

SUPPLEMENT 5-B

IDEF0

Integration Definition for Function Modeling (IDEF0) is a common modeling technique for the analysis, development, re-engineering, and integration of information systems; business processes; or software engineering analysis. Where the FFBD is used to show the functional flow of a product, IDEF0 is used to show data flow, system control, and the functional flow of life cycle processes.

IDEF0 is capable of graphically representing a wide variety of business, manufacturing and other types of enterprise operations to any level of detail. It provides rigorous and precise description, and promotes consistency of usage and interpretation. It is well-tested and proven through many years of use by government and private industry. It can be generated by a variety of computer graphics tools. Numerous commercial products specifically support development and analysis of IDEF0 diagrams and models.

IDEF0 is a model that consists of a hierarchical series of diagrams, text, and glossary cross-

referenced to each other. The two primary modeling components are: functions (represented on a diagram by boxes), and data and objects that interrelate those functions (represented by arrows). As shown by Figure 5-5 the position at which the arrow attaches to a box conveys the specific role of the interface. The controls enter the top of the box. The inputs, the data or objects acted upon by the operation, enter the box from the left. The outputs of the operation leave the right-hand side of the box. Mechanism arrows that provide supporting means for performing the function join (point up to) the bottom of the box.

The IDEF0 process starts with the identification of the prime function to be decomposed. This function is identified on a “Top Level Context Diagram,” that defines the scope of the particular IDEF0 analysis. An example of a Top Level Context Diagram for an information system management process is shown in Figure 5-6. From this diagram lower-level diagrams are generated. An example of a derived diagram, called a “child” in

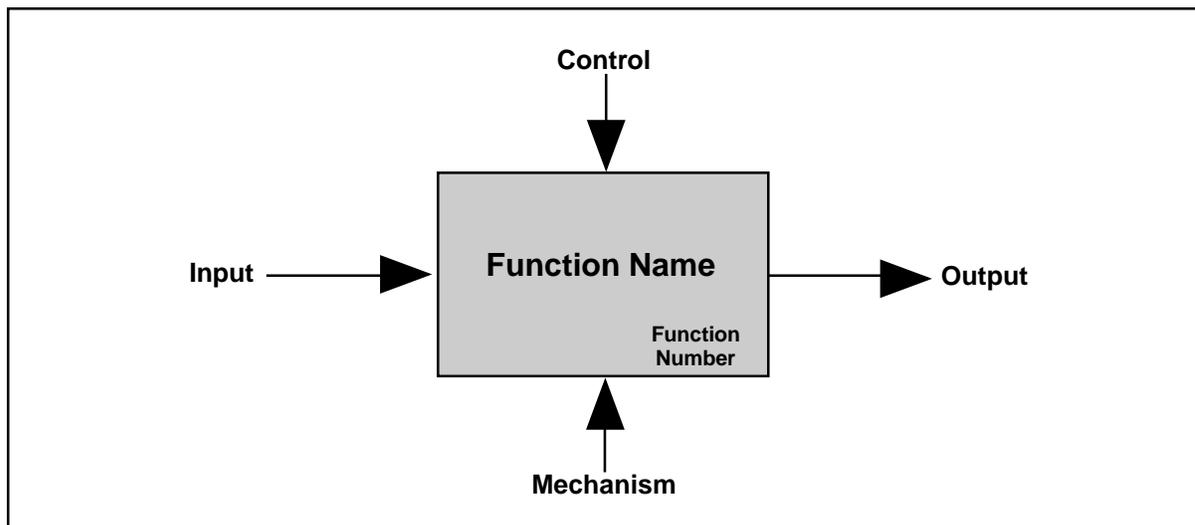


Figure 5-5. Integration Definition for Function Modeling (IDEF0) Box Format

IDEF0 terminology, for a life cycle function is shown in Figure 5-7.

An associated technique, Integration Definition for Information Modeling (IDEF1x), is used to supple-

ment IDEF0 for data intensive systems. The IDEF0 standard, Federal Information Processing Standards Publication 183 (FIPS 183), and the IDEF1x standard (FIPS 184) are maintained by the National Institute of Standards and Technology (NIST).

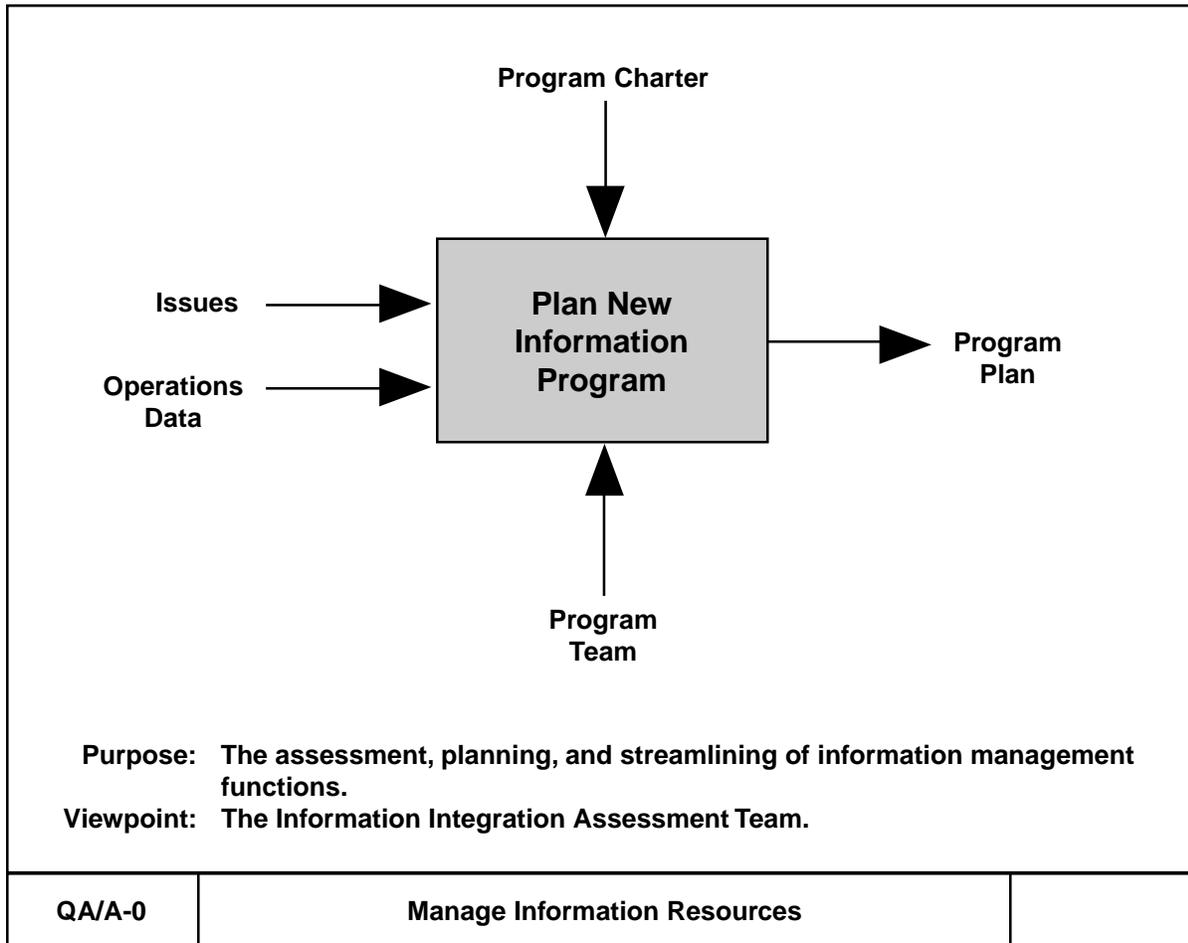


Figure 5-6. Top-Level Context Diagram

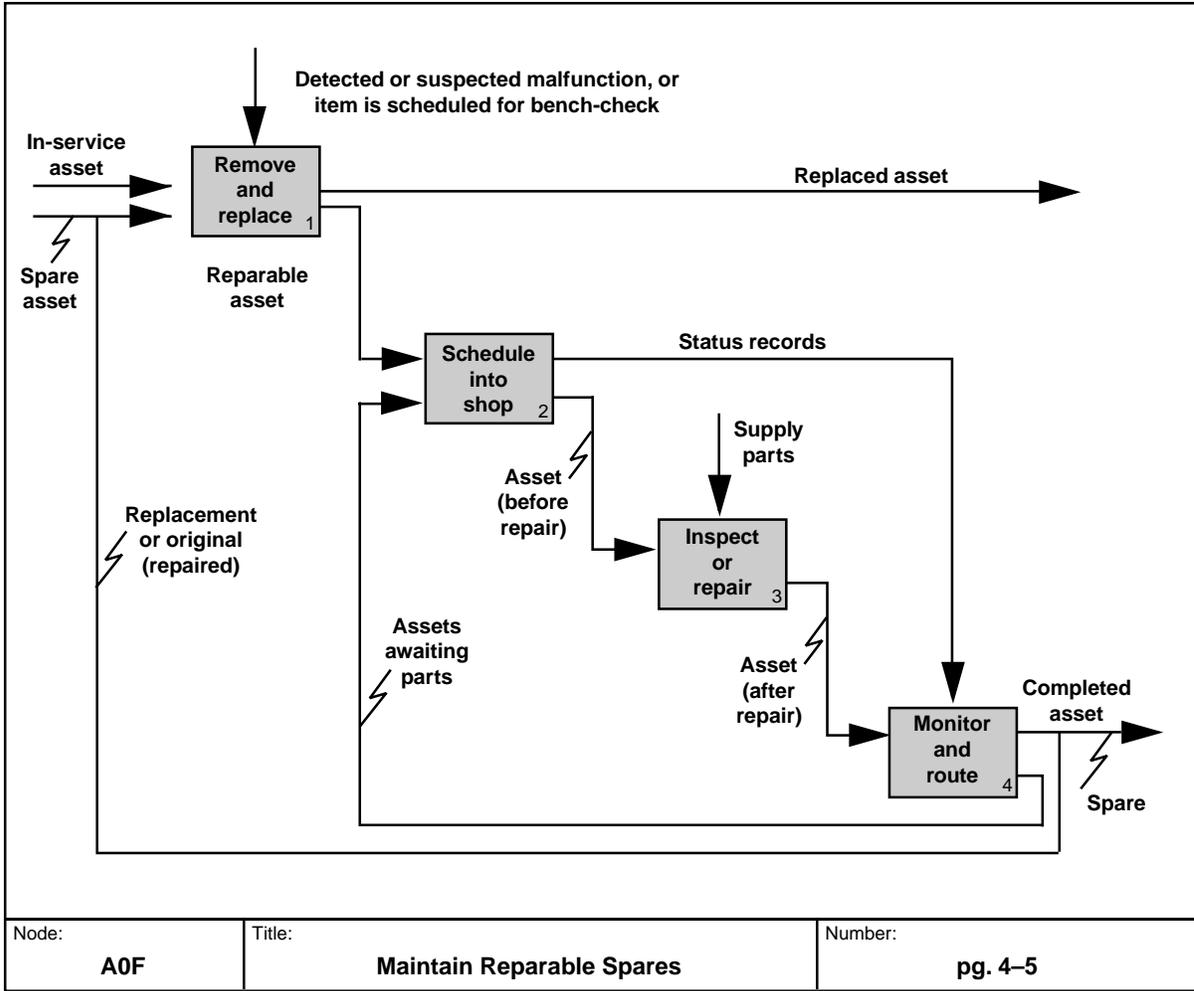


Figure 5-7. IDEF0 Diagram Example