Important Glue Bits:

Basic Units: GlueService (SRM endpoint - unique)
GlueSE (Storage Element)
GlueSEArchitecture: disk/multidisk/tape/other[1]
GlueSA (Storage Area)
GlueSAType: permanent/durable [2]
GlueSAPath: /path/for/vo/on/my/se
GlueSAAccessControlBaseRule: VOName

[1] For MSS use “tape” for disk only SEs use “disk” or “multidisk”.

[2] For start of SC4 use as we redefine (Permanent means copy goes to tape, system manages cache; Durable means copy stays on disk, users manage cache). This *no longer makes any statement* about a SE’s policy on file lifetimes.

N.B. Tests with DPM: When setting GlueSAType=durable copies with lcg-cr succeed. Attempting to get two an SE to advertise permanent and durable SAs seems to make the site-BDII unhappy – further investigation needed!

I suggest is adding an option to the GFAL API (which I haven't looked at - Jean-Philippe, you can correct me if this is too far off the mark) allowing the specification of a desired "storage type". For the moment valid values being "permanant", "durable" or null (read "any"). This can be exposed in lcg-utils as something like "--stype". Then

Requested Storage Type	Storage Types Found	Action
permanent	permanent	copy to permanent path
permanent	durable	error
durable	permanent	error
durable	durable	copy to durable path
null	permanent	copy to permanent path
null	durable	copy to durable path
null	both	copy to permanent path

This maintains the current behaviour for MSSs and DPM disk only SEs (particularly in the null/both case), but allows the new functionality to be added sensibly.

Looking forward to the new SRMv2 era, if Don's suggestion of the triple axis of storage parameters is adopted then perhaps this becomes

--stype durability:accessability:lifetime

with backward compatible behaviour (the important point here is to try and avoid breaking things in the future, at least as much as can be foreseen).