NORTHCROSS
G R O U P

Independent Verification & Validation

Too often, the business promises of technology fall short. Complex systems and the integration of disparate components have challenges to making sure the end results match the original intent. Even the most disciplined configuration management can lose sight of the intended business purpose and stray from the stated requirements.

The Northcross Group (NCG) practices industry standard Independent Verification & Validation (IV&V), adding its unique blend of technical depth and subject matter expertise. This approach combines an ISO quality management system framework with qualitative business value traceability.

At the project level we examine the expectations, authority and responsibilities of all stakeholders. We assess the procedures, controls and interfaces between individuals and information; along with activity monitoring and process measurement. We examine the system architecture, technical approach, and the implementation engineering for a complete and detail-oriented perspective.

NCG's IV&V efforts are applied either across a project's lifecycle or targeted at specific phases. These *phase dependent* and *phase independent* IV&V activities allows flexibility to apply the appropriate levels of oversight based on specific projects and operating environments.

Phase Independent Activities

Phase independent activities can be applied regardless of a project's phase. The value of phase independent activities is maximized when performed throughout the project lifecycle.

Value Propositions

- Project Oversight and Governance
- Identify Problem Areas
- Understand Project Challenges
- Manage & Mitigate Risks
- Information for Corrective Actions

Assessments & Analyses

- Architecture/Enterprise Integration
- Risk Management
- Requirement Capture Adequacy
- Requirements Traceability
- Design Reviews
- Technical Approach/Code Review
- Testing & Quality Assurance
- Operational Impact
- Deployment & Supportability

Architecture/Enterprise Integration Assessment

NCG assesses the project architecture within the context of the organization's overall enterprise architecture. NCG evaluates plans for operational deployment, post-deployment support, and infrastructure in place to identify or mitigate issues should they arise.

Risk Analysis and Assessment

NCG uses an industry standard approach that accounts for likelihood and severity when assessing functions for potential risk. Both software and people process functions are reviewed to capture not only automation factors, but also possible operational challenges.

Traceability Analysis

From requirement to deployed functionality, details are derived and development approaches are applied. But the end result must fulfill the originally required intent. NCG examines the evolution from requirements to design elements to developed functionality, ensuring traceability and requirement fulfillment.

Operational Impact Analysis

The introduction of a new or enhanced system impacts existing processes and procedures. Data and information may need to be converted, transferred, or updated; along with a number of other timing dependencies. NCG looks at the performance and operational usage impacts and needed adjustments—making sure the gaps and variances are clearly understood.

Phase Dependent Activities

In support of specific project phase activities, NCG performs targeted analyses of both process performance and the results produced. NCG can customize activities for iterative and sequential methodologies.

Requirements Reviews

NCG starts by understanding the business need and current operating environment. With this perspective, requirements undergo examination for completeness and technical adequacy. Levels of details and any possible areas of ambiguity are assessed for possible impact to other phases.

Design Analysis

NCG analyzes software, hardware, and interface designs for completeness, feasibility, and adherence to business requirements. Areas of concern are highlighted, as well as those requiring monitoring and governance.

Technical Approach/Code Analysis

NCG reviews the technical approach for code development and component integration. These reviews assess the quality and maintainability of development efforts and artifacts, along with requirement and design specification compliance.

Testing and Quality Assurance Analysis

Test plans, approaches, and materials are assessed to ensure they can effectively test and validate system readiness. Tools, facilities, data, processes, and procedures across testing and quality assurance are reviewed for appropriateness and completeness.

Deployment and Supportability Analysis

Deployment plans are assessed for coverage of technical, procedural, and validation components. Initial and post deployment supportability plans and infrastructure are assessed for base capability and service level thresholds.