

Chunklog

OBJECT FileSystem Version ID	VERSION	20200715T11:30-7:00
Xxx:Name Hash ID	NHID	20200715T11:30-7:00
Xxx:Chunk Hash ID	CHID	20200715T11:30-7:00

Name Hash - NHID

Key Name	Sample Value	Description
NHIDobjmani	01c:2706aa0b	Hash of the object manifest that the name refers to
NHIDnamemeta	01c:08f728f6	Hash of name-affiliated metadata (e.g. owner, permissions)
NHIDfullname	“Tenant/usr/file”	Full name of the object as a NUL terminated string

Name Metadata - NAMEMETA

Key Name	Sample Value	Description
NAMEMETAownerid	Integer	Owner UserID# typically > 2000 for unprivileged users
NAMEMETAgroupid	Integer	Owner GroupID# typically > 2000 for unprivileged users
NAMEMETApem	SGRWXRWXRWX	Set UserID, Set GroupID, Owner, Group, World RWX Permissions
NAMEMETAnext	01c:c2b323ec	Hash to the next name - affiliated metadata chunk

BACKREFERENCE

Key Name	Sample Value	Description
BACKname	01c:5ccfae81	Name HashID of the first name that refers to this object
BACKtime	UCT:20190707T182043	Time Stamp When Backreference was created in seconds since Epoch
BACKspec	FALSE/TRUE	Speculative Back Reference
BACKnext	01c:c22d0e21	Hash of the next back reference
BACKprev	01c:6ebb7a45	Hash of the previous back reference

Chunk Metadata - CHUNKMETA

Key Name	Sample Value	Description
CHUNKMETAtime	UCT:20190707T182043	Most recent chunk access time
CHUNKMETAnext	01c:a730bfb9	Hash to the previous access time
CHUNKMETAmeta	01c:a730bfb9	Hash to the chunk-affiliated metadata as of this time

Chunk access Metadata

Key Name	Sample Value	Description
CHUNKACCprev	01c:0b78b3f2	Hash of the previous access time record for the chunk
CHUNKACCtime	UCT:20190707T82043	Most recent access time for the chunk
CHUNKACCownerid	Integer	Owner UserID# typically > 2000 for unprivileged users
CHUNKACCgroupid	Integer	Owner GroupID# typically > 2000 for unprivileged users
CHUNKACCperm	SGRWXRWXRWX	Set UserID, Set GroupID, Owner, Group, World RWX Permissions

MANIFEST

Key Name	Sample Value	Description
MANIprevmani	01c:1cf0f4ae	The hash of the previous Manifest
MANIback	01c:7030be4f	The hash of the back reference chain
MANIobjlen	128 bit integer	The length (in bytes) of the object
MANIctime	UCT:20190707T82043	The Creation Time of the Object (hash of metadata?)
MANI0hash	01c:202f8ad3	The hash of the first chunk of the object
MANI0off	128 bit integer	The offset of the first chunk (may be non-zero for sparse data)
⋮		
MANI7hash	01c:16adb60a	The hash of the eighth chunk of the object
MANI7off	128 bit integer	The offset of the eighth chunk

Hash	Type
01c:badc0ffe	CHID
01c:f00dcoff	MHID
01c:b01dface	NHID

Note that 01c: is the Prefix for b2sum cryptographic hashes

MANIFEST

01c:1cf0f4ae	The hash of the previous Manifest
01c:7030be4f	The hash of the back reference chain
01c:b82f730c	The version # of the object
01c:1cf0f4ae	The hash of the previous Manifest
XX	The major version number of the manifest format
YY	The minor version number of the manifest format
107f8b0f	The length of the object
01c:3e477571	The Creation Time of the Object
01c:202f8ad3	The hash of the first chunk of the object
da98fea7	The offset of the first chunk
01c:16746cb5	The hash of the second chunk of the object
34835f97	The offset of the second chunk



01c:16adb60a	The hash of the eighth chunk of the object
6c351cd2	The offset of the eighth chunk

Name Hash

01c:2706aa0b	Hash of the object manifest that the name refers to
01c:08f728f6	Hash of name-affiliated metadata (e.g. owner, permissions)
<=2048**	Length of the name string
xxxxx	Length of the dirpath string
"Name of object"	Character string of the object name (basename)
"dirpath of object"	Character string of the object directory path

Name Metadata

1000*	Owner UserID #
1000*	Owner GroupID #
rw-rw-rw-	Owner, Group, World RWX Permissions
01c:c2b323ec	Hash to the first name - affiliated metadata chunk

* a stand-in for the user number. With the cooperation between Microsoft, Apple and Google, this may be a globally unique string.

** 2048 bytes is an arbitrary number, it should probably be at least 4096

Backreference

01c:5ccfae81	Name HashID of the first name that refers to this object
UCT:20190707_182043	Time Stamp When Backreference was created in seconds since Epoch
FALSE/TRUE	Flag to mark if the speculative back reference is confirmed or not
01c:c22d0e21	Hash of the next back reference
01c:6ebb7a45	Hash of the previous back reference

Chunk Metadata

01c:cfda1b7	Hash of the most recent access time record for the chunk
01c:a730bfb9	Hash to the first chunk - affiliated metadata chunk

Chunk access Metadata

01c:0b78b3f2	Hash of the previous access time record for the chunk
UCT:20190707_182043	Most recent access time for the chunk
1000*	Owner UserID #
1000*	Owner GroupID #