

Computer-Integrated Quality Management

The requirements for quality management systems, defined in the ISO 9000 series of standards, are also important in the implementation of EDP systems.

The ISO standards demand that quality management systems penetrate all processes within an organization. The task priorities, according to the quality loop, shift from production (implementation phase) to production planning and product development (planning phase) to procurement and sales/distribution, as well as into the entire usage phase. In the area of production, quality assurance is no longer viewed in terms of inspection and the elimination of defects alone. Instead, the production process itself becomes the focus of attention.

Quality Loop

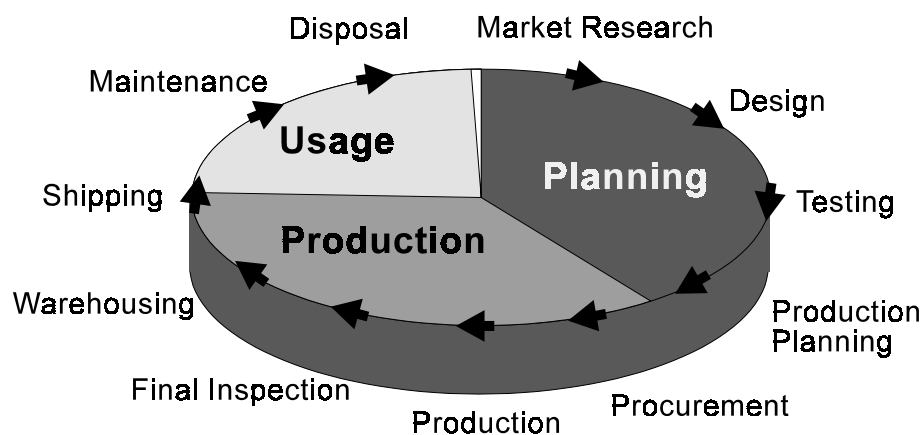


Fig. 1-1: Phase Model for the Interaction of Quality-Relevant Activities

Just as the requirements for quality management systems have changed as a result of the ISO 9000 standards, the term CAQ (Computer-Aided Quality Management) must also be redefined. CIQ (Computer-Integrated Quality Management) is a more appropriate term, because an isolated CAQ system cannot perform the comprehensive tasks of a quality management system. The SAP System takes this into consideration by integrating the quality management functions into the affected applications themselves (for example, procurement, warehouse management, production and sales/distribution), instead of delegating them to isolated CAQ systems. Because of this SAP approach, the processes described in the quality manual can be reproduced and automated in the EDP system.

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The representation of the elements of a quality management system within the SAP Systems is not only the responsibility of the QM (Quality Management) module. Instead, the R/3 System must be considered as a whole, in which all integrated modules contribute their part. Within the framework of the SAP System for example, the Human Resources (HR) module handles personnel, the Controlling (CO) module handles quality-related costs, and the Plant Maintenance module handles test equipment monitoring. As a part of the Logistics application, the QM module handles the traditional tasks of quality planning, quality inspection and quality control. For example, it supports quality in procurement, product verification, quality documentation and corrective action.

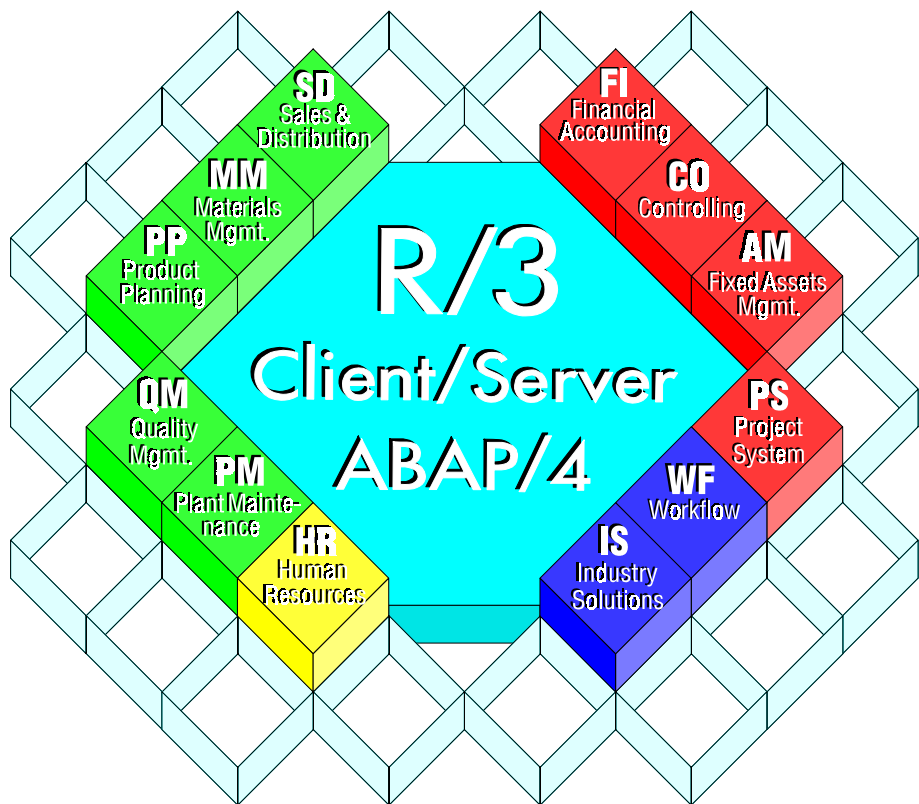


Fig. 1-2: R/3 Integration Model

**Cross-Application
Functions of Quality
Management**

In the past, the EDP environment was divided into three computer levels that were loosely tied together. Computer support for quality management was usually provided on the lowest hierarchical level only. Within the R/3 client/server network such a division is no longer discernable. The quality management functions now appear on the same level with those of logistics; the communication that previously took place on different levels of the EDP hierarchy is now an integrated process that occurs on the same level.

When viewed at the EDP applications level, the functions of quality management are increasingly influencing the areas of product planning, pro-

curement, production planning and sales/distribution. In this situation, it is not desirable to have a division along EDP lines.

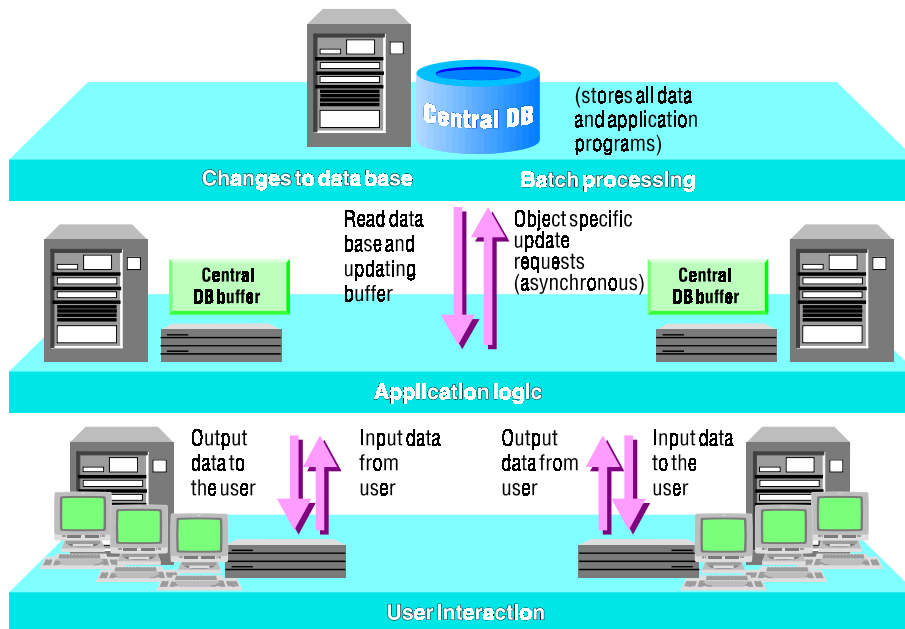


Fig. 1-3: R/3 System Architecture

The integrated R/3 System provides decisive advantages for quality management.

What basic advantages are provided by the integration of quality management in the SAP R/3 System?

The integrated system comprehensively supports the elements of a quality management system according to the ISO 9000 standards. It links the functions of quality management with all processes in an organization and makes them effective through all phases of a product's life cycle.

