1. Identification of the proposed change

1.1.   Title

Lower-case characters in <u>names</u>

1.2.   MDC Proposer and Sponsor

This proposal originates from Ed de Moel.

Motions regarding the status of this document will be made by Ed de Moel.

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1.3.   Motion

No motion, this document is the final write-up for an MDC Type A extension.

1.4.   History of MDC actions

Date	Document	Action
March 1996	X11/96-7	Final write-up.
October 1995	X11/SC15/93-38	Accepted as MDC Type A extension 28:0:3.
October 1995	X11/SC15/95-38	Portable length limit in names, accepted as MDC Type A extension 26:0:2 (see dependencies section).
October 1993	X11/SC15/93-58	No new modifications. Presented for promotion to MDC Type A. History section found to be lacking. Wording of formalism questioned. Document not voted on.
June 1993	X11/SC15/93-25	Modified as discussed in subcommittee. Presented for promotion to SC#15 Type A. Passed 24:4:3.
February 1993	X11/SC15/93-3	Modified as discussed in taskgroup. Presented for promotion to SC#15 Type B. Amended by subcommittee. Accepted 22:5:5. The concern remains that the proposal, as amended by the subcommittee, is no longer explicit on whether or not A2345678B and A2345678b are the same, or are different variables.
October 1992	X11/SC15/92-25	Presented for promotion to SC#15 Type B, remanded to taskgroup to resolve issue about names longer than 8 characters (exceeding portability limit).
June 1992	X11/SC15/92-11	Proposal accepted as SC#15 Type C.
February 1992	X11/SC15/91-9	Presented for promotion to SC#15 Type C. Not discussed due to lack of time.
October 1991	none	Straw vote in MDC on desirability to make <u>name</u> case-insensitive.

1.5.   Dependencies

This extension makes modifications to the same clauses that are modified by X11/SC15/95-34 (portable length limit in <u>names</u>). The resulting change to the standard should be as if first the changes from this extensions were made and then the changes from X11/SC15/95-34.

2. Justification of Proposed Change

2.1. Needs

Currently, names of <u>command</u>s, intrinsic <u>function</u>s and intrinsic <u>svn</u>s are case-insensitive. The standard is mute, however, on the case-sensitivity regarding <u>name</u>s. The portability section states in clause 1.1:

The use of <u>alpha</u> in names is restricted to upper case alphabetic characters.

Some people interpret this restriction as meaning that implementations may or may not see lower-case characters as being different from their upper-case counterparts.

In order to remove all uncertainty and (perceived) ambiguity, this proposal aims to make the use of case-sensitive names portable.

During the procedure of acceptance of the 1990 ANSI Standard, one of the points of criticism was that MUMPS is case insensitive in names of functions and commands, but case sensitive in names of routines and local and global variables. This criticism was then addressed by making the use of lower case characters in <u>name</u>s non-portable. This con had been repeated multiple times while discussing this proposal, and the suggestion has been made that this proposal should be changed to make names case insensitive. Please note that the goal of this proposal is to make the standard **explicit** about the use of lower case characters in names: MUMPS will be either case sensitive or case insensitive. The straw poll in October 1991 decided that MUMPS would be case sensitive.

2.2. Existing Practice in Area of the Proposed Change

All implementations known to the author treat <u>name</u>s as being case-sensitive.

3. Description of the proposed change

3.1. General Description of the Proposed Change

Case-sensitivity is explicitly mentioned in the definition of <u>name</u>, and the restriction to upper-case characters is reworded in the portability requirements.

3.2. Annotated Examples of Use

The effect of the MUMPS program line:
```
              SET X="Upper",x="Lower"
```
would currently be open for interpretation, the room for interpretation would no longer exist when this proposal is accepted, i.e. any uncertainty whether X and x are different variables will be removed.

Note that A2345678a and A2345678A would still be likely to be interpreted as the **same**

<u>name</u>. (After the proposal to increase portable length for <u>name</u>s has been accepted, longer <u>name</u>s will be needed to satisfy this example.)
(Editor's note: this phenomenon is resolved by X11/SC15/95-38, Portable length limit of names.)

3.3. Formalization
In **Section I, clause 6.1** (RMDS Version 8), add at the end of the definition of <u>name</u>:

<u>name</u>s, differing only in the use of corresponding upper and lower case letters are not equivalent.

In **Section II, clause 2.1** (RMDS Version 8) delete the first sentence, so that this clause reads:

1.1 Names

While there is no explicit limit on name length, only the first eight are uniquely distinguished. This length restriction places an implicit limit on the number of unique names.

4. Implementation impacts

4.1. Impact on Existing User Practices and Investments
Current practice will be 'legalized'.

4.2. Impact on Existing Vendor Practices and Investments
None.

4.3. Techniques and Costs for Compliance Verification
Create a routine containing the following text:

```
LABEL       SET X=1,x=2 WRITE !,X,x
```

An implementation that conforms to the standard should be able to execute this routine, and should produce the text "12" when executed.

4.4. Legal considerations
None.

5. Closely related standards activities

5.1. Other X11 Proposals (Type A or Type B) Under Consideration
X11/SC15/TG11/93-5 (or successor): Portable length limit of <u>name</u>s.

5.2. Other Related Standards Efforts
None.

5.3. Recommendations for Co-ordinating Liaison
None.

6. List of Associated Documents

ANSI X11.1-1990 - current standard.
X11/TG6/93-6 - RMDS Version 8.

7. Issues, Pros and Cons, and Discussion

7.1. 17 June 1993, Washington DC
Document X11/SC15/93-25 accepted as a Type A document of Subcommittee 15
(24:4:3).
Pro 1: Removes undesirable restriction [5].
Pro 2: Has been implemented [1].
Pro 3: Reflects current practice [6].
Con 1: Needs explicit text on exceptions for long names [5].

7.2. 22 October 1993, Dublin Ireland
Noted that the history section was incomplete (votes from previous meeting were not
known, because the minutes of that meeting were in the same mailing as the document).
It was noted that the document did not contain pros and cons from previous meetings. The
wording of the formalism was questioned. A request was made to include more emphasis
on the use of lower case in <u>names</u> used in implementation specific utility software.

7.3. 26 October 1993, New Orleans, Louisiana
No cons raised.
Accepted 28:0:3.