

Flexible and Generic Data Quality Metrics

ABSTRACT

To improve the quality of data, it is important to first establish a baseline measurement of the DQ level, and whether that level of quality is adequate for its intended purposes. As DQ improvements proceed, interim measured levels of quality can be compared to the baseline to determine if progress is being made toward improvement objectives. Proper measurement of DQ and determination of the adequacy of DQ are dependent upon well defined DQ metrics and target thresholds. This briefing discusses a flexible and generic approach that the USAF is successfully using to construct its DQ metrics and target thresholds. The approach involves the identification of DQ subjects, component data items, and associated business rules. Metrics are specified for each critical DQ dimension. These metrics consist of a formula constructed using sample sizes and business rule violations. Assessment rules providing target thresholds are then specified for each metric and usage context.

BIOGRAPHY

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David Becker is a Principal Information Systems Engineer with the MITRE Corporation working for the USAF out of the Dayton, OH site at Wright-Patterson AFB. He is currently engaged in projects involving enterprise architecture, information quality, data strategy, and program acquisition. David has over 30 years of experience in software development and information technology. While working as an employee, consultant, and senior technical officer for several public, private and academic organizations, he has had a broad range of assignments, including senior level IT and business consulting, technical leadership and management, project management, product research & development, seminar and workshop development, college level computer science course development and instruction, industrial liaison, international standards development, systems administration, and systems analysis, design and implementation. David's particular areas of strength include business, application, data and technology architectures, systems dynamics, project management, quality management, statistical process control, information search and retrieval, and artificial intelligence.