

Modules	COBOL Subsets		
	Minimum	Intermediate	High
Required:			
Nucleus	1	1	2
Sequential I-O	1	1	2
Relative I-O .....	.....	1	2
Indexed I-O .....	.....	1	2
Inter-Program Communication	1	1	2
Sort-Merge .....	.....	1	1
Source Text Manipulation .....	.....	1	2
Intrinsic Function .....	.....	.....	1
Optional:			
Report Writer	-, or 1	-, or 1	-, or 1
Communication	-, 1, or 2	-, 1, or 2	-, 1, or 2
Debug	-, 1, or 2	-, 1, or 2	-, 1, or 2
Segmentation	-, 1, or 2	-, 1, or 2	-, 1, or 2

b. A facility must be available in the processor for the user to optionally specify monitoring of the source program at compile time. The monitoring may be specified for a FIPS COBOL subset, for any of the optional modules, for all of the obsolete language elements included in the processor, or for a combination of a FIPS COBOL subset, optional modules, and all obsolete elements. The monitoring may be specified for any FIPS COBOL subset at or below the highest subset for which the processor is implemented and for a level of an optional module at or below the level of the optional module for which the processor is implemented. The monitoring is an analysis of the syntax used in the source program against the syntax included in the user selected FIPS COBOL subset and optional modules. Any syntax used in the source program that does not conform to that included in the user selected FIPS COBOL subset and optional modules will be diagnosed and identified to the user through a message on the source program listing. Any syntax for an obsolete language element included in the processor and used in the source program will also be diagnosed and identified through a message on the source program listing. The determination of the need to flag any given source program syntax in accordance with these requirements cannot be logically resolved until the syntactic correctness of the source program has been established. The message provided will identify:

- The level indicator, clause, statement or header that directly contains the nonconforming or obsolete syntax. (For the purpose of this requirement the definitions of level indicator, clause, statement and header contained in American National Standard COBOL, ANSI X3.23-1985, Section III, Glossary, and the definition of syntax contained in

American National Dictionary for Information Processing Systems, (ANDIS), ANSI X3.172-1990, apply.)

- The source program line and an indication of the beginning location within the line of the level indicator, clause, statement or header which contains the nonconforming or obsolete syntax.
- The syntax as “nonconforming standard” if the nonconforming syntax is included in the processor but is not within the user selected FIPS COBOL subset or optional modules unless monitoring is selected for the obsolete category; in that case obsolete language elements are only flagged as “obsolete”.
- The syntax as “nonconforming nonstandard” if the nonconforming syntax is a nonstandard extension included in the processor.
- The syntax as “obsolete” if the syntax identified in the obsolete category within a FIPS COBOL subset or optional module included in the processor.

11. *Implementation.* The implementation of FIPS COBOL involves three areas of consideration: acquisition of COBOL processors, interpretation of FIPS COBOL, and validation of COBOL processors.

11.1 *Acquisition of COBOL Processors.* This publication is effective July 17, 1995. COBOL processors acquired for Federal use after this date should implement at least one of the required subsets of FIPS COBOL. If the functionality of one or more of the optional modules meets programmatic requirements, then those optional modules also should be acquired. Each optional module that is needed to meet programmatic requirements should be explicitly cited as a requirement in the order for the processor. Conformance to FIPS COBOL should be considered whether COBOL processors are developed internally, acquired as part of

an ADP system procurement, acquired by separate procurement, used under an ADP leasing arrangement, or specified for use in contracts for programming services.

A transition period provides time for industry to produce COBOL processors conforming to the standard. The transition period begins on the effective date and continues for one (1) year thereafter. The following apply during the transition period:

- a. The provisions of FIPS PUB 21-3 apply to processors ordered before the effective date but delivered subsequent to the effective date.
- b. The provisions of this publication apply to orders placed after the effective date; however, a processor conforming to FIPS PUB 21-4, if available, may be acquired for use prior to the effective date. If a conforming processor is not available, a processor conforming to FIPS PUB 21-3 may be acquired for interim use during the transition period.

11.2 *Interpretation of FIPS COBOL.* NIST provides for the resolution of questions regarding FIPS COBOL specifications and requirements, and issues official interpretations as needed. All questions about the interpretation of FIPS COBOL should be addressed to: National Institute of Standards and Technology
ATTN: COBOL Interpretation
Technology Building, Room B-154
Gaithersburg, MD 20899

11.3 *Validation of COBOL Processors.* NIST provides a service for the purpose of validating the conformance to this standard of processors offered for Federal procurement. The validation system reports the nature of any deviations that are detected. This service is offered on a reimbursable basis. Further information about the validation service can be obtained from the Software Standards Validation Group. COBOL Validation, National Institute of