Option Bits

The current scheme for naming option bit positions consists of defining an "OB.BLETCH" symbol (via COMPASS's EQU pseudo-op) with the appropriate power-of-two value. This method limits the maximum number of options per capability type to 21, since COMPASS stores symbol values modulo 2^{21}.

The number of options associated with two types of objects (directory, file) has or is about to exceed the limit, and an alternate method of definition is needed. It is proposed that micros be used. Since COMPASS evaluates expressions (and constants) using 60-bit arithmetic, a micro named "OB.BLETCH" would be assigned a character string representing the appropriate power-of-two value.

Directory System Option Bits

Right now the option assignments for directory system objects are fouled up. A few new options are going to be added to replace options currently "borrowed" from other types of objects. For example, the directory opening action requires OB.OPEN, a file option; the action will be changed to require a new OB.DROPN option. The changes will **not** affect the position of currently assigned directory options. Following is a list of the proposed new option requirements:

ACTION	PARAM*	OLD OPTION	NEW OPTION
DR:OPDR		OB.OPEN	OB.DROPN
DR:CLDR		OB.CLOSE	OB.DRCLO
DR:CRFI		OB.CRFI	OB.CRDF
DR:SFLK	the linked-to directory	OB.INSL	OB.ACC
DR:MVSP	source	OB.GIVE	OB.GIVDS
	destination	OB.GET	OB.GETDS
DN:ODN1		none	OB.DNOPN
DN:ODN2		none	OB.DNACC
DN:CLDN		none	OB.DNCLO
DN:CFLG		none	OB.FLG

* where not obvious

An additional requirement will be that every access key object presented to the directory system must possess the OB.AKUSE option. This will affect:

1. the access key given to "user access"
2. the keys in the scan-list presented to "scan-list access"
3. the key to be built into a new softlink
4. the key presented to "delete ownership entry"
5. the key given to "add lock".

There have been several proposed new directory actions, about which comments would be welcome. One is an action which returns a capability for the chain pointer of the directory, if any. Another is an action which would convert a directory capability into a read-only file capability for the directory.