

Preface

Although the process of software development is most often characterized in subjective terms, as data processing professionals we strive continuously to quantify and measure it objectively. The first paper in this issue presents a measurement methodology that should be of broad interest to our readers. Although the criteria described are easily applied, they have shown a high correlation with the objective measurement of program size and the subjective measurements of program difficulty and code quality.

As an application development tool, the System Productivity Facility (SPF) described in our second paper provides significant productivity benefits for both computing professionals and end users who may not be skilled in data processing methods. The author discusses design alternatives and trade-offs that were made in the redesign of SPF, with specific emphasis on the usability features incorporated.

One of the key system trade-offs that a systems architect must make is between user service levels and the system resources required to support them. In the on-line environment, this decision is most often made on an intuitive or *ad hoc* basis. Our third paper draws the correlation between system response time and the productivity of users engaged in interactive program development. The data presented should be of use to our readers in developing a methodology for establishing service level objectives, and in justifying the system resources required to support them.

Virtual Machine Facility/370 and its successor, VM/System Product, have come into broad use by virtue of the facilities they provide that can significantly improve the productivity of an installation's users, programmers, and systems and operations personnel. At the IBM Thomas J. Watson Research Center, VM/370 is used to support a large number of interactive users. Our final paper discusses the design and implementation of a program that monitors system usage on a real-time basis and takes appropriate action when predefined usage limits are exceeded.

Since this is my first issue as Editor of the *IBM Systems Journal*, I feel it appropriate to compliment my predecessor, Connie Thiel, for the leadership, direction, and high standard of quality that she has given the *Journal* over the past four years. She has left a void that will be my challenge to fill. Our objective in publishing the *Journal* is to provide a forum for meaningful new developments in computer systems, and to bridge the gap between the science of computers and practical applications. The key to success in meeting these objectives is the active involvement of our readers and authors. To this end I solicit your support of the *Journal* by way of your contributions of manuscripts for publication, reviews of submitted manuscripts, comments, and suggestions for papers. I look forward to working with all of you in ensuring that the *IBM Systems Journal* appropriately meets the needs of its readership.

John Lacy
Editor