SOFTWARE CONTRACTS: PREVENTATIVE
MAINTENANCE TO ENSURE SUBSEQUENT
QUALITY SERVICES

BY

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Software Contracts: Preventative Maintenance
to Ensure Subsequent Quality Services

First time users of a computer system in most instances tend to be small to medium sized organizations overwhelmed by the complexity and choice of available options for hardware and software acquisition. The hardware decisions are usually made with a great deal of preparation, analysis and comparison. However, the software issues tend to involve even more difficulties. When an eventual decision has been made, the acquisition typically consists of a single software vendor.

In many cases, a contract is not involved. A simple hand shake, signifying the importance of trust and good faith, is considered to be a professional understanding between two organizations. In other instances, the buyer signs a contract proposed by the vendor and prepared in accordance with the vendor's best interests. Even when a contract is used, the buyer may enter into a complex business arrangement without the benefit of professional advice available from the organization's legal counsel. It appears totally incongruous that an organization approaching the acquisition of a complex computer system in a business-like manner will carefully research the purchase of hardware but enter into a software commitment without careful preparation and scrutiny. Standard advice implied in the phrase "caveat emptor," or let the buyer beware, certainly would appear appropriate in this type of situation. An ancillary rule would be that unless a written contract is prepared and signed, an informal understanding is totally worthless.

This may sound like a rare harsh piece of advice to offer
for a professional commitment between a software vendor and a
buyer but it is the only solid insurance policy that can be
relied upon when difficult situations develop. As indicated
earlier, many small to medium sized organizations are first
time users of a computer system. As such, they lack any prev-
ious experience with a software vendor. This absence of
previous experience or a successful relationship must be off-
set with a clear cut definition of the responsibilities for
both parties in the development, implementation and maintenance
phases of a long term commitment. Hence, a contract mutually
developed and approached with the goal to be as comprehensive
as possible is the only satisfactory mechanism for ensuring
success. A perspective emphasizing the characteristics of
pre-planning, mutual understanding, clearly worded documenta-
tion, timetables for delivery and legal review represents a
business-like concern for a smooth and orderly project. This
type of "preventative maintenance" approach can only assist
in ensuring a high level of quality services following contract
initiation and at the same time minimizing potential problems.

How should this approach be initiated? What topics
represent the highest priorities for eventual agreement? At
what point does a desire to formulate a comprehensive agree-
ment become counter productive in terms of time, effort and
other limited resources? These questions are extremely
important and relevant to a contracting organization, especially
first-time users and small to medium sized firms.

In the case of the Alexandria school system, with a
total enrollment of approximately 11,000 students, a first-
time user situation applied. The administration determined
that the organization's size was insufficient to justify an
internal software development approach with significant
resources expended for such an undertaking. Therefore a
decision was made to find the most appropriate software pack-
age that was available and to plan on customizing it to the
degree necessary. Unfortunately, such a package could not
be found. The school system decided to enter into a contract
with a new software vendor located in the same metropolitan
area and to develop a system in accordance with a set of
specifications. The contract was developed quickly but was
reviewed by school management, the vendor and legal counsel.

The basic components of the total system are now in place.
The vendor and the school system are continuously refining the
system as would be expected. Some work remains to be completed
but firm plans for doing so are not yet finalized.

In spite of some extensive preparation and the existence
of a contract, problems have and are continuing to occur. Many
areas that ideally should be incorporated in an agreement were
not addressed prior to contract initiation; the absence of
written understandings in these areas represents the major
explanation for many of the problems that did develop. An
example is hardware availability for development work. In the
initial several months after contract initiation, an extensive

amount of software development work, out of necessity at the time, was completed on the user's equipment. Most of the activity occurred during periods when normal production work was not involved. However, the lack of a clearly worded clause in the contract on this matter resulted in occasional situations where the vendor and user had to work out solutions on a case-by-case basis.

The existence of a "right to modify" clause and an agreement pertaining to "final acceptance/completion of project" have also created some difficulties that could have been avoided or reduced in magnitude if additional time for review had been allowed. It is now expected that the vendor and the school system will soon be entering into negotiations to address the remaining provisions of the original contract that have not been fulfilled and at the same time develop a mutually agreeable contract for on-going maintenance support. Both parties are interested in doing so and the end product of these deliberations will hopefully be an agreement considered to be satisfactory for a permanent, support relationship.

Alexandria's experience to date has reaffirmed the original view that a contract was necessary and needed to be as specific as possible. However, in true hindsight form, this experience has identified a number of potentially vulnerable areas that should have been addressed in the contract from the beginning.

Alexandria has learned from its experience but how do

other similar organizations adequately approach the task? Is it absolutely necessary that this invaluable information be obtained through experience? Certainly not! A number of approaches are available that could be utilized.

Initially, it is suggested that a potential user carefully consider some of the broad management-related issues that typically occur in software acquisition. An example relates to whether or not the software vendor is new to the business or is embarking on a new application. In such a situation, the potential user must be careful to review such decision-influencing factors as the quality and depth of the vendor's staff as well as the vendor's computer resources and overall financial condition.

The following list of key factors should be considered:

1. Degree of system customization expected.

2. Software vendor's capabilities.

3. Possible effect of hardware upgrades in the future.

4. Management philosophy on single versus multiple vendors.

5. Existing package or development contract.

6. Degree of eventual independence expected of user in software operation.

7. Degree of specificity in development and implementation expected - documentation standards, installation requirements, programming efficiency, and others.

Other factors could easily be added. However, the nature
of the potential concerns should be apparent from the examples
listed. The user's reactions to these factors should indicate
the extent of emphasis to be placed on specific components of
any proposed contract.

With these factors identified, the potential user can
approach a number of available sources for additional informa-
tion and advice. Professional colleagues in a users' associa-
tion, existing agreements developed by other organizations
and a temporary consultant retained for third party objectivity
and technical assistance represent examples of existing sources.
Regardless of the approach utilized, the most important advice
to a potential user pertains to the need to allow adequate time
for pre-contract planning with the likely vendor and the user's
legal counsel. The provision of adequate time for informal
discussions, negotiations, research and review cannot be easily
substituted.

In this regard, the attached software checklist is offered
as a partial index of questions a potential user could consider
prior to contract initiation. Additional items for the check-
list could be identified but in its present form the list
represents a compilation of the most significant areas to be
addressed in an agreement. The potential user, working in
cooperation with legal counsel, is the most appropriate party
for determining the relevance of each item to the particular
organization. The list can assist in identifying those areas

that need to be dealt with in greater detail when the contract
is finalized.

When contracting organizations begin to emphasize in
their overall project activities the need for comprehensive
pre-planning and protection through the existence of well-
prepared agreements, then the software industry will benefit
from the additional professionalism and good will created.
A "preventative maintenance" perspective, almost defensive in
nature, will assist the users in obtaining a level of service
necessary for long-term success.

SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

<u>CHECKLIST ITEM</u>

ITEM NO.	HEADING	CHECKLIST ITEM	YES	NO
		I. PLANNING:		
1	Identification of System Components	Does the contract include a section describing in detail all components expected from the software system?		
2	Cost of System Components	Does the contract specify the individual prices for all components in the software system?		
3	Legal Review	Has the user reviewed the proposed contract with the organization's legal counsel to ensure its best interests?		
4	Consultant Review	Has a data processing consultant been retained to assist in negotiations with the vendor or review the proposed contract for possible changes?		
5	Establishment of Contract Priorities	Has the user prepared for negotiations by attaching a priority value to all required or desired contract provisions in an effort to obtain agreement on the most important needs?		

SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
		II. PERFORMANCE :		
6	Assignment of Responsibility	Have the vendor and user listed the tasks to be performed by each to achieve implementation on time?	|	|
7	Schedule of Responsibility	Have the vendor and user each prepared a schedule for determining the completion date for all assigned tasks to achieve implementation on time?	|	|
8	Documentation and Related Standards	Does the contract require that complete documentation be provided to the user and are minimal standards identified for ensuring an acceptable level of quality?	|	|
9	Installation Standards	In the case of software development, does a requirement exist to guarantee that the software system will comply with whatever installation standards are acceptable to the user?	|	|
10	Reproduction of Documentation	Has the user received permission to reproduce any part of the system documentation with a proviso that it be used internally for operational success?	|	|
11	Corrections and Upgrades	Does the contract indicate that the user can obtain without charge any corrections or upgrades to the software system that are intended to improve its quality?	|	|

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SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
		II. PERFORMANCE (Continued):		
12	Source Code Accessibility	Has the user obtained access to source code for the software system?		
13	Right to Future Options	Does the contract include the right to obtain future options or changes in the software system at the same price offered future users?		
14	Right to Modify	Has the user obtained in the contract the right to modify the software system, with a waiver of maintenance indicated?		
		III. INSTALLATION:		
15	Test in Actual Environment	Has the user stipulated that the final purchase of the software is conditional on its acceptable operation in the user's actual environment?		
16	Acceptance Criteria	Have the user and vendor specifically listed the acceptance criteria needed to validate the software system?		
17	Basis for Criteria Identification	Have the acceptance criteria been determined on the basis of the requirements and specifications section used for initial system design?		

SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

CHECKLIST ITEM

III. INSTALLATION (Continued):

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
18	Level of Operational Availability	Has a specific requirement been formulated which states the level of operational availability expected of the software system over a period of time?		
19	Run Time Requirements	Have specific expectations been developed that pertain to the run time requirements of the software system when fully operational?		
20	Hardware Requirements	Have specific expectations been developed that indicate the degree of hardware requirements to be used by the software system when fully operational?		
21	Acceptance Period	Does the contract include a requirement that a specific acceptance period is necessary for validating the software system prior to final purchase?		
22	Delivery Timetable	Has the user specified delivery dates with an additional reasonable period of time indicated as a contingency for unanticipated problems or delays?		
23	Acceptance Procedures	Has the user specified the acceptance and approval mechanism to be utilized when work products are delivered?		

SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
		III. INSTALLATION (Continued):		
24	Software Support	Are on-going support requirements after installation carefully defined and priced?	___	___
		IV. STAFF:		
25	Project Staff of Vendor	Prior to contract approval, is the vendor willing to provide a synopsis of his staff resources - in terms of size, training, experience and ability to provide adequate support services?	___	___
26	Full-Time Employee Requirement	Does the contract state that the vendor's project staff should be full-time employees, not part-time "moonlighters," and that they are bonded?	___	___
27	Agreement on Hiring Employees	Is there an agreement in the contract that the vendor and the user will refrain from hiring away from each other employees currently under contract?	___	___
28	Hiring Employees in Termination	Does a agreement exist that permits the user to hire the employees of the vendor in the event of business termination?	___	___
29	Project Staff Substitutions	Does the user have the option of demanding that substitutions be made in the vendor's project staff if personnel or work problems infringing on the project's success indicate the need to do so?	___	___

SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

CHECKLIST ITEM

IV.   STAFF (Continued):

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
30	Security Requirements	In the case of software development, especially work on-site, has the vendor agreed to comply with the user's internal security provisions?		
	V. FINANCIAL CONSIDERATIONS:			
31	Recovery of Progress Payments	Does the contract provide protection to the user in the form of recovery of progress payments from the vendor if an acceptable software system cannot be developed or delivered?		
32	Conditional Acceptance of Hardware	Has the user related the final acceptance of the hardware to the performance of the software system?		
33	Guarantees on Price Movement	Does the contract protect the user with specific guarantees on increases and/or decreases in price, with changes occurring only when authorized by the user?		
34	Delivery of Finished Product on Partial Basis	If progress payments are made over an extended period of time, does the contract require an equivalent portion of finished product on a phasing basis as a fair exchange to the user?		

SOFTWARE CONTRACT REVIEW

A CHECKLIST APPROACH

CHECKLIST ITEM

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
		V. FINANCIAL CONSIDERATIONS (Continued):		
35	Comprehensive Coverage on Costs	Does the contract identify all possible charges related to the successful completion of the project, including personnel costs, external purchases, use of machine time, maintenance, training installation support, documentation and similar items?		
36	Schedule for Progress Payments	Is a specific allocation formula developed for approaching progress payments?		
37	Hold Back Payment Provision	Is a specific percentage of total payment withheld by the user until project completion to ensure a successful conclusion to the contract?		
38	Term of License	Has adequate attention been focused on specifying the term of license and a renewal notification procedure by the vendor?		
39	Business Termination	Has the user incorporated adequate protection in the contract in the event that the vendor undergoes business termination?		
40	Vendor's Financial Condition	Is the vendor obligated to provide a copy of a current financial statement to the user at the time of contract approval?		

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A CHECKLIST APPROACH

ITEM NO.	HEADING	CHECKLIST ITEM	Has item been completed? YES	NO
		VI. WARRANTIES:		
41	Warranty Test	Does the contract state that the software system will perform in accordance with the user's specifications?	—	—
42	Cancellation Option	Does the contract indicate that cancellation without penalty to the user exists as an option if performance guarantees are not met?	—	—
43	Periodic Progress Review	Are the expectations, requirements and responsibilities contained in the contract formally identified as the basis to be used in periodic progress meetings to determine that all obligations are being fulfilled?	—	—
44	Guarantee of Ownership	Is the vendor willing to include a statement in the contract guaranteeing ownership of the software system and that the user enjoys "hold harmless" protection from third parties?	—	—
45	Free Maintenance During Warranty	Does the contract protect the user during the specified warranty period from all possible maintenance charges?	—	—
46	Freedom of Use Provision	Does the contract extend freedom of use to the user as long as the software system is utilized within the user's organization?	—	—