Take, for example, the technical person who is defining a product, controlling changes to it and testing it. In each of those capacities, the technical staffer needs different measurements to make reliable estimates.

What about the project manager? Sometimes he must wear the quality assurance hat. At other times the configuration management or test management hat is required. We begin to understand more of the complexities.

About 15 years ago, I was involved in a metrics collection effort for a large aerospace company. My primary job as a member of the technical staff was the creation of real-time radar process-control software. A manager came through our shop one day and said he wanted us to fill out forms to collect metric data. The information was to be used by executive managers to forecast future work.

I was working 12 to 14 hours a day, then, trying to meet a poorly forecasted schedule. The forms seemed like an added pain in the neck. Every so often I would hurriedly scratch out what information I could remember so I would have something on the forms. Certainly the information was not well-defined and was not going to be of much value to executive managers. I couldn’t see that the metrics collection was helping anyone.

People collecting metrics need to know how this work is benefiting them. Only then will they take this task seriously. And, of course, reliable forecasting, evaluating, and selecting can be done only when accurate, complete information is provided.

Specifying some requirements

Granted, this has been a quick pass at identifying metrics users and some of their needs and problems. But, already, it has let us pinpoint a significant requirement.

Each metric must be a proper subset of an integrated set of metrics. The integrated set must be usable by every member of the team as he performs various jobs. A stand-alone metric that will satisfy one need for one user in one situation is not going to help much.

Having an integrated set of metrics would lower the cost of data collection by distributing the work throughout an organization. Each person in the chain would gather and use metrics information about his own job and then store it in a database. Managers could access information from those down the chain. Naturally, the more automated the collection process, the better. But, that is a subject for another day.

Since the database is going to be used

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