

SAR FAQs

What is the purpose, and more importantly the value of the Architecture Review Process?

The System Architecture Review, or SAR, is a process that brings sponsors, administrators and technologists together to help ensure that technology solutions for the State of New Jersey are conceived, designed, developed, and deployed in an effective and efficient manner, to maximize the benefits and functionality of the technology and align IT investments with business needs at the Enterprise level, while minimizing its cost and risk. The SAR ensures compliance with existing standards and practices, controlled introduction of new technologies and services, and appropriate reuse of existing technology, to increase returns on investment and decrease total costs of ownership.

Enterprise Architecture provides a framework for discussing business problems and ultimately solutions across five broad perspectives:

1. Contextual – the Business Owner’s perspective
2. Conceptual – the Architect/Planner’s perspective
3. Logical – the Engineer/Designer’s perspective
4. Physical – the Builder/Developer’s perspective
5. As-Built – the implemented System/Solution

The system architecture review process recognizes that once an agency has identified a problem to be solved in the Contextual perspective, and before the solution is implemented in the As-Built perspective, there are three architectural reviews that form the basis of our architectural review process:

- Conceptual – Are we leveraging what should be leveraged? Are we building new things so they can be leveraged? This is the hand-off from Business Owner to IT Architect.
- Logical – Are we designing solutions consistent with practices and standards to meet business objectives? This is the hand-off from IT Architect to Engineer.
- Physical – Are we building solutions consistent with the logical design to achieve business objectives? This is the hand-off from Engineer to Developer.

These three reviews were instituted and have evolved and been refined over the past few years to provide considerable value to all parties. They have eliminated in large part the informal, undocumented approach of all things happening at once and hoping for the best. A fourth review – the Implementation Review – is performed just before implementation of the As-Built solution to make sure all aspects of the physical environment are aligned and documented, and the support teams are ready.

When is a SAR needed?

A SAR is needed if:

1. You are developing a new application. A new application is one that has never existed in the development environment before. New applications are normally automation of existing manual processes or new legislative mandates.
2. You are installing new hardware into the Garden State Network (GSN).
3. You are migrating an existing application to a different technology. Examples would be if you are moving a mainframe application to a web environment, a .NET to a J2EE environment (or vice versa) or a client server application to the Web.
4. You are changing a technology within an existing application. For example, you switch from Oracle to Crystal Reporting, you choose a different payment vendor or you switch to a different database.

5. You are changing a technology outside an existing application. For example, adding or changing an extranet or firewall connection.
6. You are making significant enhancements/modifications to an existing application. If you are just correcting a coding problem, changing a field position or color you probably don't need to come through a SAR. But, if you are adding or removing a process, you may need to complete a Business Case Review, or update your Logical and/or Physical System Architecture Document. Contact sar@oit.nj.gov to find out where in the process you should begin.

Enhancement/modification examples include, but are not limited to:

- e-mail functionality
- e-payment functionality
- Reporting functionality
- Adding/removing a server call
- Adding/removing a web service call
- MyNewJersey Portal functionality
- Web-enabling a mainframe or desktop application
- Creating/removing application specific functionality

7. You want to deploy a Commercial off the Shelf (COTS) Package.
8. You have already appeared before the SAR group with this application, but have made changes to the application design (see #6).
9. You will be issuing a Request for Proposal or Request for Quotation that includes one or more of the above SAR criteria.
10. You are developing or requesting the development of a system that will be used by State of NJ employees, businesses and/or citizens that will be **HOSTED** in part or fully outside State of New Jersey infrastructure.
11. You are developing or requesting the development of a system that will utilize toolsets or services that are found outside State of New Jersey infrastructure. (Software as a Service, SaaS).
12. When in doubt, fill it out. SAR surveys are reviewed before a meeting is scheduled. Based on your survey it may be decided that you don't need to appear at a normally scheduled meeting, but might rather have a smaller meeting, or just an e-mail or phone discussion.

At what point in my development process should I fill out a SAR survey?

The SAR is a multi-phase Integration Planning Process consisting of 4 distinct review points that are held at various stages of the project lifecycle. Templates exist for each of the review points and must be submitted for each of the review points to occur. These templates will help capture the information needed within each phase.

1. The first phase is the **Business Case Review**. In an effort to emphasize the importance of the agency business owner engaging with the process early enough for it to have value, it was decided to rename the Conceptual Architecture Review the "Business Case Review". The purpose of this stage of the process did not change, only the name.

It is NOT the purpose of this stage to have the business justify its business case – that is an agency activity that should be accomplished through the agency's internal budgeting and prioritization sessions. **The business must, however, be able to explain its business case in a way that enables meaningful evaluations of technology options.** This review will be attended by an Affinity Group member, Chief of Information Architecture, Chief of Information Security, Chief of Enterprise Architecture, Director of Infrastructure Support Services and representatives of the Program Management Office and the Business Sponsor of the proposed project. A Business Case Review is not a review of the "Business Case" for approval, but rather a review of potential technology solutions for alignment. Because of this, the review should be performed before an RFP or RFQ has been generated, before a vendor or product has been selected, when a project/initiative is in the business requirements phase to have the most value.. In this phase, a client first starts to discuss the potential need for a solution to a problem or opportunity. This is the opportunity to discuss initiatives or solutions that are in development or production that might be of benefit to the business owner, and lay the foundation for infrastructure and development standards. The Business

Case Review document should be submitted as soon as possible following the decision that an existing problem or new process requires a business solution.

The Business Case Review will:

- Allow the business owner to enumerate, document, and prioritize the business problem that this project is addressing to provide a context for the remainder of the conversation.
- Ensure that the project aligns to the agency's strategic business plan.
- Ensure that the project aligns to the State's enterprise IT infrastructure, processes and standards.
- Allow for discussions early in the process for:
 - adding new technologies and/or methodologies;
 - informing the business owner of existing physical and information assets that can be leveraged to address business problems and lower cost, complexity or developmental time or improve functionality;
 - considering how physical and information assets can be leveraged elsewhere;
 - identifying – at a high level – the types of projects that might impact IT capacity down the road so that proper planning can take place;
 - identifying to the business owner the cost of certain decisions – such as “24x7 High Availability” – to enable the business to make the best decision.
- Provide an early warning point for capacity needs in our shared infrastructure environment.
- Discuss the Benefits, Costs, and Risks of doing/not doing the project – whether they be business, technical or financial.
- Ensure awareness and support from all operational units that will be involved with and/or impacted by this project and form the baseline for the subsequent architecture and implementation reviews.
- Be prepared by the Business Sponsor.

Therefore, this stage must involve the agency business owner and the central IT organization, as it is the business-IT hand-off. Absent this stage, the handoff of expectations from business to IT occurs without formal documentation or discussion. The result is considerable unnecessary effort and costs downstream as issues that should have been identified and resolved early are discovered haphazardly, accidentally, or not at all. Absent this stage, reusability and leveraging of assets happens rarely if at all. Absent this stage, the State does not always invest taxpayers' money wisely.

2. The second phase is the **Logical System Architecture Review**. This review will be attended by the Business Sponsor, Project Manager and the Architecture Review Team. It will be performed in the Elaboration Phase. The Elaboration Phase is where the project starts to take shape. In this phase, the project/initiative is defined in more detail and the architecture gets its basic form. It is here that discussions about how the project will/should fit into the infrastructure (network, storage, security, access needs) are decided. Purchases for hardware and/or software cannot occur until an LSAR review has taken place.

The Logical SAR will:

- Ensure that capacity, resources, hardware and software needs are identified.
 - Ensure that infrastructure requirements are determined.
 - Include Logical Design Documents and an up to date Business Case Review document.
 - Be prepared by the Project Manager with input from the Solutions Architects/Engineers.
3. The third phase is the **Physical System Architecture Review**. This review will be attended by appropriate representatives from Infrastructure Support Services (ISS), Architectural Standards and Enterprise Technologies (ASET), Information Security and Disaster Recovery as well as the Project Team. It will be performed in the Construction Phase. In this phase, the main focus goes to the development of components and other features of the system being designed. This is the phase when the bulk of the coding will take place for application development projects.

***Note:** any changes to the system design that would result in a modified logical design must generate a follow-up Logical SAR and review.*

The Physical SAR will:

- Determine if project deadlines and programming and infrastructure requirements have been identified and met.
- Ensure that an up to date Business Case Review document, Logical SAR document, and Physical Design document have been submitted.
- Be prepared by the Project Manager with input from the Developers, Application DBAs and the necessary Technical Architects.

4. The fourth phase is the **Implementation Review**. This consists of an **ON-LINE** review that will be performed by the Program Management Office, the OIT ITIL Change Manager and the appropriate representatives from ISS, Architectural Standards and Enterprise Technologies (ASET), Information Security and Disaster Recovery. It assures that the project has met all the necessary requirements to move from the development phase to the production phase.

The Implementation Review will:

- Determine whether the project is ready for deployment.
- Assure that the date for deployment, impact on other systems and related deployment activities have been assigned and agreed to.
- Be prepared by the Project Manager with assistance from the Developers, Application DBAs and the necessary Technical Architects.

Where do I find blank documents?

The current Business Case Review, Logical, Physical SAR and Implementation Review Templates can be found on the NJ IT website at <http://www.nj.gov/it/reviews/>.

Where do I send the completed SAR?

Initial SARs and updates should be emailed to sar@oit.nj.gov. Any updates submitted should identify the reason(s) for submission.

What happens next?

Business Case Reviews are held on Monday afternoons. Logical and Physical SAR meetings are held on the 2nd and 4th Thursdays of each month. Your submitted SAR documents will be reviewed and you will be notified when and where the next meeting is held. The Implementation Review document must be submitted at least 2 weeks prior to the anticipated deployment date. An **ON-LINE** review will be completed within one week of that submission and a "Can Go" notice will be sent to the Project Leader after the submission has been determined to be complete.

Reference for BCR section General Project Technology

Information Asset Classification

State of New Jersey – IT Circular 130 – Information Asset Classification Control Policy requires all departments and agencies take responsibility to protect the confidentiality, integrity, and availability of information generated, accessed, modified, transmitted, stored or used by the Executive Branch of New Jersey State Government, irrespective of the electronic or digital medium on which the information resides and regardless of format. All departments and agencies must be aware of, determine classification of, and maintain an inventory of all information assets of which they are either Owners or Stewards according to the Information Asset Classification and Control standard and procedures.

Federal Government – the Federal Information Processing Standard (FIPS) 199 requires that information assets be classified as High-Impact, Moderate-Impact or Low-Impact in terms of the risk to their confidentiality, availability and integrity. Your assessment of these dimensions will be used to develop recommendations for the appropriate technical solution.

In General, a higher Confidentiality, Integrity or Availability designation increases the cost to build the application, increases the cost of the infrastructure to host the application, increases the cost to maintain the application and reduces the performance of the application.