Independent Verification & Validation

Reducing Risk in Critical Systems through IV&V

Every software development organization should include Independent Verification and Validation (IV&V) as part of its process, especially if the system is critical in nature. Whether we're talking about space exploration, the auto or aircraft industry, the medical industry, or the nation's banks, any degradation of software could be catastrophic.

IV&V achieves two primary functions. *Verification* confirms that the system is being developed to specifications—in other words, that the system is being built right. *Validation* evaluates the software products to ensure they meet the needs of the mission and the customer—in other words, that the right system is being built. When IV&V is part of the life cycle all the way through the process, beginning with the conceptual design, potential flaws are discovered promptly.

The Independent is defined by three parameters: technical independence, managerial independence, and financial independence in regards to the development organization. The extent to which each of the three independence parameters (technical, managerial, financial) is determines the degree of independence achieved. KeyLogic IV&V specialists begin their work by forming a cooperative relationship with the customer. We share the same goal—a successful implementation. KeyLogic wants to reduce your agency's risk—whether that is about protecting human life, providing assurance in the soundness of your investments, or avoiding high maintenance costs.

Need IV&V? Benefits of contracting with KeyLogic include:

- **Technical Expertise.** KeyLogic brings IV&V experience from across agencies and industries, giving us greater overall perspective on how to achieve your desired results. In fact, KeyLogic is an active member of the Institute of Electrical and Electronics Engineers (IEEE) 1012 Working Group, which determines standards for system, software and hardware verification and validation.

- **Cost and Time Savings.** IV&V is often thought of as "testing," even though testing actually happens at the end of the IV&V process. IV&V conducted throughout the life cycle catches defects early on—avoiding expensive, time-consulting rework.

- **Cooperative Solutions.** IV&V is not just about performing analysis and providing recommendations. KeyLogic IV&V specialists work closely with client teams to understand the overall mission and to cooperatively develop credible solutions.

To learn more about how KeyLogic IV&V services can help you to assure the success of your critical systems, please contact us today at 888.204.9649.