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Providing the Right Information at the Right Time

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Measurement Services



DACS Products & Services



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Measurement

A Goal/Question/Metric Example

Business Goal:

Understand problem areas in the software business

o **A Measurement Goal.**

Analyze the final product to characterize it with respect to the various defect classes from the point of view of the organization

o **leads to this Question.**

What is the error distribution by type of error?

o **and associated Metrics.**

Number of Requirements Errors, Number of Design Errors, ...

Goal/Question/Metric (GQM)

We use the Goal/Question/Metric (GQM) method developed by Dr. Victor Basili, a DACS staff expert, to define measurement processes for software projects and organizations. This method results in metrics that are both constructive, instructive and tailored to the organization and its goals.

GQM defines a measurement model on three levels:

- ❖ **Conceptual (Goal)** - A goal is defined for an object with respect to various models of quality.
- ❖ **Operational (Question)** - A set of questions is used to define models to characterize a specific goal.
- ❖ **Quantitative (Metric)** - A set of metrics is associated with every question in order to answer it in a measurable manner.

The Lead Consultant for DACS Measurement Services is

Dr. Victor Basilli

University of Maryland,
Fraunhofer Center.



DACS Measurement Consulting Services

- ❖ **Defining Measurement Needs**
- ❖ **Characterizing Development Environments**
- ❖ **Engineering Measurement Databases**
- ❖ **Selecting Measurement Tools**
- ❖ **Visualizing Measurement Data for:**
 - **Project Management**
 - **Process Evaluation**
 - **Distributed Environments**
- ❖ **Analyzing Data for:**
 - **Prediction**
 - **Process Improvement**
 - **Decision Support**
- ❖ **Training delivered on-line, classroom, and on-site**

The primary goal of establishing a robust measurement program is to improve processes to achieve

- 1) reduced defect/error rate of delivered software
- 2) reduced cost of delivered software and software life-cycle support
- 3) reduced cycle time to develop and deliver software systems

Visit the
DACS Measurement Topic Area
on the World Wide Web at:

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