



EDBP

Engineering Database Program Newsletter

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Chairman's Observations

Information technology plays an increasingly significant role in the integration and the management of engineering, design and manufacturing processes. The ability to efficiently bring forth an engineered product of high quality—from conceptualization to manufacturing—is of prime importance to the profitability of a corporation in a highly competitive global market. In the rapid prototyping a development environment with participation by cross-functional and cross-corporate teams, the vast amount of data generated must be stored and managed properly and effectively. Database systems are indispensable to manage engineering design data as well as to enhance the linkage between organizational and business units to product development teams. Information management is the key to success in a global market.

Over the past year several efforts have occurred to indicate that the technical and business community recognizes the importance of information management to productivity. Within ASME the Seventh Annual ASME Database Symposium, "Engineering Data Management: Key to Success in a Global Market," will be held in San Diego, California, August 10-11, 1993. The symposium's purpose is twofold: to publicize recent industrial and business successes in implementing engineering data management strategies for product conceptualization, design, development and support, and to present advances in research relevant to product engineering that are vital to survival in the

competitive global market environment. The program content is excellent and the keynote presentation, tutorial and 25 papers contain a wide spectrum of research and application experiences.

On a broader scale, the CALS Expo '92 in San Diego, December, 1992, was a highly successful event with large exhibits and demonstrations, over 100 presentations, high profile speakers and 10 tutorials. A highlight was an on-floor series of coordinated real time demonstrations of electronic exchange of design/manufacturing product data using CALS endorsed data exchange standards. The CALS Expo '93 in Atlanta, November 1-4, 1993, promises to expand their efforts. Of particular note has become the extension of CALS activities beyond the defense establishment to commercial applications. Especially noteworthy has been the growth of CALS interest overseas in Europe, Japan and Australia. The CALS Expo '92 included presentations by key government/industry leaders from Great Britain, France, and Germany. The CALS Expo '93 plans a more ambitious involvement of international and commercial groups.

Another recognition of the importance of information technology shows up in the current \$ 0.5B ARPA Defense conversion initiatives that provide funds to develop or demonstrate technology to improve productivity. A major portion of the funds will go to information integration design/manufacturing/enterprise efforts. These ARPA funding opportunities not only provide funds to develop and test concepts, but also create high interest by management in this area.

Initial Release of Step

The initial release of the Standard for the Exchange of Product model data (STEP) was voted to be technically complete by on February 26, 1993. Under development by the International Organization for Standardization (ISO) since 1984, the standard is to facilitate the exchange of product data across CAD/CAM & industry automation systems within diverse computer environments.

Information models being developed describe different product facets, such as geometry, topology, shape and form features, structure configuration, and functionality. These models are defined in the conceptual modeling language EXPRESS and are organized in application protocols for different application areas.

The development of the standard involves two major stages: i) The ISO committee stage, during which parts of the standard are crafted, proposed, and approved to Draft International Standard (DIS) status. ii) The ISO approval stage, in which national organizations participating in ISO vote on the (DIS). Eighty-nine countries are involved in this stage. The U.S. effort that supports the STEP is PDES, (Product Data Exchange using STEP). Testing and validation of the standard is supported by the National PDES Testbed of the National Institute of Standards and Technology (NIST).

The ISO committee stage development has already been completed for major portions of the standard, and the official DIS ballot period is under way. Several experimental and some vendor implementations of the standard's technical content are also under development. The initial release of

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