The World Bank
Operational Policy and Country Services Vice Presidency — Procurement Unit

IT Procurement Guidance Note 8

Selecting a Standard Bidding Document for IT Procurement

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Check the World Bank IT procurement web page http://worldbank.org/itprocurementforum for the latest text of Standard IT Procurement documents and related guidance notes.

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I. Background on IT Procurement

Large information technology and systems contracts are among the most challenging to procure in World Bank-financed projects because:

- their technical content is diverse and difficult to define;
- they are highly affected by changing business objectives, organizational politics, and institutional capacity of the end-user;
- they are subject to rapid technological change over the project life-cycle; and
- they entail mixtures of professional engineering services and supply of diverse hard and soft technologies.

Thus, specialized standard bidding documents (SBD) became necessary to facilitate IT procurement[1] under World Bank financing. IT SBDs provide bidding and contracting models that facilitate successful installation, integration, and operation of a range of information technology applications — from straightforward supply and maintenance of technology products, to complex development, integration and operation of mission-critical information systems.

Most IT procurements encompass both supply of products and provision of services, albeit in different mixtures[2]. Those that do not are either straightforward consulting services contracts, which can be procured with standard Request for Proposal documents of the Bank, or supply-only procurements of IT products[3], without installation or maintenance services, which are very rare and often ill-advised. The four most important types of IT procurement are characterized in the Figure below.

[1] IT procurement is the common term used to designate all procurements having to do with computing and communications technologies regardless of their hardware, software, supply or service components.

[2] The one notable exception is the competitive outsourcing of systems facilities to the private sector, which is likely to increase in frequency but is to-date rarely seen in the Bank's IT portfolio

[3] We use the word "products" instead of "goods" to emphasize that IT goods include both commercial hardware and off-the-shelf software. These are drastically different products, one consisting of physical machines and the other of arcane instructions on an optical disk. Clearly, the nature, quality and functionality of software products is much more difficult to assess and often it can be done only through hands-on use for a period of time.

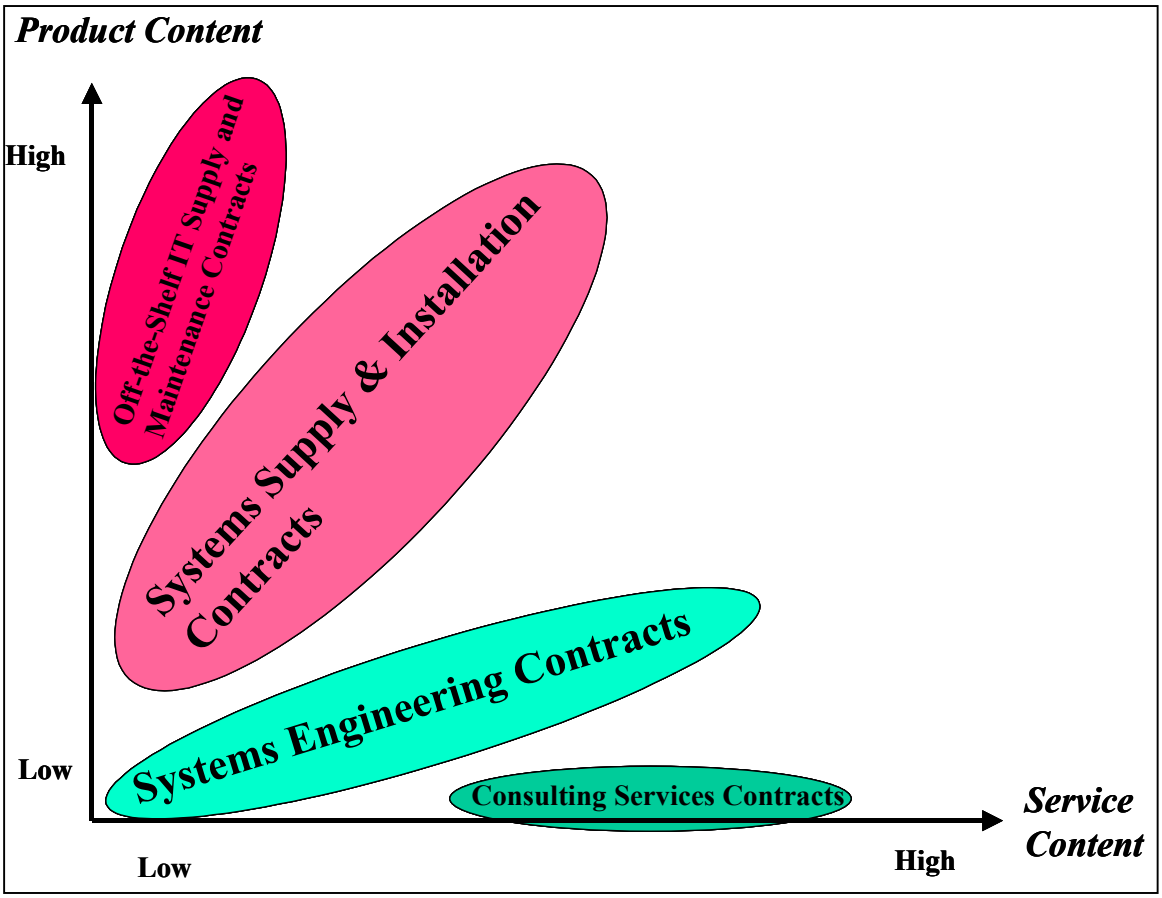

Figure 1. Product and Service Content of Various Types of IT Procurement Contracts.

The coexistence of product and service components is a key characteristic of IT procurement which determines the need for flexible SBDs that can be tailored to a variety of product/service combinations. To a large extent this explains the difficulty to use traditional SBDs of the World Bank for IT procurement: not only do those SBDs focus on one or the other component, but the Bank's conflict of interest guidelines address each component separately.

There are several other differences among the four main IT procurement cases portrayed above. These differences are summarized in the table below which associates each of the procurement cases with one of the IT SBDs developed by the Bank.

OBJECT OF PROCUREMENT	***CONSULTING SERVICES***	***OFF-THE-SHELF SUPPLY & MAINTENANCE OF IT PRODUCTS***	***SUPPLY AND INSTALLATION OF SYSTEMS FACILITIES***	***SYSTEMS ENGINEERING***
Design Risk: **(the solution does not fit the problem)**	1. client	1. purchaser	1. supplier	1. contractor 2. client
Implementation Risk: **(schedule slips, costs overrun, acceptance tests fail)**	1. client	1. supplier	1. supplier	1. contractor 2. client
Critical Success Factors	• clarity of client's needs • consultant's knowledge and expertise	• quality of specifications • bidder's delivery capacity	• quality of requirements • quality of design. • supplier's professional expertise • supplier's process mgmt. skills	• quality of requirements • contractor's professional expertise • quality of communications • client's contract management skills
Bidder Qualification Criteria	• prior experience • credentials	• financial, logistical capacity • Prior experience	• prior experience • financial and operational capacity	• prior experience • individual credentials
Ranking Of Bid Evaluation Criteria	1. track record 2. credentials 3. quality of proposal 4. cost	1. cost 2. non-price factors	1. cost 2. track record[4] 3. quality of proposal	1. track record 1. credentials 2. quality of proposal 3. cost
Basis For Payment	• effort over time • incidental expenses	• operationally accepted components • time & effort (for services)	• completed milestones • time & effort (for services)	• completed milestones • time & effort • incidental expenses
IT SBD Recommended	SRFP – (Quality and Cost Based Selection)	ITP SBD	IS1STG SBD or IS2STG SBD	IS1STG SBD or IS2STG SBD

Table 1. Design Profiles for Various IT Procurement Cases

[4] Track record is a qualitative assessment of prior experience.

II. Which Standard Document to Use?

To select the appropriate SBD for particular IT procurements, examine the complexity of the case and the purpose of the procurement as illustrated in the decision tree in Figure 2.

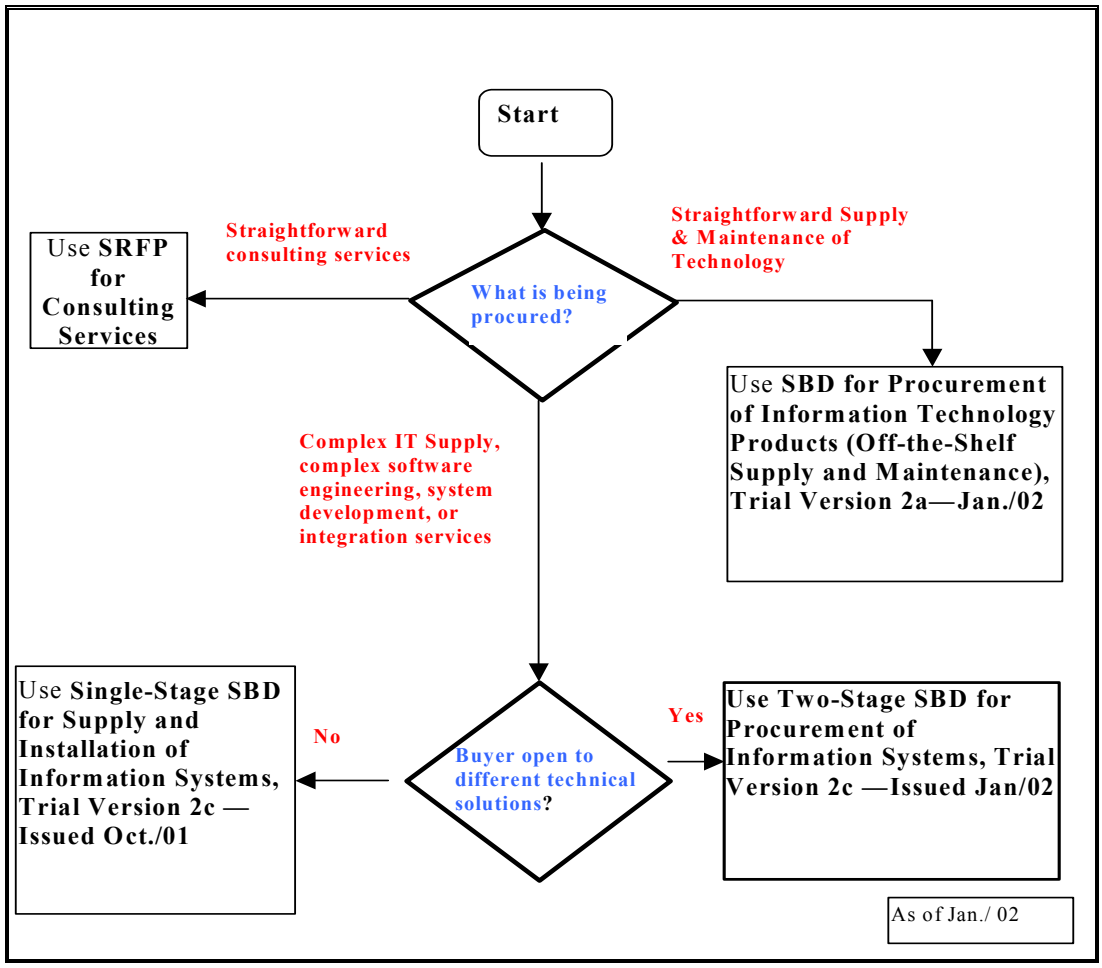

Figure 2. Decision Tree: Which Standard Document to Use for IT Procurement?

A. Straightforward IT Procurements

Straightforward procurements are those where the design risks are to be borne by the Purchaser and implementation risks are low for the supplier/contractor who basically deliver products to specifications or carry out intellectual tasks according to terms of reference. For example, procuring a large number of computers and software with routine installation in a few sites and maintenance support for a number of years is a straightforward procurement, even if the cost is considerable.

There are two types of IT procurements considered straightforward, namely pure consulting services and straightforward supply and maintenance of off-the-shelf IT products.

Pure Consulting Services

As indicated in Table 1, in straightforward IT consulting services procurements the Client takes the design risk and most of the implementation risk. Consultants are expected to provide intellectual services according to the highest professional standards. However, if in discharging competently their terms of reference, their outputs do not achieve the Client's business objectives or their work takes longer than planned, the Client, not the consultants, bear the contractual consequences (except in cases of gross negligence). Examples of this type of procurement are consulting assignments to prepare a strategic information systems plan, or a procurement plan for IS, or to develop the bidding documents or provide management support services for an IS project or a specific procurement transaction.

Apart for the special nature of the terms of reference, bidding documents for IT consulting can be prepared, as any other consulting contract, on the basis of the Bank's Standard Request for Proposal documents.

Off-the-Shelf Supply and Maintenance of IT Products

In straightforward IT equipment supply and maintenance procurements, the technical risk is assumed by the Purchaser who defines required product and service specifications. Maintenance services are usually procured concurrently both because of their importance and specialization, and because doing so allows more realistic life-cycle cost evaluation of the products. Technologies involved are commercial, off-the-shelf (COTS) and the market is highly competitive, except for a few products enjoying de facto monopolies. The key aspects of evaluation are compliance with technical specifications, ability to deliver per schedule, price and sometimes technical merit (non-price aspects) as well. The first two aspects are normally translated into mandatory qualification requirements, and price is usually the primary selection criterion.

Whether evaluation of non-price aspects is needed in procurement of IT products, is a controversial but inevitable issue which is discussed in IT Procurement Guidance Note No. 10. That note also provides examples of different technical merit evaluation methods. It is important to recognize that: (i) Bank Guidelines for procurement of goods favor heavily the use of price as the sole evaluation and selection criterion, and at the same time recognize that there may be cases when factors other than price may need to enter into the evaluation;[5] (ii) all IT SBDs, include provisions for optional technical merit evaluation.

Pre-qualification is not normally used for straightforward IT supply procurements. One exception in equipment supply may occur when the size of the procurement, the required implementation timetable, and the maintenance service requirements reduce the number of potential bidders to a group clearly definable through pre-qualification criteria. The other exception, related to application software

[5] See Guidelines for Procurement under IBRD Loans and IDA Credits, Jan. 1995, revised January 1999, paragraph 2.51.

procurement, may occur when the number of providers for a specialized application package is small and easy to characterize.

Some examples of straightforward IT supply and maintenance procurements are:

- local area networks;
- assorted products (such as file servers, workstations, printers, and UPSs), even if procured in large numbers, that require similar installation and simple interconnection;
- supply, straightforward installation and maintenance of a broad area network;
- off-the-shelf hardware and software licenses for a particular business process;
- a license for a commercial data base management system software.

Straightforward procurement cases may thus involve acquisition of rather large amounts of IT products, provided that they are commercially available and off-the-shelf (COTS); that the incidental service requirements extend only to customary product installation and maintenance; and that the Purchaser bears the design risk if products complying with the specifications fail to meet the business requirements.

Use the Standard Bidding Document for Procurement of Information Technology Products (Off-the-Shelf Supply and Maintenance) (ITP SBD) for these type of procurements.

B. Complex IT Procurements

Complex procurements are those where the design risk is to be borne primarily by the Supplier (or Contractor), and thus where the Supplier's professional judgment, expertise, project management and risk management skills are critical for success.

In other words, complex procurements are characterized by specialized and extensive professional service requirements, by high risks arising from potential confusion or conflict among multiple parties,[6] or by large numbers of technical tasks to be managed within tight budget and time constraints.

This means, for example, that procuring a large number of computers and software with routine installation in a few sites, and maintenance support for a number of years, need not be a complex procurement, even if the cost is considerable. Instead, installing a major application package over a local area network may be a complex procurement if supply, installation, training, and start up of the new application is to be done by the Supplier.

Standard bidding documents for complex IT procurements (of which there are two at present, for single and two-stage procurements), emphasize a number of aspects beyond those required for straightforward supply procurements:

- pre and post qualification requirements from bidders
- quality of the statement of work and the technical specifications

[6] For example, in a large application development project, the purchaser's management, purchaser's technical staff, system users, supplier's team, telecommunications company, subcontractors, manufacturers, etc., are some of the parties involved. Even in ideal circumstances, the potential for confusion or conflict is obviously large in these type of projects.

- various versions of the project plan (baseline and revised)
- methodology and control of work
- flexibility of payment terms
- quality control processes
- professional obligations of the Supplier
- provisions for transfer of knowledge
- flexibility of contract terms and conditions.

Supply And Installation of Information Systems.

Two key features distinguish supply & installation from goods procurements namely, increased supplier's risk and complex service requirements. Together these two features increase significantly the complexity and risk of the procurement and require different evaluation and contracting terms.

In Supply & Install procurements the Supplier assumes responsibility for the design, supply, and installation of a facility defined by the Purchaser mainly in terms of performance specifications. Therefore, the Supplier's responsibility goes beyond the supply of whatever products or services the Purchaser requests, and extends to the provision of any other products or services required to make the facility perform to specifications.

IT Supply and Install procurements require therefore a degree of professional judgment and expertise from suppliers that is commensurate with the higher degree of risk they are called to assume. This results in large and complex service components for this type of procurement.

Use the SBD for Supply and Installation of Information Systems (ITS SBD), Trial Edition, for these procurements.

System Engineering or System Integration Contracts.

The typical contracts in this category are inherently complex since they combine aspects of engineering contracts, consulting services, and supply of goods:

- complex business applications, (e.g., mission-critical banking system, treasury management system, etc.)
- complex custom software development services
- integration of off-the-shelf with custom software and hardware components where the bidder is responsible for overall system compliance with business requirements;
- systems engineering projects involving extensive technical services for design, development, customization, installation, training, operations and technical support.
- build-operate contracts to outsource IS-intensive functions.

Deployment of complex business applications, for example, usually requires substantial reengineering of business processes within the Purchaser's organization. As a result, even comprehensive technical specifications change frequently during implementation. Furthermore, since the full impact of the new system on business processes is often understood only at system implementation time, Purchasers tend to defer payments and tie them to milestones that represent

tangible business value. As a result, the Supplier shares a large part of the design and implementation risk.

Similar high risks are shared by both parties in the other types of procurements noted, to the point that outsourcing contracts are considered really "partnership procurements" where the Purchaser organization is really looking for a long-term strategic partner, rather than merely a supplier.

C. Single or Two-Stage Process?

Complex procurements are processed in two different modalities : single stage and two-stage.

Single Stage Procurement Process

When bidding is based on technical product or service specifications, single-stage procurement is usually appropriate, even for complex procurements. A good example would be the procurement of a large wide-area computing network with a variety of office support and application services, extensive operational acceptance testing requirements and centralized network management, where the basis for bidding is nevertheless a set of well-defined technical specifications and consequently the design risk is borne by the Purchaser.

Even when functional or performance specifications are developed by the Purchaser, single stage procurement is advisable if the specifications are likely to be met only by established products in the market. In this case, Bidders have no real design discretion and Purchasers are not likely to benefit from technical solutions not already widely known. For example, when procuring a complex application system, the Purchaser is likely to formulate its requirements through detailed functional specifications. However, these specifications can only be met by established software packages, and thus the potential benefit of two stage procurement is not available. In this case it is better to use a single-stage process and a technical merit evaluation method that includes real product tests.

Complex, single-stage procurements may emphasize extensive bidder conferencing and clarification processes based on written communications and full disclosure to all bidders of questions, answers and specification changes. With the advent of electronic procurement systems, the facilities for clarification and resolution of issues raised about the adequacy or objectivity of specifications will become global, instant, and highly reliable.

Two-Stage Procurement Process

If a complex supply and installation procurement of IT is based primarily on business or performance requirements rather than on technical specifications (which may be present to one degree or another), a two-stage approach is recommended. In these cases buyers are interested in evaluating different technical solutions instead of engaging expert consultants to design and specify a particular one for single-stage procurement.

An example of this type of procurement is a wide-area network specified through a set of business requirements rather than precise technical specifications. Business requirements may be, for example, the number and functionality of workstations, the availability and response time of office and application services, the flexibility of communication options, the extent and

reliability of centralized network management and security functions, etc. In this case there may be different technical solutions proposed by bidders (for example, one may propose that workstations need not be full PCs but rather computer terminals connected to a local server).

Two stage procurement presumes that the Purchaser is willing to consider and evaluate on their merits different technical solutions. This process involves: (i) development of functional specifications for the target facility or system; (ii) assessment of first-stage proposals and specification of needed technical or commercial adjustments; (iii) evaluation of second-stage bids against functional specifications, regardless of their technical differences.

Two stage procurement is also applicable when project management, staffing, or deployment strategies, instead of technical specifications, are left for bidders to propose. This occurs primarily when the work necessary to complete the facilities or systems being procured is well outside the Client's domain of management expertise, such as with fault tolerant e-commerce facilities and systems. In these cases the Client must also be open to, and willing to evaluate on their own merits, different project management and deployment strategies.

Complex Supply and Installation and complex systems engineering procurements are therefore the natural candidates for two-stage processing.

In Supply and Installation procurements, for example, the Supplier bears much of the design risk since it undertakes the responsibility to design and build a system that reaches operational acceptance. The Purchaser, at the same time, lacking the specialized knowledge to design the ideal technical solution, wants to minimize risks by letting experts propose and defend various solutions. Both parties reduce their risk considerably through the first stage clarifications meetings which ensure that solutions proposed, plus changes requested, will meet the Purchaser's business requirements.

With this substantive advantage, the evaluation process during the second stage must still discern which of the bids, whatever the technical solution it proposes, represents the best value for the Purchaser. Therefore, two-stage bid evaluation must take into account issues of technical merit, not just price, since it deals by design with comparison of different technical solutions.

Use of the two-stage processing option is not recommended therefore simply as a way to manage the perceived complexity of the procurement. Single-Stage SBD's emphasize many aspects explicitly to cope with procurement complexity.

Two-stage processing denotes a deliberate decision to consider several feasible solutions to a large problem, and implies an evaluation method that does not hinge on compliance with specific technical specifications, but rather on fulfillment, by whatever reasonable means, of specified business or performance requirements.

Any complex information system procurement for which defining precise technical specifications for single-stage procurement is too difficult or where the technical and IS project management strategies of potential bidders are a major and decisive factor, is a candidate for two-stage procurement.

The Two-Stage SBD for Procurement of Information Systems, Trial Edition is the

interim SBD to be used for complex two-stage procurements described above.

III. IT SBD Profiles

There are three trial standard bidding documents (SBDs) for information system procurement which are broadly described in the table below. The publication history of each SBD, as well as the SBD file itself, can be found in the World Bank IT Procurement Forum web page at http://worldbank.org/itprocurementforum.

Nickname	Document Title	Comments
ITP SBD	Standard Bidding Document for Procurement of Information Technology Products (Off-the-Shelf Supply and Maintenance), Draft Version 2a —Jan./ 02	This SBD is for the majority of straightforward technology supply and installation procurements.
IS1STG SBD	Single-Stage SBD for Supply and Installation of Information Systems, Trial Version 2c — Oct./ 01	This SBD can be used for single stage, complex IT Supply and Install cases where the services component of the procurement goes beyond the routine installation and maintenance of technology.
IS2STG. SBD	Two-Stage SBD for Procurement of Information Systems, Trial Version 2c — Jan./ 02	This is a transitional SBD for two-stage IT procurement, pending development of the "Information Systems Engineering" SBD targeted for issue by OPCPR in late 2001.

Table 2. The Three Trial Standard Bidding Documents for IT Procurement

IV. Feedback and Discussion of IT Procurement SBDs

All SBDs are issued in trial mode and updated periodically with feedback received from Bank borrowers, bank staff, and members of the IT Industry through the IT procurement Forum and through ad-hoc conferences.

The IT procurement Forum http://worldbank.org/itprocurementforum includes:

- a collection of Guidance Notes on IT procurement summarizing the discussions on important topics and outlining solutions proposed or implemented
- a facility to consult and download the three trial standard bidding documents, each one with a publication note explaining the changes made for each document version.

The Bank welcomes any feedback on this Note. Please channel your comments through the Procurement Policy and Services Group of the World Bank:

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