CHAPTER 22
HEADER FORMAT COMPARISON

The below-listed tables contain a side-by-side comparison of the header format used by Eleutheros, GP and the Bitcoin protocol.

Eleutherus Packet Header Format

Type	Bits	Name and description
char[32]	256	**ChainID.** Identifier of the individual blockchain the header is a part of.
unint32_t	32	**Authorship claim.** Indicator of how calculation authorship is claimed.
char[32]	256	**AuthorID.** Identifier of the party claiming authorship (if any).
char[32]	256	**Previous block header hash.** Same as in Bitcoin
char[32]	256	**Merkle root of packet hash.** Same as in Bitcoin
char[32]	256	**Merkel root of application governance.** Governance of application.
char[32]	256	**Merkel root of network governance.** Governance of network.
unint32_t	32	**System time.** Same as in Bitcoin.
unint32_t	32	**Target nbits.** Same as in Bitcoin.
unint32_t	32	**Nonce.** Same as in Bitcoin

Total: 1664

Bitcoin block header format

Type	Bits	Name and description
unint32_t	32	**Version.** Version # of the Bitcoin block validation rules to apply.
char[32]	256	**Previous block header hash.** Hash of prior block header. Forms the chain.
char[32]	256	**Merkle root hash.** Hash of the Merkle root of the file containg the block.
unint32_t	32	**Time.** Unix Epoch time when the hash calculation process was started
unint32_t	32	**nBits.** Encoded not-to-exceed max value for the hash. AKA 'difficulty level'
unint32_t	32	**Nonce.** Arbitrary number entered by miners to produce a valid hash.

Total: 640

All fields in the Bitcoin header format except for one ('Version') have been carried over as-is. The reason for the exclusion of "Version" is that it relates to application governance. In the case of Eleutherus/GP, this is necessary because here the block validation rules are concerned with application governance. Therefore, that along with anything else relating to application governance must be defined in the 'application governance rules'.

Besides the following three changes, all the other fields have been retained without any alterations.