1. Identification of the Proposed Interpretation

1.1 Title   **"Backward Compatible" and "Reserved"**

1.2 MDC Proposer and Sponsor

Proposer
Task Group 17
Interpretations
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1.3 Motion

None. This document supersedes X11/TG17/95-8.

1.4 History

26 Oct 1995	X11/95-137	Final version.
26 Oct 1995	X11/TG17/95-8	MDC accepted, 18:9:4.

Pro		Con	
1	Reflects MDC's intent for backward compatibility, etc.	1	Needs additional clarification
		2	Misinterprets error procedures
		3	Is not what we currently mean

22 Oct 1995	X11/TG17/95-8	TG17 accepted.

1.5 Dependencies

This interpretation is dependent upon: none.

Interpretations that depend on this interpretation: none.

2. Justification of the Proposed Interpretation

2.1 Needs

MDC discussion of proposed changes occasionally evokes "just what do you mean by *backward compatible*?" Other parties have alleged that some changes to MDC standards are not backward compatible, contradicting common understanding among MDC representatives:

- Under contract with NIST to produce a conformance test for M implementations, MUMPS System Laboratories has identified several differences between the 1990 and 1994 MDC standards as backward incompatible (X11/95-59, X11/95-60). The MDC's response to their questions identified only one (X11/95-86 #22).

- In "Preamble to the Two Appeals Hearings," Mr. Heffernan refers to a 1990 *MUG Quarterly* article "describing eleven different features in the just approved standard that the MDC planned to change in a backward incompatible way in the next revision" (X11/95-98 p 8).

2.2 Existing Practice in Area of the Proposed Interpretation

The interpretation explicates common understanding of the terms among MDC representatives.

3. Description of the Proposed Interpretation

3.1 General Description of the Proposed Interpretation

The interpretation defines the terms *backward compatible* and *reserved*, in order to advance communication both within the MDC and also with other parties.

3.2 Annotated Examples of Use

None.

3.3 Formalization

Unless otherwise stated, *program* means a strictly conforming program as defined in the conformance clause of the relevant MDC standard.

3.3.1 Backward compatible

A change to an MDC standard is backward compatible if all programs perform identically, before and after the change, with the following exceptions:

- A program that formerly evoked an error condition now performs as specified by the change.

- A change that increases a minimum quantity is not thereby backward incompatible. For example, an increase in numeric precision may cause programs to produce different arithmetic results.

- A change that defines an element or behavior that was formerly undefined or left to the implementation is not thereby backward incompatible.

Programs incorporating elements that were reserved before the change and are not reserved after the change are by definition not strictly conforming programs. A change that alters the performance of such programs is not thereby backward incompatible.

Note - *upward compatible* is sometimes used as a synonym for *backward compatible*.

3.3.2 Reserved

MDC standards reserve certain elements for future versions of the standards. A program that incorporates these elements is by definition not a *strictly conforming program*, but it may be a *conforming program* as defined by the conformance clause of the relevant standard.

Use of a reserved element shall be erroneous only if the standard declares it so. For example, a conforming program may use the reserved intrinsic function $NEXT with behavior documented in the implementation's conformance statement.

4. Implementation Effects

4.1 Effect on Existing User Practices and Investments

None

4.2 Effect on Existing Vendor Practices and Investments

None

4.3 Techniques and Costs for Compliance Verification

This interpretation should aid the development of conformance tests.

4.4 Legal Considerations

None.

5. Closely Related Standards Activities

None.

6. Associated Documents

None.

7. Issues, Pros and Cons, and Discussion