

## **National Institute of Allergy and Infectious Diseases (NIAID) Bioinformatics Integration Support Contract (BISC), Phase I & II**

The NIAID BISC project is focused on creating a distributed scientific data management solution for the NIH, NIAID, Division of Allergy, Immunology, and Transplantation (DAIT) data. The four goals identified for BISC are:

- Link genomic, basic scientific, and clinical data from a variety of sources
- Enable scientists to easily contribute, access, and exchange complex, high-quality research data
- Serve as an archive for research results data for all research projects supported by NIAID/DAIT
- Enhance the scientific discovery process through data integration and novel cross-platform analysis approaches.

This project is being executed in two phases: a prototype phase was completed on June 30, 2004, and an implementation will be completed on September 29, 2010. The BISC solution, initially implemented in November 2005, will continue to evolve as new requirements are defined by the client and the user community and implemented by the Northrop Grumman BISC Team.

The BISC system design was developed using the SEI CMM Level 3 and IEEE/EIA 12207 processes and the RUP methodology. The purpose of the BISC project is to provide advanced information technology support in the production, analysis, archiving, and exchange of scientific data for a diverse community of life science researchers by: (1) conducting a requirements assessment of bioinformatics needs in a diverse community of basic and clinical researchers, (2) prototyping a system for the collection, storage, and analysis of data, (3) designing, implementing and maintaining a data warehouse of genomic, proteomic, and all other related data relevant to the research of these programs, (4) developing or selecting specialized applications and providing technical assistance to participating centers in the capture, storage, management, query, and analysis of these data, and (5) measuring performance and benefits resulting from these technical support activities and planning for their appropriate development and use in the future.

The solution delivered for this project is The Immunology Database and Analysis Portal (ImmPort) system. The ImmPort system is intended to serve as a long-term, sustainable archive of data generated by investigators funded through NIAID/DAIT. The core component of the ImmPort system is an extensive data warehouse containing an integration of experimental data supplied by DAIT-funded investigators and data extracted from a variety of public databases. The ImmPort system is freely accessible as a public resource to all investigators funded through DAIT. The requirements were primarily derived from the data storage and analysis needs of the scientists involved in the two DAIT research programs designated as pilot projects by the BISC Program Officer.