COMPUTER SOFTWARE LICENSING AND DEVELOPMENT AGREEMENT

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EXHIBITS:

COMPUTER SOFTWARE LICENSING AND DEVELOPMENT AGREEMENT

This Agreement is made between Tolerant Systems, Inc., a California corporation ("Tolerant"), and RC Computer A/S, a Danish corporation ("RC"), as of the effective date set forth above the signatures (the "Effective Date").

1. BACKGROUND

1.1 Tolerant develops, manufactures, markets and supports computer systems, including systems for fault tolerant applications and transaction processing.

1.2 RC develops, manufactures, markets and supports computer systems, terminals, workstations and communication systems.

1.3 RC would like to develop, and Tolerant would like to help RC develop, a high-performance, fault tolerant on-line transaction computer based on Tolerant's TX operating system and on RISC architecture. The system will provide compatibility with the RC8000 computer now being marketed by RC. The high-performance, fault-tolerant system is called RC9000. The RC8000 compatible version is called RC8500.

1.4 The parties have the option to arrange for the sale by Tolerant to RC on an OEM basis of Tolerant's Eternity Series computer systems, and the sale to Tolerant by RC on an OEM basis of the high-performance RC9000 product to be developed by RC. The terms and conditions of such OEM agreements are not covered by this Agreement.

1.5 The parties have formalized the terms of both an OEM agreement and a source license agreement in a Preliminary Agreement dated as of November 13, 1985. The Preliminary Agreement will be superceded and replaced by this Agreement.

2. PRODUCTS

2.1 RC8000. RC currently manufactures and markets computer systems under the model number RC8000, all of which use bit-slice technology and no microprocessors, and which are used, among other things, for transaction processing of telephone directory assistance requests (the 'RC8000').

2.2 Eternity Systems. Tolerant has developed and is marketing under its Eternity Series brand a line of computer systems based on the National Semiconductor 32032 line of microprocessors, having fault-tolerant architecture that are used, among other things, for transaction processing (the 'Eternity Systems').

2.3 The TX Software. The Eternity Systems use Tolerant's proprietary TX system software and user documentation (the 'TX Software') as defined in Exhibit C, which is derived in part from the UNIX System V operating system ('UNIX') developed and marketed by American Telephone & Telegraph Company ('AT&T') and the BSD enhancements to UNIX owned and marketed by the Regents of the University of California (the 'BSD Enhancements').

2.4 The RC9000. Based on the TX operating system from Tolerant, RC will develop a high-performance computer system (the 'RC9000') that: (a) will be based on a proprietary bus system, (b) will be based on RISC CPU's, that run the TX software and thus replace the functions of the NS32032 based UPU and RPU boards in the Eternity product.

2.5 The RC8500. Based on the same hardware architecture, RC will develop a new 24-bit CPU board based on bit-slice and custom design logic, which enables RC to offer an RC8000 compatible computer system (the 'RC8500') that: (a) will be instruction compatible with the RC8000, (b) will not use TX software, but a ported version of RC's current RC8000 operating system, and (c) will not have RISC architecture.

2.6 Other Products. Under the terms and conditions of this Agreement, RC will have the right as provided below to use, modify and adapt the TX software to develop new computer systems other than the RC9000 ('Other Products').

2.7 RC Software. In the course of developing the RC9000 and any Other Products, RC may develop corrections, changes and additions to the TX Software (collectively, the 'RC Software').

2.8 Covered Products. In this agreement, the term 'Covered Products' includes the Eternity Systems, the TX software, the RC software, the RC9000 and any Other Products, provided that the term "Covered Products" as used in this Agreement shall not include any products derived from the RC9000 or any Other Products which do not use the TX Software or the RC Software.

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2.9 Changes and Additions. Each of the terms used and defined in this section 2 includes all changes and additions to the subject matter covered by that term that either party may develop and provide to the other (or be required to provide to the other) under this Agreement.

3. SOURCE LICENSING OF TX AND ASSOCIATED ASSISTANCE.

3.1 The RC9000. With Tolerant's assistance and a technology transfer as provided in this Agreement, RC will develop the RC9000 computer system.

3.2 Other Products. RC will have the right, under the terms and conditions of this Agreement, to develop Other Products based on or derived from the TX Software, subject to mutual agreement on the royalty rates for such Other Products. Both parties agree to negotiate the royalty rates in good faith based on the royalty rates for their existing TX-based products and the comparative on-line transaction processing speeds.

3.3 Hardware Information. In accordance with the schedule (see Section 4), Tolerant will transfer to RC in Denmark available information reasonably requested by RC regarding the Eternity Systems hardware for the purpose of development of the RC9000. For this purpose, RC may request architecture descriptions, internal and external specifications, flow charts, schematic diagrams and the like.

3.4 Development System. RC will purchase a complete Eternity System according to Exhibit E and within sixty (60) days from date of RC's purchase orders, Tolerant will install this system on RC's location either in Copenhagen or in Aarhus and RC will perform, and be responsible for, the acceptance test of this system as described in Exhibit D.

3.5 TX Software Source Code. Tolerant will provide RC in Denmark with one copy of the then-current versions of the source code and internal documentation of the TX Software ('Source Materials').
All releases, enhancements and updates developed prior to 1988 will be provided free of charge by Tolerant. The source code delivery will comply with Exhibit C, and the delivery will be received by RC upon release under any of the provisions of this Agreement (Exhibit D and Section 4). RC will have the right to use the Source Materials under the development license provided below, subject to all terms, conditions and restrictions of this Agreement.

3.6 Initial Assistance. At any time requested by RC and agreed to by Tolerant during the first six (6) months after the completion of the acceptance test, Tolerant will provide without additional charge fifteen (15) person-days of training and consultation to RC personnel to prepare RC to work with the Eternity Systems and the TX Software. In addition and as requested by RC, within the first twelve (12) months after the completion of the acceptance test, Tolerant will provide to RC without additional charge, two hundred (200) hours of technical support, consultations and training for RC personnel with respect to the Eternity Systems and TX software. Tolerant will provide the foregoing assistance by telephone or at Tolerant's premises, and RC will bear the travel, living and incidental expenses of its personnel. Subject to availability, however, Tolerant agrees to provide all or part of this training, consultation and support at RC's premises at mutualy convenient times if RC agrees to pay the reasonable travel, living and incidental expenses of Tolerant's personnel. Whenever and only if a manpower resource conflict arises, Tolerant will provide the above mentioned assistance to RC before manpower resources are applied to future contractual commitments. Within Tolerant's control, Tolerant will not change or remove key personnel committed to this project until all acceptance tests have been completed successfully.

3.7 Project Managers. Within thirty (30) days after the effective date of this Agreement, each party will designate in writing a project manager for the RC9000. Each party will use best efforts to channel all information, requests for assistance and inquiries regarding this Agreement through the other party's project manager, or his or her successor.

3.8 Additional Assistance. For assistance and support beyond that outlined in paragraph 3.6 above, RC agrees to pay the rates per person-day set forth in Exhibit B ('Support Rates'), plus reasonable expenses, including travel, living and incidental expenses of Tolerant's personnel for off-site work. All additional assistance will be subject to the reasonable availability of Tolerant's personnel and will be scheduled for mutual convenience of RC and Tolerant.

3.9 Protection of Proprietary Information. All technical information provided by either party under this Section 3 will be proprietary and confidential information of Tolerant or RC, whether or not marked as such. All Source Materials for the TX Software provided to RC under this Agreement will be subject to the provisions of protection of Source Materials provided below.

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4. DELIVERIES AND ACCEPTANCE TESTS.

4.1 Main Goal. The main purpose of the acceptance test is to verify, that the deliveries by Tolerant comply to the mutually agreed level of functionality, performance and completeness.

4.2 Compliance Areas. Tolerant and RC mutually agree that the acceptance test must verify:

(a) That the TX Software complies with the published facilities as specified in the documentation listed in Exhibit C.

(b) That the Eternity development system (hardware and software) as specified in Exhibit E complies with the required functions and minimum performance levels as specified in Exhibit D (Acceptance Test Phase I.)

(c) That the TX source code materials comply with the requirements for completeness, structure and documentation as specified in Exhibit D (Acceptance Test Phase II).

(d) That the TX Software within the first maintenance period will comply with the UNIX System V Interface as specified in Exhibits C and D.

4.3 Deliveries and Test Phases. The acceptance test will be carried out by RC personnel, based on the deliveries from Tolerant and with support from Tolerant.

During the Acceptance Test Phase I period, Tolerant will provide assistance to help complete the test. Tolerant agrees to provide one hundred (100) man hours of assistance in San Jose and one week on-site assistance at no additional cost to RC. Tolerant is responsible for the on-site installation of the development systems (hardware and software) as specified in Exhibit E. Tolerant will provide the foregoing assistance by telephone or at Tolerant's premises, and RC will bear the travel, living and incidental expenses of its personnel. Subject to availability, however, Tolerant agrees to provide all or part of this training, consultation and support at RC's premises at mutually convenient times if RC agrees to pay the reasonable travel, living and incidental expenses of Tolerant's personnel. Whenever and only if a manpower resource conflict arises, Tolerant will provide the above mentioned assistance to RC before manpower resources are applied to future contractual commitments. Within Tolerant's control, Tolerant will not change or remove key personnel committed to this project until all acceptance tests have been completed successfully.

(A) Within ten (10) days after the date of this Agreement, Tolerant will deposit the source materials, in accordance with Exhibit G - Deposit Agreement.

(B) After the successfull installation of the development systems as specified in Exhibit E, the Acceptance Test Phase I with a duration of sixty (60) days is initiated. This phase does not require TX source code, and the following tests are executed:

1. Functionality verification such as explicitly described in Exhibit D.

2. Performance verification against the minimum performance figures and utilizing the procedures as described in Exhibit D.

3. As required the test team will verify the functionality of the development systems toward the published facilities as described in the documentation.

During the acceptance test RC will maintain test records, describing the results of the acceptance tests. The Acceptance Test Phase I will be passed successfully when either: (a) all tests have been successfully completed fulfilling the minimum requirements as stated in Exhibit D or; (b) if RC in writing agrees to accept provided that Tolerant will remedy the outstanding issues before the expiration of Acceptance Test Phase III.

In the event, that the product does not pass the Acceptance Test Phase I, Tolerant will have thirty (30) days to remedy the failures or differences. RC must again run the acceptance tests when the changes are received and make a report within thirty (30) days. If the acceptance tests cannot be passed at the end of the second acceptance period (not later than 120 days after the Acceptance Test Phase I start) and such failure in RC's reasonable opinion is due to a problem that will materially effect the ability of RC to proceed with its RC9000 development efforts, RC will have the option to request Tolerant to release the source code. Should such release of source code not be made within 10 days of the request from RC, RC shall have the right upon RC's sole request to have Deposit Materials released from the Deposit Agent according to Section 7c, 8, and 9 of the Deposit Agreement.

Should the source code be released as provided above, RC has the right to: (a) request Tolerant to continue efforts to remedy and withhold future payments until remedied and (b) RC may postpone future payments until RC personnel remedies the failures at a cost per man-hour (as described in Exhibit B), the amount being deducted from future payments by RC.

(C) Acceptance Test Phase II. After the successful completion of Acceptance Test Phase I or as provided in Section 7(c) of the Deposit Agreement, RC will receive a fully updated TX source code with documentations as specified in Exhibit C. RC will perform the acceptance test according to the requirements of Exhibit D and with the assistance from Tolerant as specified in section 3.6. The Acceptance Test Phase II will be ninety (90) days and during the test RC will maintain acceptance test records.

The Acceptance Test Phase II will be passed successfully when either:
(a) All tests have been successfully completed fulfilling the minimum requirements as stated in Exhibit D or
(b) If RC in writing agrees to accept provided that Tolerant will remedy the outstanding issues before the expiration of Acceptance Test Phase III. Such agreement will not be withheld for problems that in RC's reasonable opinion do not materially effect the ability of RC to proceed with its RC9000 development efforts.

In the event, that the product does not pass the acceptance test, Tolerant will have thirty (30) days to remedy the failures or differences. RC must again run the acceptance tests when the changes are received and make a report within thirty (30) days. If the acceptance tests cannot be passed at the end of the second acceptance period (not later than 150 days after the Acceptance Test Phase II start) and after good faith negotiations with Tolerant to determine which company should remedy the problem, RC will have the option to either:
(a) Postpone future payments until RC personnel remedy the failures at a cost per man-hour as described in Exhibit B, the amount being deducted from future payments by RC or
(b) Postpone future payments until Tolerant remedies the failures and differences.

(D) Acceptance Test Phase III. The purpose of The Acceptance Test Phase III is to verify:

(a) The resolutions of unsolved issues from the previous test phases.
(b) Compatibility with UNIX System V Interface Definition Base as defined in Exhibit D.

This Acceptance Test Phase III must be terminated within one hundred eighty (180) days after the successful termination of Acceptance Test Phase II, i.e. if no delays occur on the previous tests within three hundred thirty (330) days after installation of the development systems.
In the event, that the product does not pass this final acceptance test, Tolerant will have sixty (60) days to remedy the failures or differences. RC must again run the acceptance tests when the changes are received and make a report within thirty (30) days. If the acceptance tests cannot be passed at the end of the second acceptance period (not later than two hundred seventy (270) days after the Acceptance Test Phase III start) RC will have the option to either:

(a) Postpone future payments until RC personnel remedy the failures at a cost per man-hour as described in Exhibit B, the amount being deducted from future payments by RC or

(b) Postpone future payments until Tolerant remedies the failures and differences.
Payment subject to any deduction according to (a) above shall be made in any case when the problem is first remedied by either party.

4.4 During all Acceptance Test Phases, RC must report to Tolerant all problems or failures or non-conformance discovered on a weekly basis.

5. DEVELOPMENT LICENSE, SOURCE MATERIALS AND OWNERSHIP

5.1 Development License. Tolerant grants and agrees to grant RC a nonexclusive, nontransferable license to:

(a) Use, copy, modify and improve the technical information provided by Tolerant under Section 3, at no more than three (3) secure locations on RC's premises in Denmark, for the purpose of developing the RC9000 and any Other Products under this Agreement.

(b) Use, copy, modify, improve and prepare derivative works from the TX Software Source Materials, at no more than three (3) secure locations on RC's premises in Denmark, for the purpose of developing the RC9000 and any Other Products under this agreement.

5.2 Required Third-Party Licenses. RC understands and agrees that, prior to delivery of the TX Software by Tolerant, RC must at its own expense obtain (a) from AT&T or its authorized representatives a source code license for UNIX System V and (b) from the Regents of the University of California a source code license for the BSD Enhancements. (c) from Informix Software, Inc. the source code license for C-ISAM. In addition, if RC requires the TX software enhancements to Micro Focus Cobol, RC also must at its expense obtain a source code license from Micro Focus for Level II Cobol. RC agrees to provide Tolerant copies or other evidence reasonably satisfactory to Tolerant of such licenses before Tolerant delivers the TX Software in any form to RC. RC agrees to keep these licenses in effect during the term of this Agreement and at all times during which RC uses or distributes any of the third-party software referred to in this paragraph.

5.3 Source Materials Protection. RC recognizes and agrees that the Source Materials for the TX Software, as described in Exhibit C, are the extremely valuable property of Tolerant and contain trade secrets of Tolerant, the unauthorized use or disclosure of which would cause Tolerant great harm. Accordingly, RC agrees to hold such Source Materials in strict confidence and to take all reasonable precautions, but in no event less care than RC takes to protect its own proprietary software of similar importance, to prevent their unauthorized use or disclosure. These precautions would include, without limitation:

(a) Maintaining those Source Materials at no more than three (3) secure locations on premises owned or leased by RC in Denmark.

(b) Disclosing those Source Materials only to those employees of RC and consultants of RC who: (i) have access to those Source Materials only at such a location of RC; (ii) have a need to have such access to perform their duties for RC's benefit; (iii) have been informed that those Source Materials are confidential; and (iv) have signed the written agreement, obligating them not to disclose those Source Materials to any third party or to use them other than for RC's benefit as specifically instructed by RC.

(c) Maintaining a record at all times of the location of each copy of those Source Materials or any portion thereof and a log of each person who has access to those Source Materials.

(d) Storing each copy of those Source Materials, in whole or in part, under lock and key.

(e) Marking each copy of those Source Materials prominently on each page of source code listings and documentation (and the equivalent in computer storage media) with the following legend: "CONFIDENTIAL/PROPRIETARY INFORMATION OF TOLERANT SYSTEMS, INC. AND ITS SUPPLIERS. DO NOT DUPLICATE OR DISCLOSE."

5.4 Tolerant's Ownership. Tolerant and its suppliers will own and retain all proprietary rights in the Eternity Systems, the TX Software and any changes or additions to the foregoing, or to any Covered Products, made by Tolerant, including without limitation portions of the foregoing incorporated in the RC Software, the RC9000 and any Other Products.

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5.5 RC's Ownership. RC will own and retain all proprietary rights in the RC9000, the RC8500, the RC Software and any Other Products developed by RC, except portions owned by Tolerant and its suppliers.

5.6 Intellectual Property Rights. Each party's ownership as provided above will include ownership of related technology, technical information, patents and patent rights, copyrights, copyright registrations, trade secrets, mask works, mask work registrations, and confidential and proprietary information, worldwide (collectively, "Intellectual Property Rights").

5.7 Patents. Each party will have the sole and exclusive right at its discretion to apply for, prosecute, maintain and dispose of patents with respect to items in which it owns Intellectual Property Rights, subject to the licenses granted to the other party under this Agreement. Each party agrees, however, to keep the other party informed of any applications for patents that it makes covering any aspect of the Covered Products and the progress and results of those applications.

5.8 Infringement. Each party reserves the sole and exclusive right at its discretion to assert claims against and/or sue third parties for infringement of its Intellectual Property Rights relating to Covered Products, without accounting or payment to the other. Each party agrees, however, to keep the other party informed of any claim or legal action that it may make to challenge infringement by third parties of its Intellectual Property Rights relating to Covered Products.

5.9 Trademarks. Each party will have the nonexclusive, nontransferable right to use the other's trademarks and trade names as follows:

(a) RC may use Tolerant's trademarks "Tolerant", "TX", and "Eternity Series" with Eternity Systems marketed by RC, and after receiving Tolerant's written consent, which Tolerant will not unreasonably withhold or delay, with other Covered Products manufactured and/or marketed by RC.

(b) Tolerant may use any trademarks and trade names that RC may adopt and/or use for the RC9000 marketed by Tolerant, and after RC's written consent, which RC will not unreasonably withhold or delay, Tolerant may use any trademarks and trade names adopted and/or used by RC for any other Covered Products with those Covered Products marketed by Tolerant.

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(c) Each party, as owner of a trademark or trade name, will have the right to inspect, evaluate and control the quality of the other's products with which the owner's trademark and/or trade name is used. Each party agrees upon the other's written requests, made for reasonable reasons of quality control to correct certain differences in the cited products and to cure such issue within thirty (30) days of notice or to discontinue use of any trademark or trade name of the other with any product, after a reasonable time for finishing work in progress and liquidation of inventory.

(d) In using the other's trademarks and trade names, each party will follow all reasonable written guidelines provided by the other party to govern that use.

(e) Nothing in this Agreement will grant either party ownership or exclusive rights in the other's trademarks and/or trade names. Each party will have the exclusive right to own, hold, apply for registration for and register its own trademarks and trade names in all countries of the world. However, each party agrees to register its trademarks and trade names in any country or countries requested by the other at the other's expense.

6. MAINTENANCE, UPDATES AND ENHANCEMENTS.

6.1 Definitions. For purposes of this Agreement:

(a) "Maintenance" means the use of reasonable effort, in the ordinary course of business, to provide corrections for errors and defects in software and to make software conform to its published specifications.

(b) "Enhancements" means changes, additions and improvements to software to increase performance or user convenience or to maintain compatibility with hardware and/or operating systems as they are modified or supplemented, but does not include the addition of new features or functions or any changes or additions to meet with new specifications.

(c) "Updates" means new releases of software containing the results of Maintenance and/or Enhancements.

6.2 Tolerant's Maintenance, Enhancements, and Updates. As long as RC agrees to in writing and pays the applicable annual Maintenance fees as provided below for each successive annual period ("Maintenance Period") beginning January 1, 1988, Tolerant will provide RC with Maintenance for the TX Software and with any Enhancements and Updates for the TX Software that Tolerant may develop and release for licensing and distribution generally. Tolerant's Maintenance, Enhancements and Updates are free of charge in the first period terminating December 31st, 1987.

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6.3 RC's Maintenance, Enhancements and Updates. During the term of this Agreement, RC will provide Tolerant with Maintenance for the RC Software (to the extent it differs from the TX Software) and with any Enhancements and Updates to the RC Software that RC may develop and release for licensing and distribution generally. This service will be free of charge until January 1, 1989, after which RC has the right to charge an annual maintenance fee, which shall not be more than fifty percent (50%) of the annual Maintenance Fee for the TX Software.

6.4 Timing and Format. Each party will provide annotated source code for its Enhancements and Updates provided pursuant to Section 6.2 and 6.3 to the other within thirty (30) days after release of those Enhancements and/or Updates in object code or other form for licensing and distribution generally. That source code will be provided in a mutually agreeable form and format.

6.5 Termination of Maintenance, Updates and Enhancements. After the third (3rd) Maintenance Period, either party will have the right to terminate the obligations of both parties under this Section 6 as of the end of the then-current Maintenance Period, by giving written notice of its intention to terminate at least one hundred eighty (180) days prior to the end of that Maintenance Period during which notice of intention to terminate is given (the "Last Maintenance Period").

7. MARKETING.

7.1 Marketing by RC: Nonexclusive Territory. RC will have the non-exclusive right to market and distribute Covered Products (excluding Eternity Series) in all countries of the world except in the United States and Canada. RC also will have the non-exclusive right to market and distribute Covered Products (excluding the Eternity Series) in the United States and Canada for the following purposes only:

(a) For use solely for the implementation either by RC or by a third party of a computerized telephone directory assistance inquiry system and/or a computerized library system; or

(b) For use with significant and valuable software and/or hardware added by RC to produce a turnkey system to address a significant, specific vertical market application approved in advance in writing by Tolerant, which will not be unreasonably withhold or delay its approval.

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The above limitation with respect to RC's marketing and distribution in the United States and Canada shall expire upon the earlier of (a) five (5) years from the date of this Agreement or (b) at such time as Tolerant does not become or ceases to be RC's exclusive distributor for the United States and Canada pursuant to an OEM agreement as comtemplated in Section 7.4.

7.2 Exclusivity. Tolerant agrees it will not sell, lease, give or license in anyway the TX source code to any other Scandinavian Headquartered Company for use in Scandinavia for five (5) years from the date of this Agreement.

7.3 OEM Option. Tolerant agrees that it will not enter into any agreement for the distribution of Tolerant's Eternity Series hardware and software with any Scandinavian Headquartered Company before January 16, 1987. Further, Tolerant will offer exclusive distribution rights in Scandinavia for Tolerant's Eternity Series products to RC subject to RC and Tolerant agreeing to mutually acceptable contractual terms, conditions and minimum quantity commitments (not to exceed thirty (30) SBB's within the first eighteen (18) months of the OEM agreement) on or before January 15, 1987. Under any circumstances, Tolerant's other international OEM's and distributors will have the right to market Eternity Series products in Scandinavia.

7.4 Marketing by Tolerant. Subject to the foregoing and the exceptions as explicitly stated in Paragraph 7.1, Tolerant will have the exclusive right to market and distribute RC9000 or Other Products in the United States and Canada under the condition that Tolerant and RC agree to mutually acceptable contractual terms, conditions and minimum quantity commitments (not to exceed thirty (30) RC9000 systems or thirty (30) of each of the Other Products during the first eighteen months of the OEM agreement) within four months after the release and availability of the RC9000 or each of the Other Products. Furthermore, a successful completion of a mutually agreed acceptance test will be required. If an agreement is reached before this date, RC agrees, except as explicitly permitted in Paragraph 7.1, not to manufacture or market RC9000 or Other Products in the United States or Canada, not to appoint any third party to manufacture the RC9000 or Other Products in the United States or Canada, and not to appoint any third party whose principal place of business is in the United States or Canada. Tolerant understands, however, that RC and its other distributors and OEMs outside the United States and Canada will have the right to sell the RC9000 or Other Products inside the United States and Canada. *Tolerant nevertheless accepts because of the special relationship between RC and the CGE/ITT joint venture that the joint venture will not be considered a "third party" in this context.* MS.

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7.5 Competition. Both parties desire to increase their businesses with respect to Covered Products as quickly as possible. Accordingly, subject to the explicit provisions for exclusivity above, each party will have the right to compete with the other with respect to sales and licensing of Covered Products in any territory worldwide and to any customer.

7.6 Maintenance. At RC's request, Tolerant will provide, or will arrange for a third party to provide, maintenance in the United States and Canada for any Covered Products manufactured by RC and sold in the United States and Canada. Such maintenance will be provided upon the then-standard terms and conditions, and at the then-standard prices, of Tolerant or that third party, as the case may be, for as long as there is reasonable demand for that maintenance and performing that maintenance is reasonably profitable.

7.7 Manufacturing Rights. Pursuant to Sections 7.3 and 7.4 the parties will negotiate in good faith a manufacturing rights and manufacturing technology transfer after an agreed to volume of product has been shipped under the contemplated OEM Agreement.

8. OBJECT CODE LICENSES.

8.1 Terms of Object Code Licenses. Each license granted by either party under this Agreement or the contemplated OEM Agreement with respect to any Covered Product (the "Subject Product") will include a non-exclusive, nontransferable, royalty-bearing, license, subject to the territorial restrictions in Section 7 above, to:

(a) Use, copy, modify and improve all technology and technical information provided by the granting party and relating to the Subject Product, for the purposes of modifying, improving, manufacturing, promoting, marketing and distributing the Subject Product;

(b) Use, copy, promote, market, and distribute (in object code form only) all software supplied by the granting party that is part of or used with the Subject Product (including without limitation the TX Software, the RC Software and any changes and additions made by either party) for those same purposes;

(c) Permit third parties, subject to written non-disclosure agreements and other protections required in this Agreement, to copy and manufacture (in object code form only) the software referred to in Section 8.4 (b) for the licensed party and to use and copy the technical information referred to in Section 8.4 (a) above, excluding source code for licensed software, as reasonably necessary for that purpose; and

(d) Use, copy, modify, and prepare derivative works from the software referred to in Section 8.4 (b) above, including source code, for the foregoing purposes, subject to the source code protection provided above and the nondisclosure restrictions provided below.

The foregoing licenses are licenses under all Intellectual Property Rights of the granting party, now or hereafter existing, and include the foregoing rights with respect to portions of the Covered Products owned by the granting party. All marketing under these licenses will be subject to the terms and conditions for marketing provided in Section 7 above.

8.2 No Sublicensing. Neither party will have the right to sublicense or transfer any of the rights under a manufacturing license granted by the other without the other's prior written consent, but each party will have the rights to subcontract manufacturing of licensed hardware and object code software for itself under restrictions provided by this Agreement.

8.3 Required Third-Party Licenses. RC understands and agrees that, prior to copying for distribution, marketing or distributing any of the TX Software or any of the RC Software to the extent based upon or derived from the TX Software, RC must at its own expense obtain marketing and distribution licenses from AT & T, the Regents of the University of California, Informix Software Inc. and (if RC desires to market and distribute the Tolerant software enhancements made to Micro Focus Cobol) Micro Focus for Unix System V, the BSD Enhancements, Level II Cobol and C-ISAM, respectively. RC agrees to keep these licenses in effect at its expense during the term of this Agreement and at all times during which RC copies for distribution, markets or distributes any of the TX Software or the RC Software. In addition, RC agrees to pay in a timely manner all royalties to AT & T or its affiliates, the Regents of the University of California, Informix Software Inc. and Micro Focus required by these respective licenses.

8.4 Tolerant hereby represents that it has the right to sublicense C-ISAM to RC and will do so if requested. RC may request such sublicense or may elect to deal directly with Informix Software Inc.

9. ROYALTIES.

9.1 Definitions. For the purpose of this Agreement:

(a) A "Tolerant Customer" means any customer that, at the time of the royalty-bearing sale, has paid for or agreed in writing to pay for and has installed and operational on its premises an Eternity Series Computer system manufactured and/or marketed by Tolerant.

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(b) An "RC Customer" means any customer that, at the time of the royalty-bearing sale, has paid for or agreed in writing to pay for and has installed and operational on its premises one or more RC8000s or Covered Products manufactured and marketed by RC.

9.2 Royalties Payable by RC. RC agrees to pay Tolerant royalties as follows:

(a) For each equivalent of a System Building Block for an RC9000 system (an RC9000 PU) that RC manufactures and sells to a customer other than a Tolerant Customer, a per-unit royalty of: nine thousand dollars (U.S. $9,000.).

(b) For each equivalent of a System Building Block for an RC9000 System (an RC9000 PU) that RC manufactures and sells to a Tolerant Customer, a per-unit royalty of: fifteen thousand dollars (U.S. $15,000.).

(c) For each equivalent of a System Building Block for any Other Products that RC manufactures and sells to a customer other than a Tolerant Customer, a per-unit royalty in the amount determined pursuant to Paragraph 9.4.

(d) For each equivalent of a System Building Block for any Other Products that RC manufactures and sells to a Tolerant Customer, a per-unit royalty equal to one hundred sixty six and 7/10 percent (166,7%) of the amount determined pursuant to Paragraph 9.4.

9.3 Royalties Payable by Tolerant. Tolerant agrees to pay RC royalties for RC Software as follows:

(a) For each equivalent of a System Building Block, Utilizing RC Software, for an RC9000 System that Tolerant manufactures and sells to a customer other than an RC Customer, a per-unit royalty of: nine thousand dollars (U.S. $9,000.).

(b) For each equivalent of a System Building Block utilizing RC Software, for an RC9000 system that Tolerant manufactures and sells to an RC Customer, a per-unit royalty of: fifteen thousand dollars (U.S. $15,000.).

(c) For each equivalent of a System Building Block for any Other Products utilizing RC Software, that Tolerant manufactures and sells to a customer other than an RC Customer, a per-unit royalty in the amount determined pursuant to Paragraph 9.4.

(d) For each equivalent of a System Building Block for any Other Products utilizing RC Software, that Tolerant manufactures and sells to an RC Customer, a per-unit royalty equal to one hundred sixty six and 7/10 percent (166.7%) of the amount determined pursuant to Section 9.4.

9.4 Royalties for Other Products. Each party will pay the other a per-unit royalty for each equivalent of a System Building Block for any Other Products or improvement thereof manufactured by the paying party and sold to any customer under licenses contained in this Agreement. The per-unit royalty, as well as the definition of an "equivalent" of a System Building Block, will be negotiated by the parties in good faith. The parties will use as a basis for their negotiation the price per transaction rate of the Other Products in question, as compared to that of the RC9000 (or prior to its existence, the Eternity Systems based on the National Semiconductor 32032 Microprocessor). The "price per transaction rate" will be the then-applicable published retail list price for each equivalent of a System Building Block of the product, divided by the transaction processing rate of that product, as measured by the TP-1 industry standard benchmark for On-Line Transaction Processing applications.

The per-unit royalty for Other Products in question will be equal to the applicable royalty under this Agreement for each System Building Block of the RC9000 (or prior to its existence, the Eternity Systems based on the National Semiconductor 32032 Microprocessor), multiplied by the ratio of the price per transaction rate of that Other Product to the price per transaction rate of the RC9000 (or prior to its existence, the Eternity Systems based on the National Semiconductor 32032 Microprocessor). If the parties cannot agree on the definition of an "equivalent" of a System Building Block or the application of this formula, the parties will submit their differences to arbitration as provided below, and the arbitrator or arbitrators will be instructed to resolve the issue in a manner consistent with these guidelines. Neither party will be prevented from manufacturing and marketing the Other Products in question during the period of negotiation or arbitration of the royalty amount.

9.5 Royalty Reporting. Each party, within sixty (60) days after the end of each of its fiscal quarters for which royalties are due the other party, will send the other party a report in writing summarizing the sales subject to royalties under this Agreement, giving the names of the customers to whom those sales are made and calculating the amount of royalty due the other under this Agreement. Each party will make its payment of the proper royalty amount by the time each report is due. Each party will have the right, not more than once per calendar year and upon not less than fifteen (15) business days' prior written notice,

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to have independent public accountants selected by that party and reasonably acceptable to the other examine and/or audit the other's books and records in confidence for the purposes of verifying the accuracy of the other's royalty reports. If any such examination or audit reveals an underpayment of royalties of more than five percent (5%) for any fiscal quarter, the party under examination or audit will pay the party making the same the reasonable expenses of the examination or audit. Each party will, and will instruct its accountants to, hold in confidence all information for any purpose other than verifying and collecting the amount of royalties due under this Agreement.

9.6 Applicability of Royalties. Notwithstanding use of the words "sells" and "sold" and words to similar effect, royalties will apply to any disposition of Covered Products for profit, whether by sale, license or otherwise.

9.7 Termination of Certain Royalties. Neither RC nor Tolerant will have any obligation to pay royalties under this Agreement with respect to sales of the RC9000 and Other Products made after the close of business on the fifth (5th) anniversary of the last day of the last Maintenance Period, as provided in Paragraph 6.5.

9.8 Royalty Adjustment. Tolerant's current policy to its United States customers does not provide any discount to the customer on the TX Software object code license rate based on multiple copies of the software in multiple SBB systems. Should this policy change Tolerant agrees to negotiate in good faith a discount to the royalty rates payable by RC to Tolerant consistent with such change for SBB equivalent systems installed by RC in multiple RC9000 or Other Covered Products istallations.

10 PAYMENTS OTHER THAN ROYALTIES.

10.1 Source License Fee. In consideration of Tolerant's licensing RC to use the source code for the TX Software, RC agrees to pay Tolerant a one time charge of Two Million United States Dollars (US $2,000,000) as follows:

(a) One Million United States Dollars (US $1,000,000) within ten (10) days after execution of this Agreement by both parties provided that Tolerant has deposited the Source Materials with the deposit agent pursuant to Exhibit G; and

(b) One Million United States Dollars (US $1,000,000) within ten (10) days after the successfull completion of the Acceptance Test Phase I as specified in section 4 and Exhibit D provided that Tolerant has delivered a fully updated TX source code with documentation as specified in Exhibit C.

10.2 Payment for Master Copy. In consideration for Tolerant's licensing to RC and delivery to RC in Denmark of the first object code master copy of TX Software, RC agrees to pay Tolerant a royalty down-payment as follows:

(a) Two hundred fifty thousand United States Dollars (US $250,000) within ten (10) days after execution of this Agreement by both parties provided that Tolerant has deposited the Source Materials with the Deposit Agent persuant to Exhibit G.

(b) Two hundred fifty thousand United States Dollars (US $250,000) within ten (10) days after the successful completion of the Acceptance Test Phase I, as specified in Section 4 and Exhibit D and upon delivery of a fully updated TX Source code as specified in Exhibit C.

(c) Five hundred thousand United States Dollars (US $500,000) within sixty (60) days after the successful completion of Acceptance Test Phase II, as specified in Exhibit D and Section 4, but no later than June 30, 1987.

(d) Five hundred thousand United States Dollars (US $500,000) within 240 days after the successful completion of Acceptance Test Phase II as specified in Exhibit D and Section 4, but no later than December 30, 1987.

(e) One million United States Dollars (US $1,000,000) is due within sixty (60) days after the successful completion of Acceptance Test Phase III as specified in Section 4 and Exhibit D, but no later than January 31, 1988 or prior to January 1, 1988.

These payments under Section 10.2 will be fully credited against royalties payable by RC to Tolerant under this Agreement and the contemplated OEM Agreement in Section 7.3, but will not be refundable if no such royalities are earned.

10.3 Maintenance Fees Payable by RC. For each one-year Maintenance Period beginning January 1, 1988, for which RC agrees to in writing, RC will pay Tolerant an annual maintenance fee of one hundred fifty thousand United States dollars (US $150,000). RC will pay each maintenance fee in equal quarterly installments within thirty (30) days after the beginning of each quarter of each Maintenance Period.

10.4 Maintenance Fees Payable by Tolerant. For each one-year Maintenance Period beginning January 1, 1989, for which Tolerant agrees to in writing, Tolerant will pay RC an annual maintenance fee of seventy five thousand United States dollars (US $75,000). Tolerant will pay each maintenance fee in equal quarterly installments within thirty (30) days after the beginning of each quarter of each Maintenance Period.

10.5 Rights of Off-set. All payments due and payable to one party under this Agreement shall be subject to offset against amounts due and payable under this Agreement to the other party.

10.6 Prevailing Payment Conditions. No conditions for payment within this Section 10 shall override the provisions enabling RC to postpone or deduct payments as contained in Section 4 of this Agreement.

11 WARRANTY

11.1 Warranty of Ownership. Each party warrants to the other that its owns sufficient Intellectual Property Rights and/or has sufficient right and authority to grant to the other all licenses and rights that it grants under this Agreement.

11.2 Disclaimer of Other Warranties. Each party acknowledges that it has sufficient personnel, resources, and expertise to evaluate, correct, modify, improve and use all technical information, technology and software the other may provide under this Agreement. Accordingly, except as explicitly specified above, EACH PARTY HEREBY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO ALL TECHNICAL INFORMATION, TECHNOLOGY AND SOFTWARE THAT IT MAY PROVIDE THE OTHER FOR PURPOSES OF DEVELOPMENT OF PRODUCTS AND/OR EXERCISE OF RIGHTS UNDER MANUFACTURING LICENSES; AND EACH PARTY ACKNOWLEDGES THAT ALL TECHNICAL INFORMATION, TECHNOLOGY AND SOFTWARE RECEIVED FROM THE OTHER FOR THOSE PURPOSES IS PROVIDED "AS IS." NEITHER PARTY PROMISES THAT ITS SOFTWARE WILL BE ERROR FREE OF WILL OPERATE WITHOUT INTERRUPTION. Nothing contained in this Section 11.2 shall be interpreted to effect Tolerant's obligations to deliver the software and source code meeting the specifications as required by this Agreement.

12 CONFIDENTIALITY

12.1 Obligations of Tolerant. Tolerant will treat as confidential source code, internal (programmers) documentation, and technical information for the RC9000, the RC8500, the RC Software, and any Other Products, to the extent owned by RC and disclosed to Tolerant for purposes of this Agreement. Tolerant further agrees to exercise the same care in handling RC's information as defined for RC in Section 5.3 above in handling Tolerant's information.

12.2 RC's Obligations. RC will treat as confidential the Source Materials and technical information for the Eternity Systems, the RC9000 and any Other Products, to the extent owned by Tolerant and disclosed to RC for purposes of this Agreement.

12.3 Mutual Obligations. Each party also will treat as confidential any information that the other may provide in tangible form marked as confidential or proprietary (or with words to similar effect) or, if provided orally, summarized in a letter designating that information as confidential that is received within fifteen (15) days after the oral disclosure.

12.4 Standard of Care. By agreeing to treat the other party's information as confidential, each party agrees to use reasonable care, but in no event less than the same care it uses to protect its own confidential information of similar importance, to prevent unauthorized use, disclosure and dissemination of the other party's confidential information. In addition, RC agrees to take all the precautions with respect to Source Materials for the TX Software provided in Paragraph 5.3 above.

12.5 Exceptions. The foregoing obligations will not apply to any information that:

(a) Is or hereafter becomes generally known to the public without fault or breach on the part of the receiving party;

(b) The party seeking to prevent use of disclosure regularly provides to third parties without restriction on disclosure;

(c) The receiving party obtains from a third party without restriction on disclosure and without breach of any nondisclosure obligation; or

(d) The receiving party develops or has developed independently through the work of personnel having no access to confidential information of the other party.

12.6 Survival. The foregoing obligations will subsist during the term of this Agreement and will survive for a period of ten (10) years after expiration or termination of this Agreement for any reason.

13 INDEMNIFICATION

13.1 On-Premise Work. Each party agrees to indemnify the other against any loss, damage, liability and expense, and to hold the other harmless from and against any third party claim, arising out of personal injury, death or damage to property (including loss, disruption or alteration of programs or data) to the extent caused by acts or omissions of the indemnifying party's personnel while working on the indemnified party's premises.

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13.2 Intellectual Property Rights. Each party agrees to defend and indemnify the other against and hold the other harmless from any third party claim that the other party's exercise of any of its rights under licenses granted by the indemnifying party under this Agreement cause, or if the other party's customers' use or resale of any Covered Products provided by the indemnifying party (to the extent owned by the indemnifying party), anywhere in the world, infringes any Intellectual Property Right of any third party. In the event of any such claim, the indemnified party agrees promptly to notify the defending party of the claim and to grant the defending party, in writing, the sole right to control the defense and settlement of the claim at its expense. The indemnified party will have the right, however, to participate in the defense with counsel of its choosing, subject to the defending party's supervision and control. If exercise of any rights under any such license or any such use or resale of any such Covered Products by any of the indemnified party's customers is enjoined, or in the opinion of the indemnified party is likely to be enjoined, the defending party at its expense and at the indemnified party's request and option will use all commercially reasonable effort to:

(a) Procure from the person or persons claiming or likely to claim infringement, a license for the indemnified party and its customers at all levels to continue to exercise all rights granted by the defending party with respect to the Covered Products under this Agreement; or

(b) Modify portions of the allegedly infringing Covered Products in which the defending Party owns Intellectual Property Rights to avoid the infringement, without materially impairing performance or compliance with this Agreement.

13.3 Distribution Claims. Each party agrees to defend and indemnify the other against, and hold the other harmless from, any third party claim for damage or injury arising out of distribution of the Covered Products or any related software, in whole or in part, by or under the authority of the indemnifying party. The intent of this provision is for each party to be solely and exclusively responsible for any liability, damage, cost or expense (including product liability claims) resulting from its own marketing and distribution of the Covered Products, in whole or in part, whether or not under license from the other party.

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13.4 Nature of Indemnification. Expenses covered by the foregoing indemnifications, and indemnifications with respect to any third party claim, include, without limitation, all reasonable court costs, arbitration costs, attorneys' fees and expenses, and reasonable fees and expenses of other professionals related to matters subject to indemnification, including costs, fees and expenses upon appeal. Payment by the indemnified party will not be a condition precedent to indemnification.

14. TERMINATION

14.1 Cause for Termination. Either party will have the right to terminate this Agreement if the other party commits a material breach of any of the warranties, covenants, terms or conditions of this Agreement and fails to remedy such breach within sixty (60) days after receiving written notice from the other party describing the breach in reasonable detail.

14.2 Effect of Termination. Any termination of this Agreement shall not effect or terminate the licenses to the TX Software and RC Software granted hereunder which licenses shall continue unrestricted provided however, that upon any such termination neither party shall have any further duties or obligations to the other. Notwithstanding the foregoing the provisions set forth in Sections 11, 12, 13 and 16.13 will survive any termination of this Agreement.

14.3 Other Remedies. Termination of this Agreement will be a nonexclusive remedy for breach and will be without prejudice to any other right or remedy of either party.

14.4 No Damages for Termination. Neither party will be liable to the other for damages of any sort solely as a result of terminating this Agreement for cause in accordance with its terms.

15. LIMITATIONS OF LIABILITY

NEITHER PARTY WILL BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE USE OR PERFORMANCE OF ANY OF THE COVERED PRODUCTS OR ANYTHING BASED ON OR DERIVED THEREFROM, EVEN IF INFORMED OF THE POSSIBILITY OF SUCH DAMAGES IN ADVANCE. Nothing contained in this Section 15 shall be interpreted to limit either party's obligations under the indemnification provisions of Section 13.

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16. GENERAL

16.1 Export Controls. This Agreement is subject to and conditioned upon compliance with the United States Export Administration Act and the applicable regulations thereunder, as well as any other laws of the United States or Denmark affecting the export of technology. Tolerant shall obtain any necessary export licenses required to transfer the Eternity Systems, the TX Software and related technical information and technology to RC. RC will not knowingly, directly or indirectly, export or re-export the Eternity Systems, the TX Software, any technical data or technology relating to the foregoing or any direct product of the foregoing to any person, except in strict compliance with the United States Export Administration Act, regulations thereunder, and other laws affecting the export of technology and technical data.

16.2 Danish Approvals. This Agreement is subject to and conditioned upon any necessary approvals of, and compliance with any currency exchange controls imposed by, the Government of Denmark. RC will use its best efforts to obtain all such necessary approvals as quickly as possible. Except as previously disclosed by RC to Tolerant in writing, RC represents that no such government approvals are required for payment to Tolerant of any or all of the payments provided for under this Agreement.

16.3 EEC Laws. This Agreement is subject to compliance with the Treaty of Rome and the laws, rules and regulations of the European Economic Community. Both parties will jointly notify this Agreement to the European Economic Community Commission if counsel for either party determines that such notification is required or advisable.

16.4 Compliance with Law in General. Without limitation of the foregoing, each party agrees to comply with all applicable laws, rules and regulations of its own home country and the other party's home country and their respective political subdivisions, as well as the laws, rules and regulations of the European Economic Community in connection with its activities under this Agreement.

16.5 Form of Payment. All payments due under this Agreement will be made in United States dollars by bank-to-bank transfer to a bank account of the receiving party at a bank designated by the receiving party in the country where the receiving party has its principal place of business.

16.6 Taxes, Duties and Other Charges. Each party agrees to pay or reimburse the other for any and all customs, duties, value added taxes and other charges, imposts and duties imposed, with respect to payments to the other party, by the government of the country in which the paying party has its principal place of business (or any political subdivision of that country), other than taxes levied solely by reason of the receiving party's doing business or having a permanent establishment within that country. In addition, each party agrees to execute and deliver to the other appropriate tax forms required to comply with provisions of any applicable international income tax convention or treaty.

16.7 Delivery and Sales Tax. All deliveries of the TX Software in any form by Tolerant will be made to RC by shipment via common carrier to a location in Denmark. No delivery of the TX Software will be made by Tolerant to RC in California. Each party will instruct its respective employees to observe the provisions of this Paragraph 16.7 and not to deliver or accept delivery of the TX Software, or any portion or copy thereof in any form, in California. Tolerant will require each RC employee who visits Tolerant's facility to sign an agreement, in substantially the form of Exhibit F, to this effect. Any copies of documentation for the TX Software delivered to RC employees will be separately invoiced by Tolerant at its standard production cost and paid for by RC. Should any California sales tax be imposed on the transfer of the TX Software, the tax will be paid by the party whose employees breach the provisions of this Paragraph 16.7.

16.8 Assignment. Neither party may assign this Agreement or delegate its duties under this Agreement without the other party's prior written consent which shall not be unreasonably withheld or delayed. Any attempt to do so without that consent will be void. This Agreement will be binding upon and inure to the benefit of the parties and their respective successors and permitted assigns.

16.9 Governing Law. This Agreement will be governed by and construed according to the laws of the State of California, U.S.A. as applied to contracts entered into and performed fully within that State.

16.10 Severability. If any provision of this Agreement is found invalid or unenforceable, that provision will be enforced to the maximum extent permissible, and the other provisions of the Agreement will remain in force.

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16.11 Remedies. The parties agree that, due to the potentially large size of and amount of rapid change in the market for computer systems, the subject matter of this Agreement is of inestimable value. Accordingly, either party will have the right to preliminary and injunctive relief and/or specific performance, in addition to arbitration over damages as provided below, to remedy any actual or threatened violation of the provisions of this Agreement.

16.12 Further Assurances. Each party agrees, promptly upon the other's request, to execute documents and (at the other's expense) take further acts reasonably requested by the other for the purpose of assigning, transferring, conveying, preserving, perfecting, recording, protecting, and enforcing the other's rights, title and ownership under this Agreement.

16.13 Arbitration. Any dispute or controversy relating to this Agreement or its enforcement, interpretation, formation or breach (except claims for preliminary or injunctive relief or specific performance under Paragraph 16.11) will be submitted by the parties to binding arbitration in English in London, United Kingdom, under the Commercial Arbitration Rules of the International Chamber of Commerce. Three (3) arbitrators will hear the dispute. Each party, within fifteen (15) days after receipt of a written demand for arbitration, will choose an impartial, independent arbitrator having knowledge of and experience in dealing with the international computer industry, and the arbitrators so chosen will choose the third and presiding arbitrator, who will be an attorney at law. If either party fails or refuses to select its arbitrator in a timely manner, the arbitrator selected by the other party will resolve the dispute as sole and presiding arbitrator. The reward rendered by the arbitrators or such sole arbitrator will be final and binding and may be enforced by any court of competent jurisdiction, whether or not either party fails or refuses to participate in the arbitration.

16.14 Attorneys' Fees. In the event of any legal action or arbitration related to this Agreement, the prevailing party will have the right to recover from the other, in addition to any damages, its court or arbitration costs and reasonable fees of attorneys, accountants and other professionals incurred in connection with the action or arbitration, including costs, fees, and expenses upon appeal.

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16.15 Entire Agreement. This Agreement and all Exhibits thereto is the entire agreement between the parties relating to its subject matter and supersedes all prior agreements, representations, discussions and negotiations, whether written or oral, including without limitation the Preliminary Agreement.

16.16 No Oral Modification. This Agreement may be modified, and rights under this Agreement may be waived, only by an instrument in writing duly executed on behalf of both parties. No purchase order, invoice or similar memorandum will be effective to amend or supplement this Agreement, even if accepted or acknowledged by the receiving party in writing.

16.17 Notices. All notices, requests, instructions, and other communications required or permitted under this Agreement must be in writing. They will be effective upon receipt when delivered personally or when sent by confirmed telex.

16.18 No Implied Licenses. There are no implied licenses under this Agreement. With respect to each party's Intellectual Property Rights, the other party will have only the rights and licenses explicitly provided in this Agreement.

16.19 Independent Contractors. The parties to this Agreement are independent contractors. There is no relationship of partnership, joint venture, employment, franchise or agency between the parties. Neither party will have the power to bind the other or incur obligations on the other's behalf without the other's prior written consent.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement through the signatures of their duly authorized representatives as set forth below.

Effective Date of this Agreement: OCTOBER 13, 1986

RC COMPUTER A/S ("RC")

By: _____

Name: K. Jakobsen
(Please Print)

Title: Chairman
(Please Print)

Date: _____

By: KNUD SØRENSEN

Name: _____
(Please Print)

Title: TECHNICAL DIRECTOR
(Please Print)

Date: OCTOBER 13, 1986

Initial Address for Notice:

Attn: _____
Telex: _____

Initial Address for Notice:

RC COMPUTER
LAUTRUP BJERG 1
DK 2750 BALLERUP

Attn: Mr. KNUD SØRENSEN
Telex: 35214 rcbal dk

TOLERANT SYSTEMS, INC.

By: _____

Name: J.E. McNulty
(Please Print)

Title: Senior Vice President
(Please Print)

Date: October 3, 1986

Initial Address for Notice:

Tolerant Systems Inc.
81 East Daggett Drive
San Jose. Ca. 95134

Attn: Mr. Arthur Testani

Telex: 278860

EXHIBIT A

THE SCHEDULE

The schedule for the implementation of this Agreement is built into the different sections of the Agreement, especially Section 4, Section 6, Section 7, Section 10, and Exhibit G and is not repeated here.

EXHIBIT B

CHARGES FOR CONSULTATION,
TRAINING AND SUPPORT

Charges for consultation, training and support beyond that provided for no charge as set forth in the Agreement are as follows:

Senior support and/or consulting in San Jose, California	- $600 per man day or - $12,000 per man month
Senior support and/or consulting in Denmark or elsewhere	- $850 per man day or - $17,500 per man month plus expenses
Training, support and liasion services in San Jose, California	- $450 per man day or $9,500 per man month
Training, support and liasion services in Denmark or elsewhere	- $635 per man day or - $13,850 per man month

EXHIBIT C: TX SOFTWARE

1.0 Introduction

The TX Software consists of all user documentation, all software and firmware source files for the Eternity Series System as outlined in Section 1.2, the Tolerant's Systems Release Letters which describe in general terms the enhancements and known problems for the product release being delivered and the internal design documentation for the firware/software. In accordance with the terms and conditions all of the above will be updated with each new release of the TX Software.

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1.2 Software/Firmware Source

TX Software is to be delivered on 1600bpi magnetic tapes in tar format. The tapes will contain binary object, installation scrips, source and source code control hierarchies for each of the following components:

System V Emulation
Pascal
CIP Programming
Fortran
Firmware UTIL
Diagnostics
RTE
Tape Firmware
Utilities
Disk Firmware
Languages
TX
IOP Firmware
Communications
Application Programming Tools

The above sources represent the complete set of software and firmware covered under this agreement.

1.3 Release Letters

1. Release 5.1 TX (with basic TX, sysv & c-isam)

(i) Tools & Utilities
(ii) Primary Languages Support
(iii) TX Operating System
(iv) RTE
(v) Diagnostics
(vi) CIP Real Time Executive (CRTE)
(vii) CIP TTY
(viii) confcomm
(ix) UUCP
(x) Virtual Terminal
(xi) DDT
(xii) DBX - Source Level Debugger
(xiii) Firmware-Utilities
(xiv) C-ISAM Library

2. ADT (Applications Development Tools)

(called APT by engineering)

(i) On-Line Application Manager
(ii) Forms Definition Utility
(iii) Forms Management System
(iv) Transition Definition Utility

3. CIP PROGRAMMING

(i) CIP Programming Software

4. FORTRAN

(i) FORTRAN Compiler & Related Programs

5. PASCAL

(i) Pascal Compiler/Interpreter & Related Programs

1.4 Internal Design Specification

This section defines the internal specifications which Tolerant will supply. In addition to the specifications listed below, Tolerant agrees to provide design documentation for the following areas:

- TX Virtual Memory Management
- Disk Driver
- CIP Integration
- TX Internal overview to include a breakdown of the functional components, a general description of each functional component plus an overview of the interface between components. This document will also provide a general overview of system boot strap.
- TX Transport layer
- TX Buffer Cache
- TX Recovery Log Services
- TX Transaction Manager
- TX Ethernet Driver

In addition to the above, the following specifications will be provided:

1.1 ETERNITY SERIES USER DOCUMENTATION

RELEASE 5.1

09-100711 **TX USER'S GUIDE**

- 09-101219 An Introduction to Using TX
  - An Introduction to the C Shell
  - Mail Reference Manual
  - An Introduction to Display Editing with Vi
  - Vi Command and Function Reference
  - E Editor User's Reference
  - Writing Papers with NROFF using -ME
  - -ME Reference Manual
  - Writing Tools – The STYLE and Diction
  - Refer – A Bibliography System

09-100460 **UNIX PROGRAMMER'S MANUAL VOLUME 2**, AT&T Bell Laboratories
ed, nroff/troff, -ms, eqn, tbl, c, lint, make, yacc, lex, awk, dc, bc, ratfor

09-100712 **TX USER'S REFERENCE MANUAL**
introduction, commands, games, appendixes (miscellaneous), index

09-100710 **TX SYSTEM DESCRIPTION**

09-101206 **TX PROGRAMMING MANUAL**

- 09-100920 TX Programmer's Guide
  - Eternity C Language
  - DBX User's Manual
  - An Introduction to the Source Code Control System
  - gprof: A Call Graph Execution Profiler (publication permission requested)
  - A 4.2BSD Interprocess Communication Primer

09-100713 **TX PROGRAMMER'S REFERENCE MANUAL**
system calls, library functions, system facilities, file formats, index

09-100921 **ETERNITY SYSTEM MANAGER'S MANUAL**

- 09-100991 System Installation Manual
- 09-100891 Hardware Reference Manual
- 09-100715 Software Installation and Site Management Guide
- 09-101001 System Messages Manual
- 09-100714 TX System Manager's Reference: commands, facilities
- N/A Sendmail – An Internetwork Mail Router
- N/A 4.2 BSD Line Printer Spooler Manual
- 09-100892 Board/Device Troubleshooting Manual
- 09-100919 Parts Removal/Replacement & Adjustment Procedures

09-101065 ETERNITY SYSTEM OPERATOR'S GUIDE

1.1 ETERNITY SERIES USER DOCUMENTATION – RELEASE 5.1 (cont.)

09-100473 **VIRTUAL TERMINAL PROGRAMMER'S MANUAL**

09-101155 **TX C-ISAM PROGRAMMER'S MANUAL**

09-101156 **TX/SYSTEM V MANUAL**

09-100459 **INTRODUCING THE UNIX SYSTEM,** Morgan and McGilton

09-100926 **APPLICATION DEVELOPMENT**

- 09-100717 Forms Management System (FMS) Programmer's Guide
- 09-100718 Forms Definition Utility (fdu) User's Guide
- 09-100719 On-Line Application Manager (OLAM) Programmer's Guide
- 09-100720 Transition Definition Utility (tdu) User's Guide

09-100922 **CIP II PROGRAMMING MANUAL**

- 09-101062 CIP II Programmer's Guide
- 09-101063 CIP II Programmer's Reference Manual
- 09-101978 CIP II Hardware Reference Manual

09-100925 **AmZ8030/AmZ8530 SCC TECHNICAL MANUAL**

09-101095 **AmZ8036/AmZ8536 COUNTER TIMER, PARALLEL I/O TECHNICAL MANUAL**

09-100472 **SERIES 32000: INSTRUCTION SET REFERENCE MANUAL**

09-100471 **ASSEMBLER REFERENCE MANUAL**

09-100854 **C IMPLEMENTATION NOTES**

09-100855 **DDT REFERENCE MANUAL**

1.1 ETERNITY SERIES USER DOCUMENTATION – RELEASE 5.1 (cont.)

09-100467 **THE C PROGRAMMING LANGUAGE**, Kernighan & Ritchie

09-100927 **TX FORTRAN 77 PROGRAMMER'S MANUAL**

09-100466 FORTRAN Reference: commands and library functions
A Portable FORTRAN 77 Compiler
Introduction to the F77 I/O Library
The Programming Language EFL

09-100928 **FORTRAN 77 PRINCIPLES OF PROGRAMMING**, a text book by Wagener

09-100929 **FORTRAN 77**, a text book by Katzan

09-100858 **TX PASCAL PROGRAMMER'S MANUAL**

command reference
UNIX Pascal User's Manual

09-100930 **PASCAL USER MANUAL AND REPORT**, Jensen/Wirth

DOCUMENT NAME	DOCUMENT NUMBER
IOP FIRMWARE CONTROLLER INTERFACE	ES-01
RTP/UPU IOP INTERFACE	ES-02
I/O PROCESSOR TECH. SPECIFICATIONS	ES-03
SYSTEM INTERCONNECT BUS INTERFACE	ES-04
MEMORY ARRAY SPECIFICATION	ES-05
MEMORY BOARD SPECIFICATION	ES-06
MAIN MEMORY 11 SPECIFICATION	ES-07
ETHERNET DIAGNOSTIC SPECIFICATION	ES-08
UPU POWER-UP SPECIFICATION	ES-09
CIP POWER-UP DIAGNOSTICS	ES-10
DIAGNOSTICS OVERVIEW	ES-11
POWER-UP DIAGNOSTIC DESCRIPTION	ES-12
I/O PROCESSOR POWERUP TESTS	ES-13
DRIVE STATUS DISPLAY BOARD	ES-14
UPU	ES-15
REAL TIME PROCESSOR FUNCTIONAL SPECIFICATION	ES-16
ETHERNET BOARD POWER-UP TESTS FUNCTIONAL SPECIFICATION	ES-17
ETHERNET BOARD POWER-UP TESTS EXTERNAL INTERFACES	ES-18
DUAL DISK CONTROLLER THEORY OF OPERATION	ES-19
QUAD DISK CONTROLLER THEORY OF OPERATION	ES-20
DISK DRIVE CONTROLLER 3 THEORY OF OPERATION	ES-21
DCP FUNCTIONAL SPECIFICATION	ES-22
DCP EXTERNAL SPECIFICATION	ES-23
TAPE CONTROLLER HARDWARE DESCRIPTION	ES-24

DOCUMENT NAME		DOCUMENT NUMBER
DDC-2/DDC-3 DISK CONTROLLER-IOP INTERF. SPEC		ES-25
DUAL-DISK CONTROLLER-IOP INTERFACE SPECIFICATION		ES-26
TAPE CONTROLLER EXTERNAL SPECIFICATION		ES-27
REAL TIME EXECUTIVE SPECIFICATION	(Software)	ES-28
SYSTEM V COMPATIBILITY	(Software)	ES-29
SUMMARY OF EXTENSIONS FOR ORACLE SQL	(Software)	ES-30
SUMMARY OF DIFFERENCES FOR DB2 SQL AND ORACLE SQL	(Software)	ES-31
DISK DRIVE CONTROLLER 11 & 111 BOARD LEVEL TEST PROCEDURE		ES-32
PASCAL VALIDATION SUMMARY	(Software)	ES-33
TX LOCK MANAGER	(Software)	ES-34
FILE SERVER TRANSACTION MANAGER AND VERSION POOL MANAGER	(Software)	ES-35*
TX CONNECTION SYSTEM	(Software)	ES-36*
TX VOLUME MANAGEMENT	(Software)	ES-37*
TX OVERVIEW	(Software)	ES-38*
OPERATING SYSTEM CODING INFO.	(Software)	ES-39*
SYSTEM V EMULATION PROJECT PLAN AND RELEASE PLANS	(Software)	ES-40
EEPROM UTILITY PROG.FUNC SPEC&USERS GUIDE		ES-41
PREL. SPECIFICATION OF EXTENSIONS FOR CISAM	(Software)	ES-42*
CIP2 POWER-UP DIAGNOSTICS		ES-43
CIP2 DESIGN SPECIFICATION		ES-44
TX PERFORMANCE	(Software)	ES-45
I/O CHNL UTILITY PROGRAM FUNCT. SPEC AND USER'S GUIDE		ES-46
CONTINUOUS AVAILABILITY DOCUMENT	(Software)	ES-47

ES

DOCUMENT NAME	DOCUMENT NUMBER
PWA REMOTE IDENTIFICATION EEPROM CONTENTS	ES-48
COBOL ENHANCEMENTS FOR REL 5.0 AND AFTER RELEASE 5.0 --TWO DOCUMENTS (SOFTWARE)	ES-49
CONNECTIVITY SPECIFICATION KSR TERMINAL AND CONSOLE SWITCH	ES-50
REDWOOD DMA FUNCTIONAL SPECIFICATION	ES-51
REDWOOD DMA FIRMWARE EXTERNAL SPEC	ES-52
REDWOOD POWER UP DIAGNOSTICS	ES-53
REDWOOD DMA FIRMWARE DESIGN SPEC	ES-54
REDWOOD LINE INTERFACE CHASSIS (MECHANICAL)	ES-55
CONTEXT MANIPULATION ROUTINES (SOFTWARE)	ES-56
CONTEXT STORE/RESTORE LIBRARY PERF. IMPROV. (SW)	ES-57
ECHO NEGOTIATION PROTOCOL (SOFTWARE)	ES-58*
TAPE CONTROLLER FIRMWARE EXTERNAL SPEC. VERSION FOR TELEX DRIVE ONLY	ES-59
MAINFRAME BUS SPECIFICATION	ES-60

*at this time, these specs. are historical references and are so marked.

les

Exhibit D: Acceptance Tests

The acceptance test is divided into three phases, as described in section 4. The first phase is to verify functionality and operational reliability of the Eternity Series product by testing the dual SBB system to be installed at the RC site in Aarhus.

The second phase is to verify the completeness of the source code and internal documentation as delivered.

The third phase is to verify (a) remedies to unresolved issues identified in the previous test phases, (b) System V functionality as described in section 3.1.

1. Acceptance Test Phase 1

This phase of the test is executed using the development system and the associated object software as delivered and installed by TSI at RC site. It is divided into four areas as described in the following sections:

- operational reliability test
- standard UNIX functionality
- TP1 application with fault tolerance options,
- unspecified usage.

1.1 Operational Reliability Test

The dual SBB system shall be available and operational for testing as described in this exhibit and for general use during the sixty day test period. In the event of system unavailability the acceptance period may be extended at the discretion of RC by the period of unavailability.

1.2 Standard UNIX Functionality

The tests will include compiling, linking and execution of a number of UNIX programs and utilities using the 4.2 BSD interface as well as the System V interface. The system must perform in accordance with TSI's published specifications as listed in Exhibit C.

Benchmarks which are taken from the article in Byte Magazine, August 1984, "Benchmarking UNIX Systems" (see sources in Appendix 1) will be run and measured by means of the time utility. The execution times must not exceed those given in the table contained in Appendix 1 to this exhibit.

1.3 TP1 Application with Fault Tolerance Options

This test comprises:

- the development of a TP1 debit-credit transaction as described in DATAMATION, April 1, 1985, pp. 112-118, using the development tools selected by RC

- the validation of the functional correctness of the system facilities required to support this application, when no fault tolerant options are applied and when these options are successively applied;

- the measurement of the response time and throughput (transactions per second) of this application by means of a terminal simulator/measurement program implemented on the RC750 Personal Computer. The performance as measured at the user level must be reasonably explained by, and related to, the system level performance statistics contained in Appendix 2 to this Exhibit.

- included within these tests will be the measurement of performance degradation as successive fault tolerant options are applied.

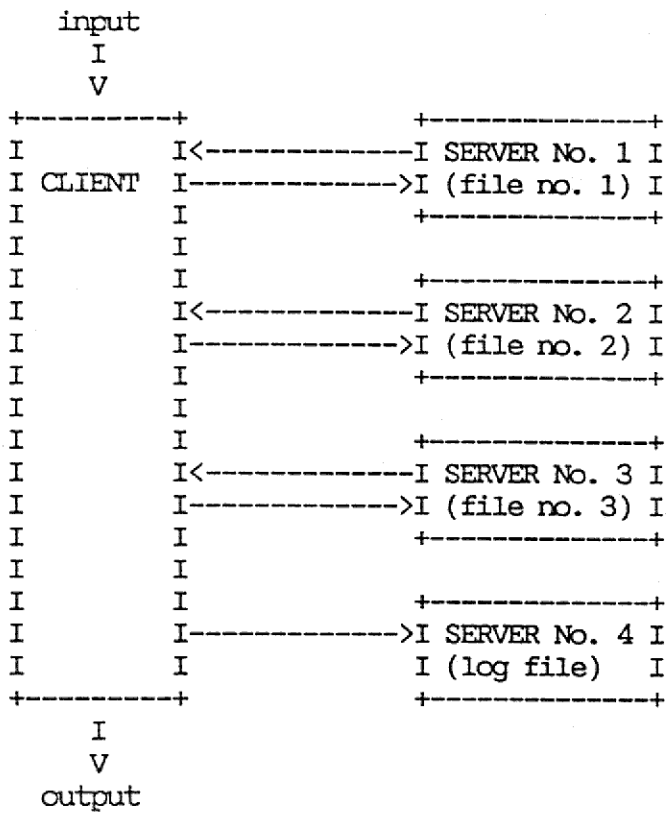
The keywords in the transaction profile are as follows:

- 100 bytes input message (from terminal),
- transaction begin,
- 3 random disc reads/updates, each of 100 bytes,
- 1 serial disc write of 50 bytes, for logging,
- transaction commit,
- 200 bytes output message (to terminal)

Additional details can be found in the DATAMATION article.

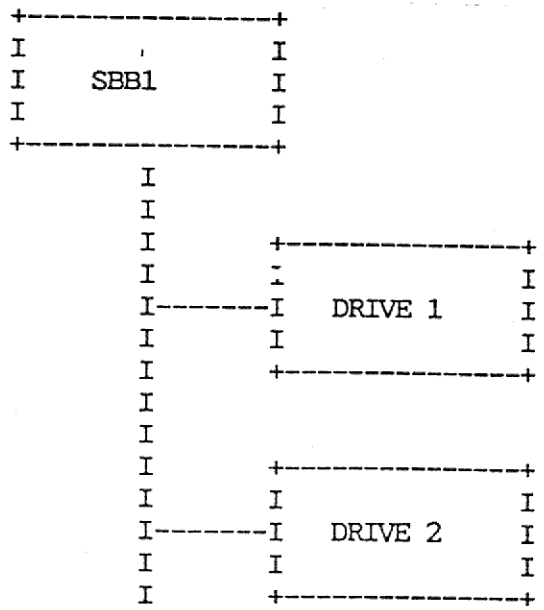
Exhibit D: Acceptance Tests

The development tools induce a system structure as shown below:

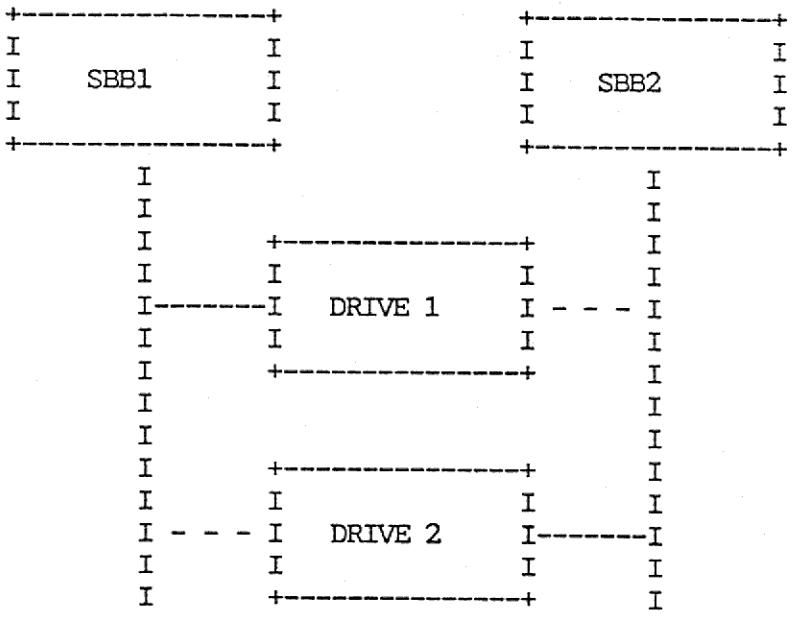


This structure facilitates the reconfigurations and tests, outlined in the following subsections.

The following two configurations will be used in the tests described in subsequent sections.



Configuration 1: Single SBB with two disk drives.



Configuration 2: Dual SBB with a drive for each SBB.

1.3.1 N-plexing of Database

A 2-plexed logical volume with a plex on each disk is configured. The TP1 application is executed with the database on the 2-plexed logical volume.

Throughput and response time degradation due to the 2-plexed database will be measured.

Removing one of the plexes either deliberately or due to malfunction of a physical disk must not cause interruption of transaction processing. No performance degradation is acceptable when only one plex is in operation provided both plexes are "local" to the accessing SBB.

When the removed plex is available again, it should automatically be put into operation and revived to a consistent state. During the revive the reduced performance will be measured.

1.3.2 Distribution of Logical Volume Across Separate Physical Disks

This test uses configuration 2. A logical volume spanning two physical disks is configured. The TP1 application is executed on SBB1 with DRIVE1 having an alternative disk port to SBB2. The database is equally partitioned between DRIVE1 and DRIVE2. Performance degradation due to remote access of half of the database will be measured.

If the channel for DRIVE1 is removed an automatic switch to the alternative port via SBB2 should be performed. After such a switch is performed, the performance degradation will be measured.

A systems operator should be able to switch back to the original port on DRIVE1 without interrupting the test application.

1.3.3 Distribution of Application

The TP1 application is distributed in configuration 2 with the client processes on SBB1 and the server processes on SBB2. The database is placed on DRIVE2. Performance degradation due to the distribution of the application will be measured.

1.3.4 Transaction Control for Integrity

The TP1 application is configured with neither 2-plexed logical disks nor dual-ported disk. A failure on either the disk or the SBB must not affect the integrity of the database. Recovery involving standard diagnostic test, boot of the SBB and the rollback of uncommitted transactions must be performed within 3 minutes.

1.3.5 Continuous Availability

The TP1 application will be configured for continuous availability. Performance degradation will be measured.

The continuous availability test shall be carried out both in a configuration with a single dual-ported drive connected to two SBBs, and with a 2-plexed logical volume with each plex residing on two different drives connected to different SBBs. In the latter case, the degradation will be measured relative to the degradation already introduced by the 2-plexed database as stated in 1.3.1.

In the above configuration failover will be forced by reboot or power off of 1 SBB, or reset or power off of a CIP. The application recovery time will be measured.

1.4 Unspecified Usage

In addition to the specific tests described in sections 1.2 and 1.3 any part of the functionality of TX and associated tools, as described in the published documentation (listed in Exhibit C) may also be tested as deemed appropriate by RC during the test phase.

2. Acceptance Test Phase 2

The term modules, as used in this section, refers to those listed in Exhibit C.

2.1 Source Code and System Generation Documentation

The source delivered from TSI must be complete and consistent: the complete source necessary to generate each module must be present, and all sources must be consistent, i.e. the object code modules which can be generated from them must all represent the same system release level (a baseline).

Complete documentation must be present with respect to how a system is built from object modules, how the object modules are generated, which baseline the sources represent (subrelease of release 5), and how updates to subsequent baselines/subreleases will be delivered. Source updates should include deltas, i.e. specifications of changes from a previous baseline.

Completeness and consistency of the source and system generation documentation is tested by inspection of the documentation and by generating complete system software. The generated software will be loaded into the configurations installed at RC sites according to the documentation and operational testing performed to verify consistency. This part is acceptable when the documentation is found satisfactory and complete functional systems equivalent to the object distribution can be generated as described.

2.2 System Design and Maintenance Documentation

The general completeness of engineering documentation is defined as follows:

- design documentation describing the overall structure and modular breakdown of the system,
- interface documentation for all module interfaces, and
- implementation notes explaining how the individual modules are constructed

must all exist and be up to date, i.e. consistent with the source code delivered.

Both parties recognize that the existing documentation as listed in Exhibit C may not be adequate to support the project and that RC may request additional specific documents to be developed by TSI. In this situation, delivery dates will be mutually agreed.

3. Acceptance Test Phase 3

This phase is to verify (a) remedies to unsolved issues identified in the previous phases and (b) System V functionality and compatibility.

Exhibit D: Acceptance Tests

3.1 System V Functionality and Compatibility

Tolerant is committed to the enhancement and improvement of TX System V functionality and compatibility. Release 5.2 of TX will contain System V messages compatibility. There will be at least 1 further release during calendar year 1987 which will contain enhancements and improvements in this area based on good faith negotiations with RC.

Tolerant systems

Results of the Byte Benchmarks
September 30, 1986

Program name	Real	User	System
* Pipe	43.6	0.0	3.7
System Call	8.4	0.5	7.3
Function Call (Delta)	0.9	0.9	0.0
Sieve	2.9	2.3	0.2
Disk Write	20.5	0.0	1.4
Disk Read	6.6	0.0	1.3
Disk Write (2Mb Extents)	2.8	0.0	1.5
Disk Read (2Mb Extents)	2.1	0.0	1.2
Loop	8.0	7.3	0.2
Shell	11.2	0.5	2.5
Multi(1)	12.3	0.5	3.0
Multi(2)	19.1	0.9	6.4
Multi(3)	24.7	1.5	9.3
Multi(4)	31.8	1.9	12.5
Multi(5)	41.5	2.5	15.9
Multi(6)	45.6	3.0	18.7
Shell (*rm* deleted)	7.9	0.3	2.2
Multi(1) (*rm* deleted)	9.7	0.4	2.8
Multi(2) (*rm* deleted)	14.0	0.8	5.5
Multi(3) (*rm* deleted)	19.6	1.3	8.3
Multi(4) (*rm* deleted)	26.1	1.7	11.2
Multi(5) (*rm* deleted)	33.5	2.1	13.9
Multi(6) (*rm* deleted)	41.9	2.7	16.6

Environment:

Single standalone SBB
12 Megabytes of memory
Revision G UPU
32032's on the UPU and on the RPU
168 Mb Fujitsu disk drives

Version 8446:8350.rpu of the TX kernel
Multi-user mode
Tests executed as a "standard" user
1 Mb of buffer cache

* Tolerant agrees to provide RC with an explanation of the results from the Pipe test and the plans to improve the results, prior to the end of Acceptance Test Phase 1.

```
/*
 *                  UNIX Operating System Implementation Test #1
 *
 * This program evaluates pipe efficiency and implementation.
 * Since pipes are commonly used in UNIX, pipe performance is often a
 * decisive factor in overall system performance, and says a lot about
 * the UNIX implementation.  Here we test pipe implementation by
 * cramming 0.5 MB through a pipe as fast as possible.
 *
 * Instructions:
 *
 *    Compile by:              cc -O -s -o pipes pipes.c
 *
 *       The -O option says to use the optimizer.
 *       The -s option says to strip the namelist from the
 *          object file after linking.
 *       The -o option says to place the object file in the file
 *          specified by the next argument.
 *
 *    Time by:                 /bin/time pipes
 *
 *    Results:
 *
 *       Since pipes usually use the disk as a buffer, real time is
 *       important, but can be misleading if the disk is very slow.
 *       Of greater importance here is the "system" time, as it is
 *       a direct measurement of kernel efficiency.  The "user" time
 *       is of little importance.
 *
 */

#define BLOCKS 1024

       /* the buffer */
char buffer[512];

       /* file descriptor for pipe */
int fid[2];

main()
{
            /* want to test pipe implementation, not arithmetic */
    register int i;
            /* initialize the pipe */
    pipe(fid);
            /* fork the child process */
    if (fork()) {
            /* parent process writes to pipe in 512 byte chunks */
            for (i=0; i < BLOCKS; i++)
                if (write(fid[1], buffer, 512) < 0 )
                      /* if there is a problem, say so */
                    printf("Error in writing: i=%d\n",i);
             /* close the pipe when we're done */
            if (close(fid[1]) != 0)
                printf("Error in parent closing\n");
    }
    else {
                /* close, since we aren't writing */
            if (close(fid[1]) != 0)
                printf("Error in child closing\n");
                /* child process reads the pipe until EOF */
            for (;;)
                if (read(fid[0], buffer, 512) == 0) {
                    break;
                }
    }
```

```
/*
 *            UNIX Operating System Implementation Test #2
 *
 * This program compounds the kernel overhead involved in executing
 * a system call.  Making a system call involves a "trap" to kernel
 * or supervisor mode, performing the desired function, and returning.
 * Context switching is, when it occurs, also overhead.  The getpid()
 * system call is used because all it does is look in an in-core table
 * for the numeric process id.
 *
 * Instructions:
 *
 *    Compile by:              cc -O -s -o scall scall.c
 *
 *       The -O option says to use the optimizer.
 *       The -s option says to strip the namelist from the
 *          object file after linking.
 *       The -o option says to place the object file in the file
 *          specified by the next argument.
 *
 *   Time by:                  /bin/time scall
 *
 *   Results:
 *
 *      Since we're testing system overhead, the elapsed time is of
 *      interest here.
 *
 */

#define TIMES 25000

main()
{
        /* take advantage of the hardware */
    register int i;
    for (i=0; i < TIMES; i++)
            getpid();
}
```

```
/*
 *            UNIX Operating System Implementation Test #3
 *
 * This program enables precise arithmetic calculations of user function
 * overhead by subtracting the execution user time when compiled without
 * using a function from execution user time using a function.
 *
 * Instructions:
 *
 * Compile by:             cc -O -DEMPTY  -s -o fcalle fcall.c
 *                  and    cc -O -DASSIGN -s -o fcalla fcall.c
 *
 *            The -O option says to use the optimizer.
 *            The -D option specifies C preprocessor action.
 *            The -s option says to strip the namelist from the
 *               object file after linking.
 *            The -o option says to place the object file in the file
 *               specified by the next argument.
 *
 * Time by:          /bin/time fcalle
 *           and     /bin/time fcalla
 *
 * Results:
 *
 *    Since the user time is more accurate than the real time,
 *    and since system time effectively does not contribute to
 *    the real time number, we can use the difference between
 *    the user times in seconds as an accurate numerical account
 *    of function call overhead.
 *
 */

#define TIMES 50000

main()
        /* The first way of doing things - use a function call */
#ifdef EMPTY
{
        register unsigned int i, j;
        for (i=0; i < TIMES; i++)
                j = empty(i);
}

            /* the empty function */
empty(k)
register unsigned int k;
{
       return(k);
}
#endif
#ifdef ASSIGN
            /* The second way of doing things - without a function call */
{
       register unsigned int i,j;
       for (i=0; i < TIMES; i++)
               j = i;
}
#endif
```

```
/*
 *              UNIX Operating System Implementation Test #4
 *
 * No benchmark suite would be complete without the ever-popular
 * sieve benchmark.  It is a good test of compiler efficiency and
 * CPU throughput.  Below is a sieve benchmark as presented in the
 * January 1983 issue of BYTE, with some minor changes.  Register
 * declarations have been added, and some unnecessary (from our
 * standpoint) printf() statements removed.
 *
 * Instructions:
 *
 * Compile by:        cc -O -s -o sieve sieve.c
 *
 *    The -O option says to use the optimizer.
 *    The -s option says to strip the namelist from the
 *       object file after linking.
 *    The -o option says to place the object file in the file
 *       specified by the next argument.
 *
 * Time by:           /bin/time sieve
 *
 * Results:
 *
 *    In the past, the elapsed time has been used, since most
 *    operating systems can measure real time.  Actually, user
 *    time is a better value.
 *
 */

/*    Eratosthenes Sieve Prime Number program in C */

#define TRUE    1
#define FALSE   0
#define SIZE    8190

char flags[SIZE + 1];

main() {
            register int i, prime, k, count, iter;
/*        printf("10 iterations\n");  */          /* We don't need this */
            for (iter = 1; iter <=10; iter++) {     /* do program 10 times */
                count = 0;                          /* prime counter */
                for (i = 0; i <= SIZE; i++)         /* set all flags TRUE */
                    flags[i] = TRUE;
                for (i = 0; i <= SIZE; i++) {
                    if (flags[i]) {                 /* found a prime */
                        prime = i + i + 3;          /* twice index + 3 */
/*                      printf("\n%d",prime);  */   /* Nor this */
                        for (k = i + prime; k <= SIZE; k += prime)
                            flags[k] = FALSE;       /* kill all multiples */
                        count++;                    /* primes found */
                    }
                }
        }
/*      printf("\n%d primes", count);   */       /* primes found on 10th pass */
}
```

```
/*
 *          UNIX Operating System Implementation Test #5a
 *
 * This portion of the disk throughput benchmark creates and writes
 * a 512 x 256 byte file.  Since UNIX is so disk intensive, it is important
 * to have some general idea of how fast (or slow) disk operations are.
 *
 * Instructions:
 *
 *    Compile by:             cc -O -o dwrite dwrite.c
 *
 *       The -O option says to use the optimizer.
 *       The -s option says to strip the namelist from the
 *          object file after linking.
 *       The -o option says to place the object file in the file
 *          specified by the next argument.
 *
 *    Time by:                /bin/time dwrite
 *
 *    Results:
 *
 *       The time to observe is the elapsed time, as we are trying to
 *       gauge disk throughput.
 *
 */

#include <stdio.h>

#define BLOCKS 256

main()
{
                /* the buffer for writing */
        char buffer[512];
                /* the filename */
        char *filename = "a_large_file";
                /* a counter to keep up with the blocks written */
        register int i;
                /* file descriptor for the disk file */
    int fildes;
                /* create the file */
        if ((fildes = creat(filename, 0640)) < 0) {
                printf("Cannot create file\n");
                exit(1);
        } else {
                close(fildes);
                        /* open the file for writing */
                if ((fildes = open(filename, 1)) < 0) {
                        printf("Cannot open file\n");
                        exit(1);
                }
        }
        for (i = 0; i < BLOCKS; i++)
                        /*write the file, one block at a time */
                if (write(fildes, buffer, 512) < 0) {
                        printf("Error writing block %d\n",i);
                        exit(1);
                }
                /* close the file now that we're done */
        close(fildes);
}
```

```
/*
 *          UNIX Operating System Implementation Test #5a
 *
 * This portion of the disk throughput benchmark creates and writes
 * a 512 x 256 byte file.  Since UNIX is so disk intensive, it is important
 * to have some general idea of how fast (or slow) disk operations are.
 *
 * Instructions:
 *
 *    Compile by:              cc -O -o dwrite dwrite.c
 *
 *       The -O option says to use the optimizer.
 *       The -s option says to strip the namelist from the
 *          object file after linking.
 *       The -o option says to place the object file in the file
 *          specified by the next argument.
 *
 *    Time by:                 /bin/time dwrite
 *
 *    Results:
 *
 *       The time to observe is the elapsed time, as we are trying to
 *       gauge disk throughput.
 *
 */
```

Modified dwrite.c program

```
#include <stdio.h>

#ifdef tx
#include <sys/file.h>                          /* REQUIRED FOR setext() CALL */
#endif

#define BLOCKS 256

main()
{
                    /* the buffer for writing */
          char buffer[512];
                    /* the filename */
          char *filename = "a_large_file";
                    /* a counter to keep up with the blocks written */
          register int i;
                    /* file descriptor for the disk file */
     int fildes;
                    /* create the file */

          if ((fildes = creat(filename, 0640)) < 0) {
                    printf("Cannot create file\n");
                    exit(1);
          } else {
                    close(fildes);
                              /* open the file for writing */
                    if ((fildes = open(filename, 1)) < 0) {
                              printf("Cannot open file\n");
                              exit(1);
                    }
          }

#ifdef tx
          {
               struct extent_descriptor ed;        /* REQUIRED FOR EXTENTS */

               ed.primary   = 2 * 1024 * 1024;     /* REQUIRED FOR EXTENTS */
               ed.secondary = 2 * 1024 * 1024;     /* REQUIRED FOR EXTENTS */
               setext(fildes, &ed);                /* REQUIRED FOR EXTENTS */
          }
```

```
#endif

        for (i = 0; i < BLOCKS; i++)
                /*write the file, one block at a time */
            if (write(fildes, buffer, 512) < 0) {
                    printf("Error writing block %d\n",i);
                    exit(1);
            }
            /* close the file now that we're done */
        close(fildes);
}
```

```
/*
 *                UNIX Operating System Implementation Test #5b
 *
 * This portion of the benchmark opens and reads a 256 x 512 byte
 * file.  This benchmark uses a random instead of sequential access
 * read, since the majority of disk access is random.  Due to differences
 * in the rand() routine between UNIX versions, you need to determine if
 * the rand() on the machine to be tested generates numbers in the range
 * 0 - 2^15 or in the range 0 - 2^31, and compile the benchmark accordingly.
 *
 * Instructions:
 *
 *    Compile by:          cc -DSIXTEEN -O -s -o dread dread.c
 *                      for machines with rand() in the range 0 - 2^15
 *
 *                         cc -DTHIRTYTWO -O -s -o dread dread.c
 *                      for machines with rand() in the range 0 - 2^31
 *
 *       The -O option says to use the optimizer.
 *       The -s option says to strip the namelist from the
 *          object file after linking.
 *       The -o option says to place the object file in the file
 *          specified by the next argument.
 *
 *    Time by:             /bin/time dread
 *
 *    Results:
 *
 *       The time to observe is the elapsed time as we are trying to
 *       gauge disk throughput.
 *
 */

#include <stdio.h>

#define BLOCKS 256

long lseek();

main()
{
                /* the buffer for writing */
        char buffer[512];
                /* the filename */
        char *filename = "a_large_file";
                /* a counter counting blocks read */
        register int i;
                /* the file descriptor */
        int fildes;
                /* offset to seek into file */
        long int offset;

                /* open the file */
        if ((fildes = open(filename, 0)) < 0) {
                printf("Cannot find `%s'.  Run `dwrite' first.\n", filename);
                exit(1);
        }

        for (i = 0; i < BLOCKS; i++) {
                /* pick a byte, any byte */
#ifdef SIXTEEN
                offset = (long) rand() * 4L;
#endif
#ifdef THIRTYTWO
                offset = (long) rand() / 16384L;
#endif
```

```
                /* seek to it */
        if (lseek(fildes, offset, 0) < 0L) {
                printf("Lseek to %ld failed i=%d\n", offset, i);
                exit(1);
        }
                /* read a block, starting with the current byte */
        if (read(fildes, buffer, 512) < 0) {
                printf("Error reading block at byte %ld\n", offset);
                exit(1);
        }
}
        /* get rid of the file */
unlink(filename);
}
```

Test 6a
(tst.sh)

```
sort >sort.$$ <<!*EOF
Now
is
the
time
for
all
good
men
to
come
to
the
aid
of
their
country
!*EOF
od sort.$$ | sort -n +1 > od.$$
grep the sort.$$ | tee grep.$$ | wc > wc.$$
rm sort.$$ grep.$$ od.$$ wc.$$
```

Test 6b

(multi.sh)

```
for i
do
     echo $i
     /bin/sh tst.sh &
done
wait
```

```
/*
 *            UNIX Operating System Implementation Test #7
 *
 * This program tests long integer incrementation. It is
 * taken from USENET news article "megatest.186".
 *
 * Instructions:
 *
 *    Compile by:           cc -O -s -o loop loop.c
 *
 *       The -O option says to use the optimizer.
 *       The -s option says to strip the namelist from the
 *          object file after linking.
 *       The -o option says to place the object file in the file
 *          specified by the next argument.
 *
 *    Time by:              /bin/time loop
 *
 *    Results:
 *
 *       Although not very significant, it does say something about the
 *       speed of the processor, since the compiler would hopefully
 *       compile the "i++" as an INCR instruction and not an ADD
 *       instruction.  The benchmark is presented here for historical
 *       reasons.
 *
 */

main()
{
            long i;
            for (i = 0; i < 1000000; i++)
                    ;
            printf("Done\n");
}
```

Exhibit D: Acceptance Tests

APPENDIX 2

D: 2-1 Report on IPCs 8/6/86)

IPCs were tested using TX 5.1.10 (optimised). There is a linear relationship between processing cost of an IPC and the size of the IPC. An IPC is defined as a round trip of the message, i.e. a write from a requestor process, a read by the server, a write from the server back to the requestor which reads the reply. Tests were made of message sizes from 16 bytes to 8K, with the requestor and server in the same SBB and with them in different SBBs.

The results demonstrate that for an intra SBB IPC, the total UPU cost is 11 ms plus 8.3 ms per thousand bytes and there is no RPU cost. For an inter SBB IPC, the UPU cost is the same, but the total consumed RPU time is twice the total consumed UPU time, and the elapsed time for an inter SBB IPC reflects this. Doing only inter SBB IPCs, a system will bottleneck on the RPU.

LOCAL IPC

Size in Bytes	16	½K	1K	2K	4K	8K
Consumed UPU in ms	11.75	16	19.32	27.58	44.0	77.2
Average Response Time	12	16	19	27	44	77

REMOTE IPC

Message Size In Bytes	16	½K	1K	2K	4K	8K
Total SBB Resource Consumed, ms	34.1	35.2	49.9	76.6	123.0	226.8

Message Size In Bytes	16	½K	1K	2K	4K	8K
Total UPU Cost, ms	12.9	11.3	20.7	30.8	47.6	77.8
Total RPU Cost, ms	21.2	23.9	29.2	45.8	75.4	149.0
Average Response Time	21	30	37	59	111	198

Exhibit D: Acceptance Tests

D: 2-2 2-Plexed File Systems

Degradation induced in disk I/O performance (elapsed time) is less than or equal to 10%, where both plexes are directly accessible from the same SBB.

Exhibit D: Acceptance Tests

D: 2-3 Continuous Availability (Context Store)

- o Overhead directly related to amount of context stored
  - Context is stored by synchronous writes to a disk file
  - Context is activated/deactivated by a 24-byte transaction write to a disk file

PERFORMANCE OF SYNCHRONOUS WRITES

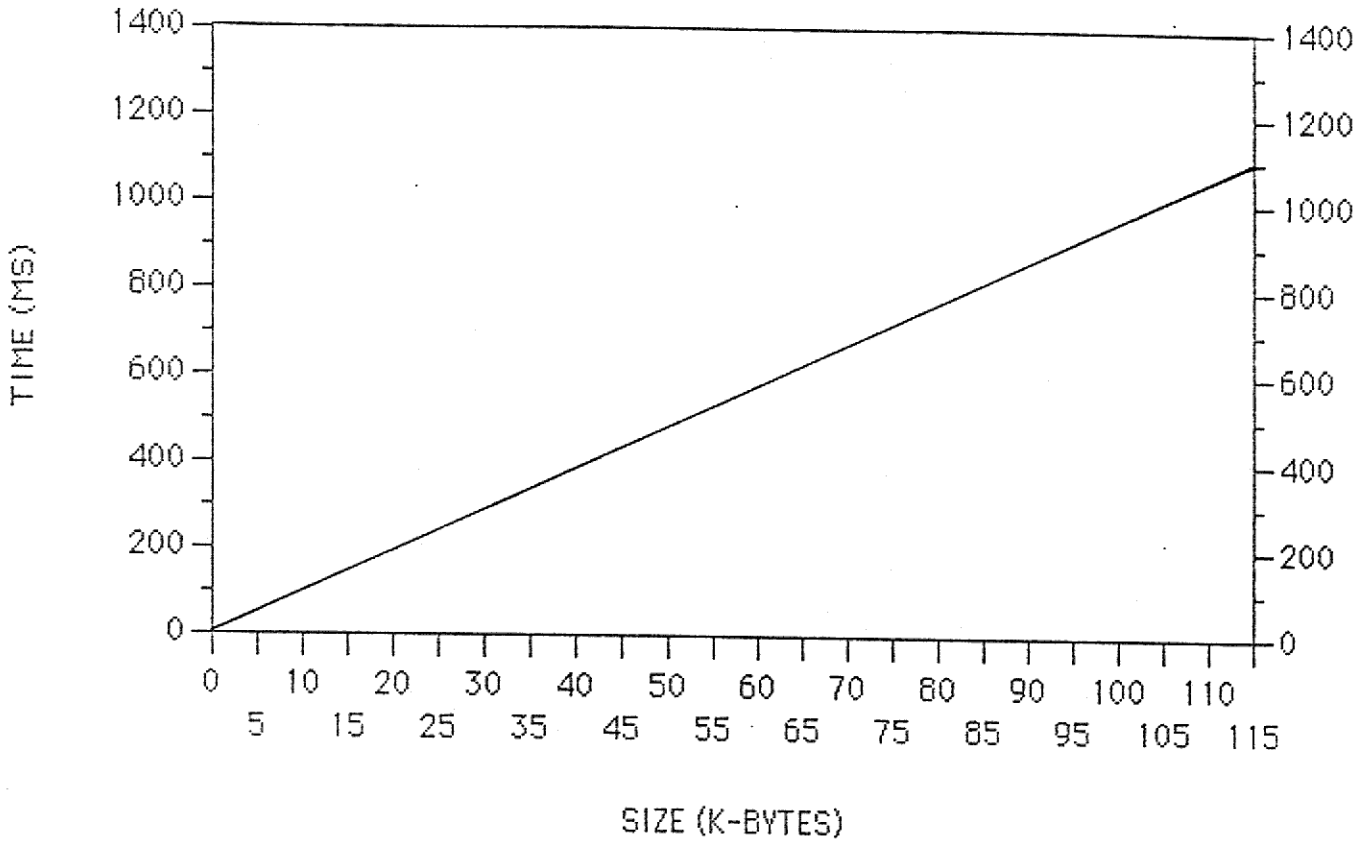


Exhibit D: Acceptance Tests

D: 2-4 Summary of TP1 Results (9/25/86)

Configuration

One SBB
10 disks
32032 UPU and RPU
1 megabyte disk file cache (less than 5% cache hit rate)
4 megabytes of main memory (no swapping occurred)
TX 5.2.6 optimised
Update files controlled
All I/O local
No plexes
16 server processes
Random transaction arrivals against 10 disks
Each transaction consists of:
- 100 bytes in
- 3 random reads
- 3 random updates
- 1 serial write
- 200 bytes out

TP1s/Sec	Avg RT	Best 95% RT	Worst 95% RT	UPU Load	RPU Load
2.632	.760	.896	1.151	30%	24%
3.171	.811	1.024	1.279	37.5%	30%
3.959	.927	1.024	1.535	48%	37%
5.214	1.323	1.536	2.047	67%	51%
6.013	2.498	3.072	3.583	75%	59%
With un-controlled update files:					
10.361	1.532	1.792	2.303	75%	67%

Exhibit D: Acceptance Tests

D: 2-5 Fail-over Timings (9/4/86) (on 5.1.10 Optimised Kernels)

1. confcomm reset a CIP (CIP migrates to alternate SBB)

"lcip a"	31, 34, 34, 35, 36, 39 = avg. 35 sec
"lcip e"	40, 42, 44, 44, 44, 44, 45 = avg. 43 sec

2. comfcomm resethw (with no backup CIP) - (CIP migrates to alternate SBB)

"lcip a"	49, 48 = avg. 48 sec
"lcip e"	60, 60 = avg. 60 sec

3. reboot (one CIP fails over); variable number of file system migrations

mins/secs		
1.34	local root migration	
1.30	"	"
1.21	"	"
1.50	global	"
2.0	global	"

Observations

- Times may vary depending on which CIP fails over
- Times vary significantly by how many file systems migrate over on SBB failover

Addtional Failover Timings - (on 5.1.10 Optimized Kernels)

4. Confcomm resethw - with backup CIP (CIP failover/back to/from backup CIP)

confcomm resethw ACTIVE-CIP	52, 53, 55 seconds
confcomm resethw BACKUP-CIP	46, 47, 49 seconds

* All times represent time from issuing command until program is running again
* Program is "banner" using context routines (not the big context library)

Exhibit D: Acceptance Tests

D: 2-6 Disk I/O

Assuming that file system cache hit rates are less than 10%, and that all records are 1024 bytes long on 1024 byte boundaries, then on 32032 SBBs running 5.1.10 (7905:7830) at 80% load on an otherwise idle system:

	upu cost in millisecs	total rpu cost in millisecs	max rate per SBB @ 80% load	max # of useful disks
RANDOM READS LOCAL UNCONTROLLED	6.1	6.2	129/sec	7
RANDOM READS REMOTE UNCONTROLLED	15.3	26.3	30/sec	2
RANDOM READS LOCAL CONTROLLED	19.95	26.3	30/sec	2
RANDOM READS REMOTE CONTROLLED	31.7	115.6	7/sec	1
RANDOM UPDATE LOCAL UNCONTROLLED	10.0	12.2	66/sec	3
RANDOM UPDATE REMOTE UNCONTROLLED	11.7	69.4	12/sec	1
RANDOM UPDATE LOCAL CONTROLLED	31.5	44.1	18/sec	1
RANDOM UPDATE REMOTE CONTROLLED	29.0	178.7	4.5/sec	1

EXHIBIT E

E.1 Development Systems.

In order to conduct the porting of TX and currently adapt it to RC9000, two development systems are installed, one in the RC location in Aarhus (System I) and one in the headquarters in Ballerup (System II).

E.2 Pricing.

The prices shown below are the current end-user prices as valid the 1st of October 1986.

Tolerant and RC have agreed on a discount of thirty percent (30%). The first royalty payment will be reduced by the amount of software paid for as part of the development systems.

E.3 Delivery and Payment.

RC agrees to pay 50% of the development system price within 30 days following delivery of system. The remainder of the system payment will be made upon completion of the Acceptance Test Phase I, as detailed in Exhibit D. The acceptance test will be completed within 60 days after the delivery of the Acceptance Test Phase I development systems and the remaining payment made within 10 days after acceptance. If Tolerant Systems does not meet the conditions of the Acceptance Test Phase I as specified in Section 4 and Exhibit D, then the provisions called for in Section 4 of the Agreement will govern final payment. It should be noted that the dual SBB fault Tolerant configuration will include two additional disk controllers (2*D405 Disk Controllers) which are provided at no charge to RC as interim Loaner equipment to utilize in order to avoid a connectivity cabling problem. Tolerant will remedy and install said remedy in RC's systems at which time the loaner disk controllers shall be returned to Tolerant.

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E.4 System I.

A dual SBB system configured as follows:

Hardware

No.	Qty	Descr.	Unit Price ($)	Total Price ($)	Disc. Catagory	Disc. Price
P200	2	SBB 4MB Memory	63.500	127.000	30%	88.900
P400	2	System Int. Bus	8.900	17.800	30%	12.460
C200	2	I/O Subsystem	3.500	7.000	12%	6.160
C205	1	Dist. Panel	800	800	12%	704
C220	2	Comm Proc. Act.512MB	8.500	17.000	12%	14.960
C225	1	Comm Proc. Backup 512MB	8.500	8.500	12%	7.480
C201	2	Second I/O cables.	1.700	3.400	12%	2.992
D300	2	Disk Subsystems	7.300	14.600	12%	12.848
D310	4	336 MB Disk Subsystems	12.000	48.000	12%	42.240
D302	2	Dual port cables	300	600	12%	528
T010	1	Mag Tape Subsystem	7.000	7.000	30%	4.900
T200	1	1600 BPI Mag Tape	7.500	7.500	12%	6.600
E030	2	48" Cabinet	3.000	6.000	12%	5.280
V100	1	Console Terminal	1.200	1.200	12%	1.056
X199	2	TX Documentation	800	1.600	12%	1.408
						208.622

Software

S100	2	Transaction Executive	6.000	12.000	30%	8.400
S500	2	CIP Programming	1.500	3.000	30%	2.100
S300	2	Application development	5.000	10.000	30%	7.000
				25.000		17.500

Total price 226.122

James H. Dr...

E. Dorgl

E.5 System II

A single SBB system configured as follows:

Hardware

No.	Qty	Descr.	Unit Price ($)	Total Price ($)	Disc Category	Disc Price.
P200	1	SBB 4MB Memory	63.500	63.500	30%	44.450
M200	1	4MB Memory Appl.	17.500	17.500	30%	12.250
C200	1	I/O Subsystem	3.500	3.500	12%	3.080
C205	1	Distribution Panel	800	800	12%	704
C220	1	Comm Proc. 512MB	8.500	8.500	12%	7.480
D300	1	Disk Subsystem	7.300	7.300	12%	6.424
D310	2	336 MB disk drives	12.000	24.000	12%	21.120
T010	1	Mag Tape Subsystem	7.000	7.000	30%	4.900
T200	1	Mag Tape 1600 BPI	7.500	7.500	12%	6.600
E030	1	48" Cabinet	3.000	3.000	12%	2.640
X199	1	TX Documentation	800	800	12%	704
						110.352

Software

S100	1	Transaction Executive	6.000	6.000	30%	4.200
S500	1	CIP Programming	1.500	1.500	30%	1.050
S300	1	Application Development	5.000	5.000	30%	3.500
				12.500		8.750

Total price 119.102

James H. Dwight E Dwight

E.6 Recommended spare parts.

RC agrees to and pay for and have the following items in stock in Denmark:

Descr.	List Price:	Discount (%)	Net price ($)
Memory board 4MB	19.800	30	13.860
UPU processor board	11.320	30	7.924
RPU/IOP board	13.170	30	9.219
Disc power supply	1.575	12	1.386
Tape power supply	910	12	800
CIP power supply	985	12	867
SBB power supply	2.685	12	2.363
		Total price	36.419

E.7 Warranty.

Tolerant agrees to a warranty period of 90 days after the PHASE I Acceptance Test. During this period Tolerant will repair spare parts free of charge in the following way:

- Tolerant pays the shipping costs from Denmark to California.

- Tolerant will repair or replace the item within fourteen (14) days and return the goods to Denmark free of charge.

E.8 Maintenance after Warranty Period.

Tolerant agrees to maintain a spare part repair service which will not exceed twentyfive percent (25%) of the spare part list price as indicated in section E.6 above.

E.9 Installation.

Tolerant will perform and be responsible for the installation of both systems at the locations in Denmark.

E. Dorgl

James H. D

EXHIBIT F

RC EMPLOYEE AGREEMENT

This undersigned Employee ("Employee") of RC Computer A/S, a Danish Corporation ("RC"), agrees with Tolerant Systems, Inc., a California corporation ("Tolerant"), as follows:

1. Employee acknowledges that under the terms of a certain agreement dated October , 1986 (the "Agreement"), RC and Tolerant have agreed that Tolerant will provide copies of certain "TX" Software to RC, and that Employee will have access to that software and certain related documentation at Tolerant's facility during training or consulting sessions.

2. Employee understands that under the Agreement all deliveries of that software must be made by Tolerant to RC by shipment via common carrier to a location in Denmark.

3. Employee will not remove any copy of the software from Tolerant's premises.

4. Should Employee desire to obtain a copy of any documentation for the software, Employee will request such copy in a written request to Tolerant and Tolerant will invoice RC for such copy.

This Agreement is executed this_____day of _____, 1986.

EMPLOYEE

BY:_____

NAME:_____

TITLE:_____

TOLERANT SYSTEMS, INC.

BY:_____

NAME:_____

TITLE:_____

MS

EXHIBIT G

DEPOSIT AGREEMENT

Tolerant Systems, Inc., a California corporation having offices at 81 East Daggett Drive, San Jose, California 95134 ("Tolerant"), RC Computer A/S, a Danish corporation having offices at 1, Lautrupbjerg DK-2750 Ballerup Denmark ("RC"), and National Safe Depository, a California limited partnership with its principal place of business at 3585 Stevens Creek Boulevard, San Jose, California 95117 ("Deposit Agent"), in consideration of the mutual covenants and agreements contained herein and other good and valuable consideration, and intending to be legally bound, recite and agree as follows:

RECITALS

A. Tolerant and RC have concurrently entered into a software license and development agreement, (the "Agreement") pursuant to which Tolerant agrees to license to RC and RC will license from Tolerant the use of certain proprietary computer software and services.

B. In connection with the manufacture of RC 9000 Computer and RC's license, pursuant to the provisions of the Agreement, of the use of certain proprietary computer software (the "Software"), RC and Tolerant desire to provide for the deposit of the source code of such Software and documents related thereto, and to provide for mechanisms through which RC may obtain possession of such source code and documents.

AGREEMENTS

1. Deposit Materials. The "Deposit Materials" consist of the Source Code and documentation pertaining thereto as outlined in Exhibit A hereto. The "Source Code" consists of two complete copies of the fully commented source code, from which the Software was compiled, in machine-readable form on disk or magnetic tape media in ASCII format, and two complete copies of the printed listing thereof and all available flow charts, internal (programmer"s) documentation and other materials necessary to understand and compile the Source Code.

2. Deposit of Deposit Materials. Within ten (10) days after the date of this deposit agreement, Tolerant will deliver a sealed package containing the Deposit Materials to the Deposit Agent and an authorized officer of Tolerant will separately certify that the package contains such Deposit Materials. RC must provide a duly authorized employee to inspect the Deposit Materials for the purpose of determing their completeness prior to their delivery to the Deposit Agent and a RC employee will have the option to accompany Tolerant's delivery of the Deposit Materials to the Deposit Agent.

2.1 Update of Deposit Materials. Tolerant will deliver to Deposit Agent updates to Deposit Materials as needed and in no event less than once per quarter until said Deposit Materials are released to RC. Tolerant will deliver a sealed package containing the updated Deposit Materials to the Deposit Agent and an authorized officer of Tolerant will separately certify that the package contains such updated Deposit Materials. RC may elect to have a duly authorized employee inspect the updated Deposit Materials for the purpose of determining their completeness prior to the delivery to Deposit Agent and said RC employee will have the option of accompaning Tolerant's updated Deposit Materials to the Deposit Agent. Tolerant will provide ten (10) days notice of its intent to deliver to the Deposit Agent the updated Deposit Materials. In the event of updates being deposited previous versions will remain on deposit.

3. Receipt by Deposit Agent. Tolerant will furnish to the Deposit Agent at the time of deposit of any Deposit Materials or Updates a packing list describing all Deposit Materials delivered hereunder. The Deposit Agent will issue a receipt for all Deposit Materials deposited and forward copies of such receipts and packing lists to both RC and Tolerant.

4. Storage of Deposit Materials; Inspection. The Deposit Agent will establish under its control a secure, environmentally controlled, magnetically shielded receptacle for the purpose of storing the Deposit Materials in safekeeping in an appropriate physical facility and will allow the inspection of the Deposit Materials (other than upon withdrawal of the Deposit Materials in accordance with the terms hereof) only as set forth herein or as otherwise directed by a final order of an arbitrator or a court of competent jurisdiction; provided, however, RC will be entitled to an inspection in any calendar quarter, and Tolerant must be given at least ten (10) days written notice by RC prior to such inspection. Representatives of Tolerant and the Deposit Agent may be present at any inspection of the Deposit Materials. Access to the Deposit Materials will be permitted to authorized representatives of Deposit Agent to the extent necessary for Deposit Agent to perform its obligations pursuant to this deposit agreement.

5. Records. Deposit Agent agrees to keep complete written records of the activities undertaken, materials prepared and delivered to Deposit Agent, and access to the Deposit Materials pursuant to this deposit agreement. Tolerant and RC will be entitled at reasonable times during normal business hours and upon reasonable notice to Deposit Agent during the term of this deposit agreement to inspect the records of Deposit Agent with respect to the Deposit Materials. Tolerant or RC will be entitled upon reasonable notice to Deposit Agent and during normal business hours to inspect the facilities of Deposit Agent with respect to the physical status and condition of the Deposit Materials.

6. Term. This deposit agreement will remain in effect from the date hereof until the earlier to occur of: (i) the termination by RC of all Tolerant Software Program License Agreements, or (ii) the release of the Deposit Materials to RC. Upon expiration of this deposit agreement, the portion, if any, of the Deposit Materials not previously withdrawn by RC in accordance with the terms hereof will be redelivered to Tolerant and this deposit agreement will thereupon terminate.

7. Events Causing the Release of Deposit Materials. The following events will constitute events which give RC the right to receive the Deposit Materials from the Deposit Agent pursuant to Section 9 hereof:

(a) Tolerant has ceased business as evidenced by (i) the filing of either a certificate of election to dissolve or a decree of dissolution of Tolerant by a court of competent jurisdiction, or transfer; or (ii) Tolerant's failure, for a period of not less than thirty (30) days after notice from RC, to perform any substantial business function in the ordinary course. Notwithstanding the foregoing, the Deposit Materials will not be released if the business of Tolerant is carried on by a successor that assumes all of the obligations of Tolerant under this deposit agreement and per the terms of the Agreement section 16.8 and all Exhibits thereto; or

(b) Tolerant should materially default in the performance of its obligations hereunder or materially violate the terms, conditions, covenants or warranties of or be in material default under this deposit agreement or the Agreement, and such default or violation is not cured within 30 days after notice thereof by RC.

(c) NOTWITHSTANDING ANY PROVISION OF THIS DEPOSIT AGREEMENT TO THE CONTRARY, AND NOTWITHSTANDING ANY PROVISIONS OF THE AGREEMENT REFERRED TO IN THE RECITALS TO THE CONTRARY, THE DEPOSIT AGENT SHALL BE OBLIGED AT RC'S SOLE REQUEST, WHICH SHALL HOWEVER, NOT OCCUR PRIOR TO MARCH 15, 1987, DELIVER TO RC, AT RC'S PRINCIPAL PLACE OF BUSINESS ALL DEPOSIT MATERIALS VIA A FREIGHT FORWARDER AS SPECIFIED BY RC.

(d) Tolerant is in default according to the provisions of Section 10.

8. Delivery of Deposit Materials to RC.

(a) Upon the occurrence of one or more of the events defined in Section 7, the Deposit Agent agrees and is hereby specifically authorized and instructed to provide the Deposit Materials (or portion of the Deposit Materials, if an event under Sections 7(b)) to RC upon written request by RC. Prior to such request RC must have given written notice to the Deposit Agent of the occurrence of the event, which notice will specify the nature of the event (the "Notice of Event") and have certified by RC by a duly authorized officer that, RC has obtained any and all licenses necessary from third parties to receive the relevant Deposit Materials.

Further should delivery be requested according to the provisions of Sections 7 (a) and 7 (b) above only, then the Deposit Agent or RC must have transmitted a copy of the Notice of Event to Tolerant; and within ten (10) days after receipt of the Notice of Event from the Deposit Agent or RC, Tolerant must have failed to notify Deposit Agent in writing that Tolerant disputes the Notice of Event.

(b) Tolerant may dispute the Notice of Event as provided for in Section 7 (a) and 7 (b) only, then if such dispute occurs Tolerant will within ten (10) days subsequent to the receipt by Tolerant of the Notice of Event, file with Deposit Agent and RC an affidavit executed by an authorized representative of Tolerant stating under penalty of perjury that no such event has occurred. If Tolerant fails to file such an affidavit, the Deposit Agent will deliver the Deposit Materials in accordance with the instructions of RC. If Tolerant files an affidavit disputing RC's claim that such an event has occurred, then Deposit Agent will not deliver the Deposit Materials to RC, until directed to do so by Tolerant or by an arbitrator as provided in this deposit agreement, or until Deposit Agent is ordered to do so by a final order of a court of competent jurisdiction.

(c) Except as provided in Section 8(d) below, any dispute concerning the delivery of the Deposit Materials to RC by Deposit Agent will be settled by arbitration, to take place in Santa Clara County, California U.S.A. within thirty (30) days following Tolerant's delivery of an affidavit to Deposit Agent pursuant to Section 8(b) above, in accordance with the then-prevailing rules of the American Arbitration Association. Judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

(d) Notwithstanding Section 8(c) and excluding events causing release of Deposit Materials as specified in Section 7 (c) above, either party will have the right to obtain a preliminary injunction on any equitable claim in any court of competent jurisdiction, where such injunction is necessary to preserve property and/or proprietary rights under this Agreement. Such injunction will remain effective as long as the terms of the injunction so provide, or until specifically superseded by the action of the arbitrator(s) as provided in Section 8(c) above.

9. Delivery Site. Delivery of the Deposit Materials to RC will be performed via freight forwarder as specified by RC and delivered to RC's principal place of business. Return of the Deposit Materials upon expiration of this deposit agreement to Tolerant will be at the offices of the Deposit Agent at 3585 Stevens Creek Boulevard, San Jose, California 95117, unless special delivery instructions concerning delivery elsewhere are furnished to the Deposit Agent by the party authorized hereunder to receive the Deposit Materials.

10. Default. Tolerant shall be deemed to be in default hereunder for the purposes of this deposit agreement in the event that:

Tolerant should make a general assignment for the benefit of creditors, should suspend business or commit any act amounting to business failure, or should make a voluntary or suffer an involuntary assignment or unrestricted transfer of its title in any of the Collateral.

11. Obligations of Deposit Agent. ~~The Deposit Agent is the agent and bailee of RC and not the agent of Tolerant for any purpose under this or any other agreement between RC and Tolerant.~~ The Deposit Agent will be responsible only for the acceptance, storage, and delivery of Deposit Materials in accordance with the terms of this deposit agreement and for the exercise of due diligence in accordance with the high level of care accorded fiduciary obligations; will have no obligation or responsibility to verify or determine that the Deposit Materials deposited with Deposit Agent by Tolerant do, in fact, consist of those items which Tolerant is obligated to deliver under this deposit agreement; will bear no responsibility whatsoever to determine the existence, relevance, completeness, currency, or accuracy of the Deposit Materials and will be entitled to act in good faith reliance upon any written instruction, instrument, or signature delivered to be genuine and to assume in good faith that any person purporting to give any writing, notice, device, or written instruction in connection with or relating to this deposit agreement has been duly authorized to do so. If Deposit Agent is uncertain of its duties or rights hereunder, it will refrain from taking any action other than to retain the Deposit Materials safely until it is directed otherwise in writing by Tolerant and RC jointly or by final order of an arbitrator or a court of competent jurisdiction. Except as expressly provided in this deposit agreement, Deposit Agent agrees that it will not divulge or disclose or otherwise make available to third parties whatsoever, or make any use whatsoever, of the Deposit Materials, or any information deposited with it by Tolerant in connection with this deposit agreement, without the express prior written consent of Tolerant and RC.

12. Indemnity. Tolerant and RC each separately agree to defend and indemnify the Deposit Agent and to hold Deposit Agent harmless from and against any and all claims, actions, and suits, whether groundless or otherwise, and from and against any and all liabilities, losses, damages, costs, charges, penalties, counsel fees, and other expense of any other nature, including, without limitation, settlement costs incurred by Deposit Agent, in respect of or with regard to actions taken by the Deposit Agent on the instructions of Tolerant or RC, as the case may be, pursuant to this deposit agreement, except as to the obligations of Deposit Agent specified in Sections 5 and 11 hereof.

13. Compensation. The Deposit Agent will be compensated as set forth in Exhibit B attached hereto. The fees set forth in Exhibit B are for the Deposit Agent's ordinary services as Deposit holder. In the event Deposit Agent is required to perform any additional or extraordinary services as a result of being Deposit holder, including intervention in any litigation or proceeding, Deposit Agent will receive, upon prior written approval of the parties responsible for payment of Deposit Agent's expenses, reasonable compensation for such services and be reimbursed for such costs incurred, including reasonable attorneys' fees. RC will pay Deposit Agent's compensation and expenses, except as provided in Section 12.

14. Discharge of Deposit Agent. Deposit Agent may resign and be discharged from its duties or obligations hereunder by giving notice in writing of such resignation to Tolerant and RC specifying a date when such resignation will take effect, which date will be at least ninety (90) days after the date of receipt of such notice. Prior to the effective date of such resignation, RC will arrange for the services of a new deposit agent acceptable to Tolerant, whose approval will not be unreasonably withheld, under an agreement having substantially the same terms as this deposit agreement. Upon Tolerant's and RC's notifying Deposit Agent of the name and address of the new deposit agent, Deposit Agent agrees to forward the Deposit Materials to such new deposit agent.

15. Modification. These deposit instructions are irrevocable except as they may be revoked or modified by written consent of RC and Tolerant jointly. This deposit agreement will be construed and interpreted in accordance with the laws of the State of California U.S.A., and will not be altered, amended or modified except in writing signed by the duly authorized officers of each party hereto.

16. Notice. All notices, requests, instructions, and other communications required or permitted under this deposit agreement must be in writing. They will be effective upon receipt when delivered personally or when sent by confirmed telex.

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All such notices will be addressed as follows:

If To Tolerant:	Tolerant Systems, Inc. 81 East Daggett Drive San Jose, CA 95134 U.S.A. Attn: President
With Copy To:	Gordon K. Davidson, Esq. Fenwick, Davis and West Two Palo Alto Square Palo Alto, CA 94306 U.S.A.
If To RC:	RC Computer A/S 1 Lautrupbjerg DK-2750 Ballerup Denmark Attn: Managing Director
With Copy To:	Vagn Thorup Advokat Kromann, Norregaard and Friis Vognmagergade 7, 1120 Copenhagen K.
If To Deposit Agent:	National Safe Depository 3585 Stevens Creek Boulevard San Jose, CA 95117

or to such other person or address as the parties may from time to time designate in a writing delivered pursuant to this Section 16.

17. Severability. In the event that any provision of this deposit agreement will be unenforceable or invalid under any applicable law or be so held by applicable court decision, such unenforceability or invalidity will not affect the validity of the remaining portions of the deposit agreement.

18. Waiver. The failure of any party hereto to require performance by another party according to any provision hereof will not affect the full right to require such performance at any time thereafter, nor will the waiver of any party of a breach of any provision hereof by any other party be taken or held to be a waiver of the provision itself.

19. Entire Agreement. This deposit agreement with the exhibits attached hereto, and the Agreement, constitute the entire agreement between the parties. This deposit agreement supersedes oral, written or other communications concerning the subject matter of this deposit agreement.

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20. Counterparts. This deposit agreement may be executed in counterparts, each of which will be deemed an original, but all of which will constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have, by their proper officers, or representatives thereunder duly authorized, caused this deposit agreement to be executed as of the date and year hereinafter written.

TOLERANT:
TOLERANT SYSTEMS, INC.

By: _____

Title: Senior Vice President
Date: October 3, 1986

RC:
RC COMPUTER A/S

By: _____

Title: Chairman
Date: October 13, 1986

RC:
RC COMPUTER A/S

By: _____

Title: TECHNICAL DIRECTOR
Date: OCTOBER 13, 1986

DEPOSIT AGENT:
NATIONAL SAFE DEPOSITORY

By: _____

Title: _____
Date: _____

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Exhibit B
of Deposit Agreement

National Safe Depository
3585 Stevens Creek Boulevard
San Jose, California 95117
408-243-3300

365 Day Access

Hours

Monday-Friday	8 am-6 pm
Saturday	10 am-2 pm
Sunday/Holidays	Other Hours By Appointment

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BOXES/ LOCKERS		ANNUAL RENT
3 x 10 x 24	$ 8/mo. x 12=	$ 96
5 x 10 x 24	$ 12/mo. x 12=	$ 144
10 x 10 x 24	$ 19/mo. x 12=	$ 228
15 x 15 x 24	$ 41/mo. x 12=	$ 492
30 x 15 x 24	$ 74/mo. x 12=	$ 888
30 x 30 x 24	$125/mo. x 12=	$1,500
60 x 30 x 24	$208/mo. x 12=	$2,496

Short term rentals available.
Computer Tapes/ Microforms storage.

Visa/ Mastercard accepted.
Prices subject to change without notice.