitations in subsection (a) and Section 2B-710. Exercise of the means to prevent further use in circumstances in which the licensee has not committed a material breach of contract constitutes a breach of contract by the licensor.

(2) If the licensor's use of the means to prevent further use of the information is improper under this section and results in loss to the licensor as described in subsection (a), the licensee may recover damages from the licensor, including damages incurred by the licensee resulting from any foreseeable breach of the peace and injury to persons.

(d) Except as otherwise expressly provided in this section, the licensee's remedies and the limitations on the licensor under this section may not be waived or altered by agreement.

Tort Remedies may be Unavailable for Property Damage

If the program destroys your data, can you sue in tort? (negligence?)

- **Rockport Pharmacy: program damaged “other property” (data on disk). Negligence verdict by jury overturned because this was a normal commercial loss. Breach of contract.**
- **Transport Corp.: disk drive crashed, goodbye data. This was not “other property.”**

In general, an increasing number of states broadly apply the economic loss rule.

7. CONTRACT FORMATION UNDER UCC ARTICLE 2

- **The classical contracting model**
- **The use of standard forms**
- **Battle of the forms -- Article 2**
- **Traditional UCC treatment of shrink-wraps**

The Classical Contracting Model

In the classical model, we assume that parties bargain as peers, with:

- **equal knowledge (or equal ability to gain knowledge)**
- **equal sophistication (or equal ability to afford sophistication)**
- **equal bargaining power**
- **good faith.**

“Freedom of contract” allows peers to set the terms of their deal without fussy regulators getting in the way.

Unfortunately, all of these assumptions are unrealistic in the mass-market situation.

The Use of Standard Forms

- **Rather than bargain over each term, business people over the last century (or more) have set up standard forms that state their terms. They exchange forms (offer to provide goods or services, purchase order, invoice, etc.) that have the terms they want. If the other side disagrees with a term, they can argue about it.**
- **One of the core recognitions of the UCC was that nobody reads the other side's forms. ARTICLE 2 WAS DESIGNED to allow deals to go forward and yield fair and reasonable results when the parties only negotiate a few terms, and ignore conflicting terms in each other's forms.**

Battle of the Forms:

Article 2

- **On the back of Buyer's order form, it says "4 year warranty required."**
- **At the bottom of Seller's shipping form, it says "AS IS -- No warranty."**
- **No one discusses the term. Neither buyer nor seller have read either form (their lawyers wrote them.)**
- **Buyer takes delivery (without reading the fine print).**
- **The products are defective.**
- **What's the warranty?**

Battle of the Forms:

Article 2

- **Under the Common Law, the Warranty is determined by who received the last piece of paper (the “last shot” rule).**
- **Under the UCC, if the warranty is material and both sides’ forms insisted on the terms, then the forms didn’t result in a contract. Instead, the contract is formed by conduct (buyer accepts the goods). The terms are set by:**
 - » **what buyer and seller actually agreed on**
 - » **what their forms agreed on**
 - » **non-material points in each form that aren’t contradicted by the other form**
 - » **the last-shot non-material points where the forms conflict**
 - » **the UCC default rules where the forms conflict materially.**
- **Article 2B gives the mass-market licensor the last shot**

Battle of the Forms:

Article 2

- **The battle of the forms is one of the thorniest and most intricate issues in Article 2 jurisprudence. This is not surprising. The underlying problem is very difficult. How do you treat both sides fairly when neither side is bothering to read their forms?**

The Shrink-Wrapped License as a Post-Sale Modification

The traditional UCC approach to a shrinkwrapped disclaimer is to treat it as a post-sale modification to an existing contract.

It is a proposed material modification, which the buyer need not accept.

Therefore, without other evidence, it goes away.

There have been relatively few software cases on this point, but there are many, many analogous UCC cases involving other goods. (See the discussions in White & Summers UCC treatise and from Clark & Smith, treatise on the Law of Product Warranties.)

Traditional UCC

Treatment of Shrinkwraps

The sequence of events --

1. You buy the product. BY LAW, the product comes with an implied warranty of merchantability unless it is conspicuously disclaimed. You don't have X-Ray eyes, so what's hidden inside the box cannot be conspicuous to you until you open the box.

2. You take the product home.

3. You open the box and find the disclaimer inside.

This is not a disclaimer, the courts say. This is a request for a modification of the contract.

We know how to do disclaimers. We see "As Is" disclaimers on used cars. They're written in big letters and they're stuck on the car window. Very few products come "As is." If we insist on being used car salesmen, at least we can follow Used Car Rules.

Shrink-Wrap Warranty Disclaimer Ruled Invalid

In the case of *Step-Saver Data Systems, Inc. v. Wyse Technology and The Software Link, Inc.*, the United States Court of Appeals for the Third Circuit held that a disclaimer of all express and implied warranties, printed on the outside of the box, was not binding on a mail order customer.

Step-Saver repeatedly bought Multilink Advanced, an allegedly MS-DOS compatible operating system, from The Software Link (TSL). On each box was a disclaimer: the software was sold AS IS, without warranty; TSL disclaimed all express and implied warranties; and a purchaser who didn't agree to this disclaimer should return the product, unopened, to TSL for a refund. Step-Saver sued TSL, claiming that Multilink Advanced was not MS-DOS compatible.

TSL argued that Step-Saver had accepted the terms of the warranty disclaimer when it opened each package, and therefore Step-Saver could not sue.

Step-Saver made each purchase by telephone. The Court ruled that the essential terms of the sale (such as price and quantity) were set out during the calls. The warranty disclaimer on the box arrived later. Under Section 2-207 of the Uniform Commercial Code, the disclaimer was merely a proposal by TSL to add a term to the contract. Step-Saver was not required to accept this proposal. Having already bought the product, Step-Saver could open it and use it without agreeing to this new warranty disclaimer. Nor did it matter that Step-Saver placed additional orders after seeing the disclaimer. TSL never insisted that Step-Saver agree to the disclaimer during purchase negotiations (the telephone calls), therefore the disclaimer was not part of any contract.

The Court said:

TSL has raised a number of public policy arguments focusing on the effect on the software industry of an adverse holding concerning the enforceability of the box-top license. We are not persuaded that requiring software companies to stand behind representations concerning their products will inevitably destroy the software industry.

More Examples

Shrink-Wrapped Disclaimers

Arizona Retail Systems v. The Software Link: 831 F. Supp. 759 (D. Arizona, 1993). Similar facts to Step-Saver Data, but --- ARS initially ordered a demo copy of the product. The sale didn't become final until 30 days had passed or ARS opened the shrink-wrap on the full (not demo) version of the program. The disclaimer was on the outside of the shrink-wrap. Then ARS ordered several more, in lots of 20(?). The court ruled that:

As to the first purchase, the disclaimer was valid because it was conspicuously made part of the terms of the purchase.

As to the later orders, by phone, the disclaimer was not part of the bargain. TSL did not demand this during the telephone orders, and shipped without getting this agreement. Therefore it was not part of the contract.

The most interesting part of the case was the briefs. TSL's reply brief's strongest citation was to **McCrimmon v. Tandy Corp.** 313 SE.2d 15 (Ga 1991). Here, though, the disclaimer was conspicuously on the sales invoice that was handed to the customer at the cash register. The customer received it at the time of sale, before he walked out the door, and the court held that this made it part of the original purchase agreement.

Frank M. Booth, Inc. v Reynolds Metals Co., No. Civ. S-89-0048 (DFL) (E.D. Cal. January 9, 1991) and **Diamond Fruit Growers, Inc. v. Krack Corp.** 794 F.2d 1440 (9th Cir. 1986). Both cases involved a warranty disclaimer by the seller on the seller's purchase order confirmation, and there was a different set of warranty provisions on the buyer's purchase order. The seller (Reynolds) said in the paper that seller's acceptance of the deal was expressly conditioned on the other party's agreement to the terms and conditions of the seller's form, and if the purchaser didn't respond within 10 days, it would be deemed to have agreed. The court rejected this argument. *If a seller truly doesn't want to be bound unless the buyer assents to the terms of the seller's agreement, the buyer can protect itself by refusing to deliver the product until the purchaser agrees to the agreement's terms.*

More Software Examples

- **Daniel v. Dow Jones, 137 Misc.2d 94 1987, Civil Ct. NY**
 - » “The documents submitted to the court included a formal printed agreement, prepared by defendant, which was received by plaintiff some time after he commenced using the service. The agreement has unequivocal limitations on liability. It is not established that the agreement formed part of the contract between the parties.”
- **Vault Corp. v. Quaid Software, 847 F.2d 255 (5th Cir. 1988)**
 - » Said that clause in Vault’s “license agreement” that prohibited reverse engineering was unenforceable because of conflict with copyright law. Louisiana's Software License Enforcement Act, now repealed, was invalid whenever it conflicted with federal copyright law.
- See also, **Horizons, Inc. v Avco Corp.** 1982 551 F. Supp. 771-83 (S. Dakota), **Pawelec v. Digitcom**, 1984, 471 A.2d 60-63 (NJ Superior Ct. App. Div.), **Barrazzotto v. Intelligent Systems**, 532 NE 2d 148-51 Ohio Ct. of App. 1987.
- TWO NEW CASES IN THE MATERIALS:
- PROCD and GATEWAY 2000

7. THE WORLD CHANGES UNDER ARTICLE 2B

- **Opportunity to review -- the end of conspicuousness**
- **Manifest assent**
- **The mass-market license**
- **Battle of the forms under 2B**
- **What the vendor can (and will) include in the mass-market license**
- **Customer rights / remedies arising out of a mass-market license**
- **Licensor rights / remedies arising out of a mass-market license**

Opportunity to Review: The End of Conspicuousness

- **“Opportunity to Review” ensures that the customer has a fair chance to read the contract, but only after the sale, when it is too late to do comparison shopping.**
- **Also, because it is inside the packaging, there is much less of a disincentive to string together a zillion terms.**
- **American customers are notoriously unlikely to return defective merchandise. (Estimates of 3% 10% complaint rates are typical.) If we want to write a statute that reflects commercial reality (which used to be the UCC goal) then we should be taking this fact into account, not pretending that it isn't there or isn't relevant.**

Conspicuousness as a Protection Against Outrageous Terms

Conspicuousness achieves:

- **Notice to purchasers and avoidance of unfair surprise**
- **Competition on critical terms. Buyers do comparison shopping and these terms will affect their buying decisions.**
- **A limit on how far a seller will go. If the seller wants to do too many things that have to be “conspicuous” then it probably will skip some.**

Conspicuousness of a Disclaimer of Warranties

Under U.C.C. 2-314, a warranty that goods are merchantable is implied in a contract for their sale.

- **Merchantability requires that the program do what a reasonable customer would expect it to do (and that it be salably packaged).**
- **The seller can exclude the warranty, but it must be done correctly.**

California Civil Code 1792.4 (a) No sale of goods . . . , on an “as is” . . . basis, shall be effective to disclaim the implied warranty of merchantability . . . unless a conspicuous writing is attached to the goods which clearly informs the [consumer], prior to the sale, in simple and concise language.

Opportunity to Review: The End of Conspicuousness

(6) "Conspicuous" means so displayed or presented that a reasonable person against whom it operates would likely have noticed it or, in the case of an electronic message intended to evoke a response without the need for review by an individual, in a form that would enable a reasonably configured electronic agent to take it into account or react to it without review of the message by an individual. Except in the case of an electronic agent, a term is conspicuous if it is:

(A) a heading in capitals in a record or display;

(B) language in the body or text of a record or display in larger or other contrasting type or color than other language;

(C) prominently referenced in the body or text of an electronic record or display and can be readily accessed from the record or display; or

(D) so positioned in a record or display that a party cannot proceed without taking some additional action with respect to the term or the reference thereto.

(D) sets the standard for post-sale manifest assent to a “conspicuous” term.

Opportunity to Review: The End of Conspicuousness

SECTION 2B-113. OPPORTUNITY TO REVIEW.

(a) A party or electronic agent has an opportunity to review a record or term if the record or term is made available in a manner designed to call it to the attention of the party or to enable the electronic agent to react to the record or term:

- (1) before the acquisition of a copy of information;
- (2) before a transfer of rights; or

(3) in the normal course of initial use or preparation to use the information or to receive the transfer of rights.

(b) Except for a proposal to modify a contract, if a record is available for review only after initial use of information, a party has an opportunity to review the record only if it has a right to a refund of the license fees paid by discontinuing use and returning all copies. In the case of multiple products transferred for a single, bundled price, (i) if the rejected license is from the supplier of the bundled product, the refund must be for the entire bundled price on return of the entire bundled product, unless the licensee agrees to accept a reasonable allocation of the portion of the total price to the licensee attributable to the rejected license in light of the price paid by the licensee for the bundled product, and (ii) if the rejected license is from another licensor, the refund must be for a reasonable allocation attributable to that license.

Manifest Assent

SECTION 2B-112. MANIFESTING ASSENT.

(a) A party or electronic agent manifests assent to a record or term if, after having an opportunity to review the record or term under Section 2B-113, it:

(1) authenticates a record or term, or engages in other affirmative conduct that the record conspicuously provides or the circumstances clearly indicate will constitute acceptance of the record or term; and

(2) had an opportunity to decline to authenticate the record or term or engage in the conduct after having an opportunity to review.

(b) Merely retaining information or a record without objection is not manifestation of assent.

(c) If assent to a particular term in addition to assent to a record is required, conduct of a party or an electronic agent does not manifest assent to that term unless there was an opportunity to review the term and the authentication or conduct manifesting assent relates specifically to the term.

(d) Manifestation of assent may be proved in any manner, including by a showing that a procedure existed by which a party must of necessity have engaged in conduct that manifests assent to the contract or the term in order to proceed further in the use or processing of the information.

Manifest Assent

SECTION 2B-307. ADOPTING TERMS OF RECORDS.

(a) Except as otherwise provided in subsection (c) and Sections 2B-308 and 2B-309, a party adopts the terms of a record, including a standard form, if the party agrees to or manifests assent to the record before or in connection with the initial use of or access to the information. If agreement or assent to a record does not occur by that time, but the parties commence performance or use the information with the expectation that their agreement will be later represented in whole or in part by a record that the party has not yet had an opportunity to review or that has not yet been completed, a party adopts the terms of the later record if the party agrees to or manifests assent to that record.

(b) A term adopted under subsection (a) becomes part of the contract without regard to the knowledge or understanding of the individual term by the party assenting to the record and whether or not the party read the record.

(c) A term of a record which is unenforceable for failure to satisfy a requirement of another provision of this article, such as a provision that expressly requires use of conspicuous language or manifested assent to the term, is not part of the contract.

The Mass Market License

2B-102(25) “Mass-market license” means a standard form prepared for and used in a retail market for information which is directed to the general public as a whole under substantially the same terms for the same information, if the licensee is an end user and acquired the information in a transaction under terms and in a quantity consistent with an ordinary transaction in the general retail distribution. The term includes consumer contracts. “Mass market license” does not include:

- (A) a significant transaction between parties neither or whom is a consumer with respect to that transaction, including:
 - (i) any transaction in which either the total consideration for the particular item of information or the reasonably expected fees for the first year of an access or similar contract exceeds [\$500] [\$1,000];
 - (ii) any license that contemplates concurrent use of software by more than one person acting separately;
 - (iii) any transaction in which the information is customized or otherwise specially prepared for the licensee; or
- (B) a license of the right to publicly perform or publicly display a copyrighted work.; or
- [(C) an online or access contract between parties neither or which is a consumer with respect to the particular transaction.]

The Mass Market License

SECTION 2B-308. MASS-MARKET LICENSES.

(a) Except as otherwise provided in this section and Section 2B-309, a party adopts the terms of a mass-market license if the party agrees or manifests assent to the mass market license before or in connection with the initial use of or access to the information.

(b) Terms adopted under subsection (a) include all of the terms of the license without regard to the knowledge or understanding of individual terms by the party assenting to the form. However, except as otherwise provided in this section, a term does not become part of the contract if the term creates an obligation or imposes a limitation which:

(1) the party proposing the form should know would cause an ordinary and reasonable person acquiring this type of information and receiving the form to refuse the license if that party knew that the license contained the particular term; or

(2) conflicts with the previously negotiated terms of agreement.

(c) A term excluded under subsection (b) is part of the contract if the party that did not prepare the form manifests assent to the term or if, under the circumstances, the limitation or obligation in the term was clearly disclosed to the party before it agreed or manifested assent to the mass market license.

(d) A term of a mass market license which is unenforceable for failure to satisfy a requirement of another provision of this article, such as a provision that expressly requires use of conspicuous language or manifested assent to the term, is not part of the contract.

(e) A mass-market license must be interpreted whenever reasonable as treating in a similar fashion all parties situated similarly without regard to their knowledge or understanding of the terms of the record.

(f) A term that states a limitation that would be placed on the party by copyright or patent law in the absence of the term does not come within subsection (b)(1).

Battle of the Forms

Under Article 2B

SECTION 2B-309. CONFLICTING TERMS.

(a) If the parties to an agreement made pursuant to Section 2B-205 exchange standard forms that purport to contain terms of the agreement and the forms contain varying standard terms, the following rules apply:

(1) If a party proposes a standard form containing language which states that the party does not intend to be bound unless the other party agrees to the terms in its form and the conduct of the party proposing the conditional form is consistent with the stated conditions, the terms of that form govern if the other party by language or conduct agrees to the form.

(2) In all other cases, terms on which the forms agree become part of the contract, but the varying standard terms are not part of the contract unless the party claiming inclusion establishes that the other party *manifested assent* to the varying term or the records of both parties agree in substance with respect to the term.

(b) Subject to subsections (c) and (d), in cases governed by subsection (a)(2), the terms of the contract are:

- (1) terms actually agreed to by the parties;
- (2) terms of the licensor's record governing the scope of the license;
- (3) terms included under subsection (a)(2); and
- (4) supplementary terms under this article.

(c) In the case of a conflict between terms included under subsection (b): terms under subsection (b)(1) govern as to all other terms; terms included under subsection (b)(2) govern terms under subsection (b)(3) or (b)(4); and terms under (b)(3) govern terms under (b)(4).

(d) Contractual terms contained in a record authenticated by the party to be bound supersede the inclusion or exclusion of terms under subsections (a) or (b).

What the Vendor can (and will) include in the Mass-Market License

Here are some examples:

- software, opening the software, and starting to use it:
- disclaimer of all implied warranties
- disclaim licensor liability for viruses, even for a virus that the licensor knows is on the disk
- limitation of licensor-provided remedies to replacement of the disk
- unlimited licensee-provided remedies: licensee accountable to the licensor for consequential damages even though the licensor has excluded consequential damages to the licensee
- prohibition against reverse engineering
- prohibition against decompiling of the software
- prohibition against developing products that are inter-operable with this one
- prohibition against making backup copies
- prohibition against lending or reselling the software
- choice of law to the seller's state, which might not even be in the United States
- choice of forum to the seller's state (even for \$30 consumer software, a Massachusetts customer might have to file suit in California)
- arbitration of all disputes
- the customer must pay fee-based support from the first minute of the customer's possession of the product, even for actual bugs in the product (One product recently advertised for sale to attorneys came with a support policy of \$2 per minute for all calls about the product.)
- restrictions on the location of use of the product, such as not being able to load or run a single copy on a machine that is used as a network server
- restrictions on the nature or purposes of use of the product
- restrictions on who can use the product
- restrictions on the duration of use of the product
- inclusion of disabling code that will shut down the software if it is used too many times or for too long
- reduced statute of limitations, without tolling the statute while the parties try to fix the problems

Customer Rights/Remedies Arising Out of a Mass-Market Licence

- **Partial refund.**
- **No incidentals.**
- **No consequential.**

Licensors Rights/Remedies Arising Out of a Mass-Market Licence

Full recovery, including:

- **benefit of bargain (direct damages)**
- **interest**
- **incidentals (including collection costs)**
- **consequential**

Remember: the mass-market license lets the licensor exclude or limit remedies, but Article 2B provides no comparable mechanism for customers to exclude or limit remedies. (Seems like only the seller has “Freedom of Contract.”)

About Cem Kaner

I focus on the satisfaction and safety of customers and workers. This cuts across several academic and technical disciplines. To develop competence in the field, I've worked in several related areas:

Law (J.D., 1993). Currently in a small solo practice, primarily representing software development consultants and customers. Public service includes prosecution (3 months full-time volunteer, Santa Clara County, Deputy DA); grievance officer and contract advisor (National Writers Union); consumer complaint investigator / mediator (Santa Clara County Dept. of Consumer Affairs); and Board of Directors, Northern California Hemophilia Foundation. I am also heavily involved in legislative efforts dealing with the law of software contracting (primarily Draft Article 2B, Uniform Commercial Code).

Quality (Certified by the American Society for Quality Control as a Quality Engineer, 1992). I was an Examiner for the California Quality Awards in 1994 and 1995.

Experimental Psychology (Ph.D, 1984: perceptual measurement, cognition, physiological foundations). Continuing education and work experience in human factors / ergonomics.

Mathematics & Philosophy (B.A., Arts & Sciences, 1974).

Technical Communication (several courses at UC Santa Cruz Extension). I published *Testing Computer Software* in 1988 and the 2nd edition (with Hung Nguyen and Jack Falk) in 1993. It received the *Award of Excellence* in the Society for Technical Communication's *Northern California Technical Publications Competition*. I've managed three tech pubs groups, and my staff have won several STC awards. I published about 12 papers in 1996 and am near finishing my next book, *Bad Software: Get Treated Fairly When You Buy Computer Software*. I also teach courses on software testing and computer-related law at UC Berkeley Extension, and have taken instructor training courses there.

Organization Development (courses from Community at Work, plus experience as an Associate, then Senior Associate at Psylomar -- Organization Development)

Computing. I first studied FORTRAN in 1967 (many other languages later). In 1970-73, my parents brought early computerized cash registers and a service bureau-based inventory management system into their retail businesses. Working on the books and the sales floor, I saw the full customer-side life cycle of an automation effort that was a complete failure. This provided expensive but valuable lessons in usability, requirements analysis, benchmarking, acceptance testing, debugging, vendor fraud, etc.. I began doing my own work with computers in 1976, while a Psychology graduate student. We used them as real time lab control systems, simulators, and data analyzers. Interested in the human side of the machines, my colleagues and I brainstormed extensively on ways to improve software usability and overall system reliability. In 1983, I moved to Silicon Valley to work on consumer software usability. Since then I've worked in the Valley as a human factors analyst (user interface designer), programmer, software development manager, test manager, technical publications manager, director, and independent consultant.