Chapter highlights

- **Purpose**: This chapter covers the preparation of statement of scope and statement of work (SOW) documents used in the acquisition of information technology goods and services.

- **Key points**:
  o The importance of complete, clear and well-developed requirements definition, scope statement, and statement of work documents for information technology (IT) solicitation and contract documents cannot be overstated.
  o Since the winning supplier will perform the contract following the SOW's requirements, it is critical to include and state all technical, functional, performance and project management requirements and expectations clearly and without ambiguity in the SOW.
  o The SOW content and detail will depend on the nature of the procurement and can range from extremely simple—buying packaged software—to extremely complex—procuring a solution or system design.

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12.0 Introduction

The importance of complete, clear and well-developed requirements definition, scope statements, and statement of work documents for information technology (IT) solicitation and contract documents cannot be overstated. The complexity of the IT acquisition will affect the depth and breadth of these documents. Simple IT hardware or computer-off-the-shelf (COTS) procurements will generally have fewer requirements and more straightforward statements of work than a solution-based acquisition, which may combine requirements for software (COTS or newly developed), hardware and/or services. Performance-based contracts will generally include meatier requirements for gathering, validating and reporting performance metrics since performance results will be tied to supplier payments or other incentives. However, performance-based contracts will generally have less restraining statements of work and requirements documents since they are more concerned with results and outcomes than with how the work is performed. These are two examples of how requirements and statements of work may vary in complexity and size, but the need to carefully develop these documents does not vary.

The agency information technology resource (AITR) and project management representative (https://www.vita.virginia.gov/it-governance/contact-it-governance/) for your agency can be contacted for assistance in these activities, whether the project is within your agency's procurement authority or must undergo VITA's delegation and Procurement Governance Review (PGR) and CIO approval process.

12.1 Defining the IT procurement's scope

The procurement's scope will be defined from the results of the needs assessment/requirements definition/specifications development (refer to Chapter 8). A written scope statement is a preliminary step before developing the statement of work. It will be used in the solicitation document to set the boundaries of the procurement and will serve after contract award to restrain the agency and the supplier from allowing contract scope creep. Scope is often used to describe the high-level parameters of the IT acquisition; i.e., "a solution to provide data management and automatic routing for incoming requests over a public website," or "a server to accommodate 50 locations of XYZ agency, or "100 scanners that will be distributed to multiple locations around the state."

A template for creating an IT project's scope statement for projects under VITA's oversight, delegation authority or those requiring CIO approval, is provided by Commonwealth Project Management and is available at this URL: https://www.vita.virginia.gov/it-governance/project-management/project-management-templates-tools/. Once this document is finalized, the statement of work is prepared.

12.2 Preparing a quality IT statement of work (SOW)

Once the project scope is completed, the project team will build the SOW, which is the basis for a supplier's proposal response and contract performance. Including a SOW in the solicitation gives each supplier the information from which to prepare its offer. Since the winning supplier will perform the contract following the requirements in the SOW, it is critical to include and state all technical, functional, performance and project management requirements and expectations clearly and without ambiguity in the SOW. VITA SCM provides a SOW template and SOW Change Order template for authorized users to use when ordering from a VITA statewide contract at this location under the section called "Tools:" https://www.vita.virginia.gov/supply-chain/scm-policies-forms/. This template and the guidance in this chapter are best practice recommendations. You may use the template, the following guidance, or any combination—as best suited for the size and complexity of your procurement. IT projects that require CIO approval and/or VITA oversight will require following Commonwealth Project Management standards and policies provided at this URL: https://www.vita.virginia.gov/it-governance/project-management/.

The SOW must be written as a concise, declarative document as it is a statement of the agency's requirements and the supplier's performance commitment. In non-performance-based SOWs the supplier may be required to perform the work in a specific way, using detailed specifications, specifying key personnel to be provided and methods to be used for service contracts. A well-written SOW should:

- Be a stand-alone document.
- Be crafted in a general-to-specific fashion.
- Be an expansion of detail tailored from the requirements definition results and the approved scope statement and free of inconsistencies and/or conflicting requirements.
- Be individually tailored to consider the period of performance, deliverable items, if any, and the desired degree of performance flexibility.
- Not repeat material that is already included in other parts of the solicitation/contract.

- Describe in detail what the supplier is to accomplish through addressing the following four elements:

  o What is to be done and what are the deliverables/milestones?
  o Who is going to do what (agency, supplier, third party CoVA agent, etc.).
  o When is it going to be done by deliverable and/or milestone?
  o Where will it be done?
  o How will it be done and how will the agency know when it is done (i.e., testing and acceptance)?

The SOW content and detail will depend on the nature of the procurement and can range from extremely simple—buying packaged software—to extremely complex—procuring a solution or system design. The needs assessment/requirements definition/specifications development details (refer to Chapter 8) should be duplicated in certain relevant areas of the SOW. All SOWs should minimally include the following components:

- **Introduction**—a general description of the procurement.
- **Background**—information that helps suppliers to understand the nature and history of the agency, the project, the audience being served and the purpose of the new requirements. When applicable, include the current and desired technology environment (architecture) and interfaces with graphic and textual descriptions.
- **Scope**—overview of the SOW that relates the parameters and important aspects of the requirements, taken from the scope statement.
- **Applicable directives** (if any)—referenced documents, standards, specifications or directives that are either mandatory or informational for the procurement.
- **Performance requirements**—what is required to be accomplished, the performance standards and the acceptable quality levels.
- **Deliverable requirements**—Technology products, services, software, project and other reports, testing and all deliverables and formal requirements that must be submitted by the supplier during the contract.
- **Quality assurance and acceptance criteria**—Acceptance is the agency's formal, written process to acknowledge that the deliverables conform to applicable contract quality, quantity and other requirements. Acceptance may or may not involve quality assurance processes and typically precedes payment. The procedure for formal acceptance should be provided for any milestone deliveries, as well as final acceptance.

Below is a comprehensive list that provides a selection of considerations for SOW content ranging from simple to complex procurements—from a single IT component to a major systems design. The project team may glean useful reminders from this list even though all of them may not be pertinent to a particular procurement. Many of the details may be pulled from the requirements definition document to ensure completeness and accuracy. Depending on the project's size, complexity, delegation and approval thresholds, the business owner must ensure compliance with any Commonwealth Project Management standards and requirements for building SOWs, located at this URL: https://www.vita.virginia.gov/it-governance/project-management/.

Introduction	This is a general description of the procurement.
Background	Provide information on the agency, the project/program and/or the services that are affected by this procurement. Include graphics of the user environment/flow of information/current business and operating environment.

Scope statement	Retract from the scope statement prepared in step 2 of this process.
Summary of technical, functional and performance objective(s)	Provide a general description of these objectives.
Summary of technical, functional and performance requirements	Provide a general description of these requirements including all desired solutions, products and/or services.
Specific technical, functional and performance requirements	Specific and detailed requirements must be fully described and include desired agency operating architecture/user environment, if known. If supplier will provide this as part of their proposal, then these requirements will be negotiated and finalized as the contract's definitive SOW exhibit. These would include all technical and functional requirements for all software and hardware, the solution and/or the system being procured and include any related services. If requirements development/system design is a deliverable, then this would be finalized prior to final development, implementation and testing and would become a separate deliverable under the SOW.
Requirements development	If this is part of what the supplier will do, so state and include references in the project's milestone schedule and the deliverables listing.
Custom development and test system environment	Same as previous item
Business design and technical design	Same as previous item
Interface/ integration/legacy systems requirements	Same as previous item. The solicitation must provide all known information about these so suppliers can sufficiently estimate and propose an approach and these requirements should be included in the final contract's SOW, milestone schedule and list of deliverables.
Data conversion	The agency should know and relay the condition of data that requires conversion. Typically, this can be a high cost and/or performance risk vulnerability area.
Bill of material	List all components of software and hardware and expected delivery dates
Testing	Include requirements for any installation, configuration, system, functional, product, beta/production testing and final acceptance testing. Consider carefully the testing duration and environment to emulate a true-to-life test.
Acceptance criteria and acceptance procedures	Include specific acceptance criteria for all deliverables from paper reports to final system turnover. It is advisable to define the agency approval time, supplier resubmit time and so on. Make sure that no conflicting information is provided here and/or in the actual contract language.
Risk management process	Include written requirements/procedures for contract duration and enhance frequency and risk areas (cost, schedule, design/development, interface, etc.) for monitoring/reporting depending on the complexity of the procurement. Written reports/deliverables may also be required. Establishing an escrow account may also be necessary for protecting ongoing

	use of supplier software in the case of supplier bankruptcy or other business change that could interrupt business continuity.
Quality control/assurance requirements	Describe all requirements for quality control by the supplier, quality assurance and monitoring by the agency or an independent IV&V resource, including all required plans, scheduled reporting and details around the how and when of metrics capture/validation. See Chapter 21 of this manual for an entire discussion of performance-based contracting and service level agreements.
Configuration/change management/engineering decision traceability requirements	Describe/list all required schematics, engineering drawings, plans, documents and other traceability deliverables to continue agency operational independence if necessary and to capture historical experience for future reference.
Project management requirements	Depending on the complexity of the procurement, these requirements can be simple or severe. Project management responsibilities can be shared between agency and supplier or performed by only one of the parties; however, it should be clearly stated. Certain Commonwealth project management standards may be required for major projects and those requiring VITA oversight.
Training and documentation requirements	May include offsite or onsite training as best-suited for the agency's budget. Include the number of participants, locations, type of training to be accomplished and all details as to trainer-led, train the trainer, classroom, computer or web-based, etc.
Meetings/reviews (design/project status/reviews)	Use for project control and to maintain project integrity and accountability. The supplier may or may not be required to attend; however, if they are they will include travel in their pricing. Virginia Department of Accounts per diem regulations do apply.
Maintainability and reliability and/or support and maintenance requirements	Include all requirements for maintenance and support while under warranty and for any out-years as budgeted and included in the contract. The related support services will normally be based on the supplier's regular commercial offering, unless otherwise negotiated.
Performance/functionality requirements	Include fault isolation, min-max tolerance parameters, mean-time-between failures, environmental conditions, etc. Service level expectations and incentives for meeting them may be included and monitored, for full payment or established percentage reductions to the supplier as necessary to encourage successful performance.
Contract deliverables	List all hardware, software, system/solution, and paper deliverables such as QA/QC plans, configuration control plans, test plans, IV&V plans/reports, monthly status reports, risk assessment plans, project/milestone plans, GANTTs, etc. Include date due, quantity, any required format, media (paper, electronic, CD, DVD, etc.), when due, to whom/where for submission, days agency has to review/accept.
Standards/specifications/ directives	Include all required agency/VITA/COVA/federal, commercial or industry, standards for SEI process, IT accessibility/508 compliance, HIPAA, environmental, packaging, size, format, etc., and specify if these are available for viewing or included

	as attachments. Be sure to include any baseline drawings or specs, glossary of technical terms, organizational charts, etc. Be sure not to overlook or exclude relevant Commonwealth standards located at this URL: https://www.vita.virginia.gov/it-governance/itrm-policies-standards/
Govt. or supplier provisions	Specify any equipment, facilities, materials and resources that will be provided by the Commonwealth to the supplier or vice versa for contract performance. Include provide-by dates, transmittal requirements and return procedures.
Project schedule requirements/period of performance	Provide overall term and a milestone schedule (or request a proposed one from suppliers that will be included in any resultant contract) with expected or definite dates (calendar or "days after award"). Take project planning and milestone to the lowest level to best monitor performance status. Consider any project dependencies that may affect milestones and the overall schedule.
Place of performance	If other than supplier location, state the locations and percentage of time at offsite premises; include meeting attendance for supplier. If performance to take place at VITA or other authorized user location, be specific in expectations for attendance, background checks, office access, etc.
Special/key personnel requirements	If a requirement is in the solicitation for supplier to provide resumes of key personnel, these individuals can be named in the final negotiated SOW with a requirement for agency written approval for any replacements during the contract term. Include all this language then in the solicitation. If certain personnel are key to project success, name them specifically and designate how they will be replaced and when if they leave the project for any reason.
Pricing type	Identify that performance will be based on time & material and/or fixed price; however, the actual pricing schedule will be a stand-alone exhibit to the contract.
Technical point(s) of contact	Provide the names and contact information for the designated project managers and/or technical representatives, updating by contract modification as necessary during contract performance.
Any special warranty requirements	Make sure these do not duplicate any general warranty terms placed elsewhere in the contract document.
Security and/or access requirements	Include all agency/VITA/Commonwealth physical access and data access (hardcopy and electronic) and hosting requirements. VITA security requirements are located at this website: https://www.vita.virginia.gov/it-governance/itrm-policies-standards/ and reference to it should be included in the SOW, if applicable to the IT procurement. Dialogue with your VITA AITR/Project Management representatives regarding this is crucial to building any of these requirements.
Enterprise Cloud Oversight (ECOS) Requirements	Check the VITA statewide contract being used to issue this SOW. If it is not a Cloud Services or Software as a Service (SaaS) contract and does not include required Cloud/SaaS terms, or if the contract scope does not authorize and the product list does not include SaaS products, contact

	scminfo@vita.virginia.gov before going any further to determine next steps. If the contract does include the required Cloud/SaaS terms, contact enterpriseservices@vita.virginia.gov to determine if the particular SaaS product has been ECOS approved or not and to determine next steps.

12.3 Unique IT procurements

For a full discussion on **solution-based procurements** (subsection 12.3.1 below) please go to Chapter 24 of this manual. For a full discussion on **performance-based contracting** (subsection 12.3.2 below) read Chapter 21 of this manual. Valuable information is also provided in Chapter 8. It is highly recommended that procurement officials refer to these additional chapters to follow specific technical/functional/performance requirements and solicitation guidance that is not duplicated here, but that will greatly impact the approach and time for developing the requirements definition, scope statement and SOW documents.

12.3.1 Solution-based and complex IT procurements

Solution-based RFPs ask suppliers to propose an IT business solution to an agency's identified problems and requirements. Solution-based RFPs briefly state the business need, describe the technology problem to be solved, and/or provide minimal specification requirements. The use of solution-based RFPs allows suppliers who are technology subject matter experts to use their broad-spectrum market knowledge, creativity and resources to propose innovative cost-effective technology solutions. Solution-based RFPs may request suppliers to provide a solution for only part of a business problem or to propose high-level concept-type solutions which are evaluated based on a supplier-provided detailed set of requirements.

By their nature, specifications and requirements set limits and thereby eliminate or restrict the items or solutions available for the supplier to include in its proposal. Technology specifications should be written to encourage, not discourage, competition consistent with seeking overall economy for the purpose and technology solution intended. An agency is then able to identify the technology solution, not a particular product or service, which will best meet its technology or business need. Part of the decision-making process of when to use a Solution-based procurement involves performing a risk analysis whereby the project team resolves the following questions:

- Does the technology business problem present an opportunity for mutually beneficial risk sharing between us and a supplier?
- What factors could significantly impact the probability of completing our project on time and within budget?
- Is it possible to evaluate the proposed solutions equally?
- Can the solution(s) be evaluated based on a total cost of ownership analysis incorporating the anticipated cost of supporting the proposed solution and other financial options?

When preparing a solution-based SOW, some components will be different than a non-solution-based SOW. A solution-based SOW should include:

- The agency's organizational background and current business environment,
- A specific list of processes and procedures related to the project, legal or business mandates,

- Any project procedural or process documentation,
- The project's funding source,
- A clear definition of the agency's current technical environment including all current hardware and software being used, could be used or should be used to address the project requirements,
- A definition of the business or technology problem to be solved, but not a definition of the desired solution or the problem in terms of a desired solution,
- Specifications that describe the characteristics of a technology product, service or solution being sought.

Use technology questions to drive specifications instead of including mandatory requirements in the solicitation. The goal is to invite maximum reasonable competition while procuring the best technology solution for the Commonwealth. Pose questions to suppliers in the solicitation to drive requirements, such as: "What is the industry standard for this product and does your product(s) meet or exceed such standard?" The proposed definitive responses, as negotiated, will then become part of the final SOW in the contract.

12.3.2 Performance-based IT procurements

Performance-based contracting (PBC) is a procurement method that structures all aspects of the procurement around the purposes of the work to be performed instead of describing the manner by which the work is to be performed. PBC allows agencies to acquire products and/or services via contracts that define what is to be achieved, not how it is done. PBC gives suppliers the freedom to bring new approaches to the project. When a contract is based on performance, all aspects of the procurement are structured around the mission of the project, rather than the manner in which it is to be done. The procurement seeks to elicit the best performance the private sector has to offer, at a reasonable price or cost, by stating the project's objectives and giving suppliers both latitude in determining how to achieve them and incentives for achieving them.

The SOW will provide performance standards, rather than spell out what the supplier is to do. PBCs normally contain a plan for control and a plan for quality assurance surveillance. In addition, the contract typically includes positive and negative performance incentives. This is accomplished through clear, specific, and objective contract requirements and measurable outcomes, instead of dictating the manner by which the work is to be performed or broad and imprecise statements of work. PBC describes the work in terms of the results to be achieved and looks to the supplier to best organize the workforce to achieve those results. Additional suggestions for preparing the PBC-based SOW include:

- Express desired performance outputs in clear, concise, commonly used, easily understood, measurable terms.
- Do not include broad or vague statements, overly technical language or detailed procedures that dictate how work is to be accomplished.
- Structure the SOW around the project's objective(s) or purpose of the work to be performed; (i.e., what is to be performed rather than how to perform it). (Example: instead of requiring that the lawn be mowed weekly or that trees be pruned each Fall, state that the lawn must be maintained at a height of 2-3" or that tree limbs not be allowed to touch utility wires or buildings.)
- Performance requirements should enable assessment of work performance against measurable performance standards; rely on the use of measurable performance standards and financial incentives in a competitive environment to encourage competitors to develop and institute innovative and cost-effective methods of performing the work.

The most important element of a PBC, and what distinguishes it from other contracting methods, is the results that are desired. Many procurements are directed by the agency in the form of exact specifications or requiring "key personnel" to be assigned to a service contract. Attempts by the supplier to suggest alternative ways of approaching the work are usually rejected with the suspicion that the supplier is trying to reduce costs to increase profits resulting in an inferior outcome. The key attributes of PBC are—outcome oriented; clearly defined objectives; clearly defined timeframes; performance incentives, and performance monitoring. By describing requirements in terms of performance outcomes, and not requiring detailed specifications, agencies can help achieve the following objectives:

- Maximize performance—allow a supplier to deliver the required service based on its own best practices and the customer's desired outcome;
- Maximize competition and innovation—encourage innovation from the supplier base using performance requirements;
- Minimize burdensome reporting requirements and reduce the use of contract provisions and requirements that are unique to the state;
- Shift as much risk as possible to suppliers so they are responsible for achieving the objectives in the Statement of Work through the use of their own best practices and processes; and
- Achieve cost savings through performance requirements.

12.4 Final quality check of the SOW
The following questions will help in the final quality review of the statement of work:

- **Overall**: Does the SOW clearly define and support all agency/project requirements? Is it consistent with the requirements definition and statement of scope documents and does it include specific tasks, work breakdown structure requirements, deliverables, and milestone/schedule requirements?

- **Technical, functional and performance requirements**: Are the technical, functional and performance requirements complete and adequately detailed, described and consistent with all agency/project needs and requirements to motivate supplier understanding and success? Are all necessary agency/VITA/Commonwealth of Virginia/federal security, confidentiality, accessibility, technology and/or best-practice specifications, standards and directives included?

- **Deliverables**: Do all required deliverable(s) support the project's needs? Are they necessary? Are all deliverables including hardware, software, design/development, testing, services, reports, project reporting, status, metrics, etc. specified, as well as when, where, how they should be delivered? Should deliverables be tied to the technical requirements, milestones, and/or supplier payments? Should any payment retentions be included to incentivize supplier to meet the deliverables' or milestones' schedule, and/or as a mitigation for overall project non-performance or non-acceptance?

- **Key personnel**: Does the project require and does the SOW identify key personnel or are other supplier staff qualifications and levels needed? Have project points of contact and information for both agency and supplier been clearly identified?

- **Processes and resources**: Have the business and technical processes, resources and/or facilities to ensure satisfactory performance been properly identified and

addressed? Are supplier process plans for evaluating or measuring supplier performance and status necessary?

- **Inspection and testing**: Does the project warrant inspection and/or testing? Have we addressed the need for this based on the effort's technical requirements, performance specifications, level of compliance, and the need for mitigating performance risks?

- **Supplier Audits**: Will supplier-required licensing or other customer compliance audits be allowed; and, are all your agency-specific, Commonwealth or VITA access requirements or restrictions for such audits included?

- **Acceptance and testing**: Are sufficient testing and/or acceptance criteria, including acceptance of deliverables, testing and final acceptance included? Are performance-based requirements, metrics and measurements being used for this procurement and are they adequately described? Is it necessary to define if testing or acceptance must occur at varying phases or subsystem completions, prior to implementation/cutover or at the end of performance or on a per deliverable basis? Do these support the technical requirements and performance specifications? Who should develop the test plans, conduct the tests, and verify test results? How long will the agency have to test or approve the deliverable(s), services or solution prior to final written acceptance and has the length of time supplier will have to remedy been included?

- **Project schedule**: Does the project's overall schedule and/or milestone schedule support the project's requirements? Are the requirements reasonable for the work being accomplished? Does the schedule include downtime for changes, unforeseen problems or other schedule slips? What is the likelihood of schedule slippage due to interdependency, interface, or conversion issues? Does the SOW consider increased labor or production (and related costs) to meet a non-flexible schedule? Does the agency need to address any urgency or contingency information relating to schedule?

- **Reliability and maintainability (RAM):** Are there requirements for RAM or integrated logistics support or upgrades and enhancements? Have these requirements been adequately defined and do they need to include performance specifications?

- **Maintenance/service/training**: Are there requirements for training, ongoing technical support, extended or special warranties, maintenance and/or service? Have all of these and their respective duration and location needs been clearly addressed? Are there any potential conflicts between these requirements and the standard business offerings within the market area of this project?

- **Project reviews and supplier performance management**: Are program reviews or supplier surveillance necessary for monitoring performance? Does the SOW include sufficient requirements for periodic project status reviews, design reviews, or access to supplier's facilities for surveillance visits? Are there clear performance objectives and service levels, if required? Does the SOW establish clear and attainable positive and negative incentives to those performance objectives and service levels? Does the SOW include a requirement for a quality control plan from the supplier and/or quality assurance surveillance plan for agency monitoring? Does the solicitation address the need for an independent IV&V resource if one is intended?