|  |  |  |
| --- | --- | --- |
|  | Certificate of Blockchain proof |  |

This certificate constitutes proof that a document has been anchored to the bitcoin blockchain. This certifies that the document existed in its current form on the date at which the blockchain entry was created. You can use this proof to attest that:

(a) the document has not been altered in any way and

(b) the document existed in its current form on the specified date.

An online version of this proof can be found at: <https://dbproof.com/proof/832fds98>

## Details of the document being proved

The cryptographic hash of the document is: [8ba2570136f7cbdc6c6c741f35501dc2be6cc5b6456a2dc488b60382d8b7321d](http://provendata.com/document/8ba2570136f7)

You can view a copy of this document at <http://dbproof.com/document/8ba2570136f7>

(permissions may be required to view the document).

The document name when hashed was “[Guy Harrison Will and Testament 28072018.docx](http://provendata.com/document/8ba2570136f7)”.

See Schedule 1 for details of the hashing algorithm employed.

## Blockchain proof details

The document hash was included within the [chainpoint](http://chainpoint.org/) proof at <https://c.chainpoint.org/calendar/1808904>, See Schedule 2 for a detailed cryptographic proof.

The Chainpoint proof was anchored to the bitcoin blockchain at block [533,571](https://live.blockcypher.com/btc/block/00000000000000000021922a39e2b903f681e50b2ba90a1c056335c087bbfdcb/) in bitcoin transaction [f17373a82b8661c1de788f31dba6b9c6f1400bd3b3051582b92c9e3e87a3cc12](https://live.blockcypher.com/btc/tx/f17373a82b8661c1de788f31dba6b9c6f1400bd3b3051582b92c9e3e87a3cc12/) at [UTC: 2018-07-25 19:08:37](https://www.timeanddate.com/worldclock/converter.html?iso=20180725T190800&p1=1440&p2=152&p3=136&p4=179&p5=137&p6=33&p7=248).

## Summary

The document [Guy Harrison Will and Testament 28072018.docx](http://provendata.com/document/8ba2570136f7) with hash value [8ba2570136f7cbdc6c6c741f35501dc2be6cc5b6456a2dc488b60382d8b7321d](http://provendata.com/document/8ba2570136f7) was anchored to the bitcoin blockchain at [UTC: 2018-07-25 19:08:37](https://www.timeanddate.com/worldclock/converter.html?iso=20180725T190800&p1=1440&p2=152&p3=136&p4=179&p5=137&p6=33&p7=248). “no later than”

dbProof created the document at time ……

You can be certain this document[[1]](#footnote-1) existed in its current form at [UTC: 2018-07-25 19:08:37](https://www.timeanddate.com/worldclock/converter.html?iso=20180725T190800&p1=1440&p2=152&p3=136&p4=179&p5=137&p6=33&p7=248).

# Schedule 1 – Document hashing

The document hash of [8ba2570136f7cbdc6c6c741f35501dc2be6cc5b6456a2dc488b60382d8b7321d](http://provendata.com/document/8ba2570136f7) was obtained by performing a [SHA-2 256](https://en.wikipedia.org/wiki/SHA-2) bit hash on the document at <http://dbproof.com/document/8ba2570136f7> (permissions may be required to view the document). The hash was calculated on the document and its metadata as stored in the dbproof system.

You can download a copy of the document and its metadata (permissions required) at <http://dbproof.com/document/8ba2570136f7/download>. You can independently validate the hash by using the open source hash validation tool at <http://dbproof.com/downloads/validateHash>. You can also extract the document from its metadata using this tool.

## About cryptographic hashes and the blockchain

A cryptographic hash is a “digital signature” for a document, file or other data. The cryptographic hash function SHA-2 256 creates a 256 bit signature from an input of any size. The hash contains no information about the document being hashed, and no two documents will ever result in the same hash value.

It’s easy to think of a hash function as a fingerprint or DNA sample of the document. Like a fingerprint or DNA sample, the hash function is unique to a specific individual (document). The chances of a duplicate hash function are astronomically low: there are more possible hash values than there are nanoseconds since the big bang, so a hash value is completely unique and specific to the document that created it.

Information on the public bitcoin blockchain is immutable. To change a piece of data on the current block would require more computing power than the entire bitcoin network. This would be beyond the reach of anyone outside the largest world governments. To change historical blocks requires exponentially more computing power as more and more blocks are added to the chain, and in any case, the bitcoin blockchain rules do not allow for changes to deeply nested blocks. An attacker with an overwhelming amount of CPU (space aliens perhaps) could destroy the blockchain network, but could not force it to revert. See <https://en.bitcoin.it/wiki/Weaknesses#Attacker_has_a_lot_of_computing_power>

# Schedule 2 – Chainpoint proof

[Chainpoint](http://chainpoint.org/) is an open standard for linking data to the public blockchain. It aggregates multiple hash values into a single hash value which is then placed on the blockchain. The following Chainpoint document proves that the hash value of [8ba2570136f7cbdc6c6c741f35501dc2be6cc5b6456a2dc488b60382d8b7321d](http://provendata.com/document/8ba2570136f7) is associated with the Chainpoint proof placed on the bitcoin blockchain in transaction [f17373a82b8661c1de788f31dba6b9c6f1400bd3b3051582b92c9e3e87a3cc12](https://live.blockcypher.com/btc/tx/f17373a82b8661c1de788f31dba6b9c6f1400bd3b3051582b92c9e3e87a3cc12/).

This proof can be downloaded from <https://dbProof.com/proofs/f13783>

{

  "@context": "<https://w3id.org/chainpoint/v3>",

  "type": "Chainpoint",

  "hash": "8ba2570136f7cbdc6c6c741f35501dc2be6cc5b6456a2dc488b60382d8b7321d",

  "hash\_id\_node": "07702440-8fe6-11e8-bb2d-01e034402f50",

  "hash\_submitted\_node\_at": "2018-07-25T08:37:56Z",

  "hash\_id\_core": "0a5e91a0-8fe6-11e8-8572-01ce29596cd2",

  "hash\_submitted\_core\_at": "2018-07-25T08:38:01Z",

  "branches": [

    {

      "label": "cal\_anchor\_branch",

      "ops": [

        {

          "l": "node\_id:07702440-8fe6-11e8-bb2d-01e034402f50"

        },

        {

          "op": "sha-256"

        },

        {

          "l": "core\_id:0a5e91a0-8fe6-11e8-8572-01ce29596cd2"

        },

        {

          "op": "sha-256"

        },

        {

          "l": "nist:1532507820:e7cac0b8d0ca255815a7a2adf90dae94b0f536566c834ce23be9be5f4a34109df3df8f900cdab71339dd200d93e9fd5fe3d22b6e999e1c29d629d625c74e4ecc"

        },

        {

          "op": "sha-256"

        },

        {

          "l": "29f3a63f51ec266fc95dc7e5461114703049d46a4773d979646df9d4b76d0f4b"

        },

        {

          "op": "sha-256"

        },

        {

          "l": "6388cb8cab15c0ab1b74754a951650004f0aac8df0d7f25da7f059ea9ce6d31f"

        },

        {

          "op": "sha-256"

        },

        {

          "l": "db1ff6c93acf30eeb81420f3b14a32646346746e0d64e02b2bfd27202914e4e2"

        },

        {

          "op": "sha-256"

        },

        {

          "l": "1820914:1532507886:1:<https://c.chainpoint.org:cal:1820914>"

        },

        {

          "r": "d49da5c5c8e64408dcf3d3fa61d14ead782c96b1ed7ac08251636ae8ad29ba30"

        },

        {

          "op": "sha-256"

        },

        {

          "anchors": [

            {

              "type": "cal",

              "anchor\_id": "1820914",

              "uris": [

                "<https://c.chainpoint.org/calendar/1820914/hash>"

              ]

            }

          ]

        }

      ],

      "branches": [

        {

          "label": "btc\_anchor\_branch",

          "ops": [

            {

              "r": "63b9126662ade29e29542aba91ed5087ef58f45f3453d7fbfcdf8ebbef6513de"

            },

            {

              "op": "sha-256"

            },

            {

              "r": "c79bbe0db7fd85ef0a2b0d6cc4be7f2803033d7ed4ca9dcd750f55ed3b922305"

            },

            {

              "op": "sha-256"

            },

            {

              "r": "583d17bcd2db44675dd55a62f76729ad65380d2627797c2d156428cf8d8ac829"

            },

            {

              "op": "sha-256"

            },

            {

              "l": "62392ce6595af09e19d3ac36f692d0664cf4b77c10a9ebedc26ce4589d937f25"

            },

            {

              "op": "sha-256"

            },

            {

              "r": "a9c316f1f936cdbd8e0f83d086c7841408e78edc73e9345017b9e66fc8289054"

            },

            {

              "op": "sha-256"

            },

            {

              "l": "9e2e410314ce878c4e7b0868648ffaee136866e8cda0ac1c39788beb82abf5dc"

            },

            {

              "op": "sha-256"

            },

            {

              "l": "a2ca7177d79c11f72e1a7d00a8fb7d57e3023bf2f5ea6108b0f66ebbe4f1355e"

            },

            {

              "op": "sha-256"

            },

            {

              "l": "567de353da732a13cc1af32427f0a2cb96b3af013d1d3159e4ac69bb54bf1d5a"

            },

            {

              "op": "sha-256"

            },

            {

              "r": "b04fb5254682a63b7badc79b8790fe40b02a82c9e34e71d96e1e53d45c47aa48"

            },

            {

              "op": "sha-256"

            },

            {

              "l": "010000000195eeb2d4db2ab87ba0564fd81959b2d06ab488aec7a5235152272919f94a5307010000006a473044022056e188c989325d8e80b37ee4f5304954636416b62006470843d91dae3bac3ba80220766f48b052fcb561f148ee27d0ab7b66f8eac467b741a1185ef4b8cbb0c016920121025e4085099188d50463bed16cae92b5f1c03ffba517bc74af398ff7a3ee028326ffffffff020000000000000000226a20"

            },

            {

              "r": "4df42403000000001976a914eecf8f1422ff5b9ad376366a3836fbdc3a3b93a888ac00000000"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "l": "ff12f05f8659dca141d632df9df15eb88cd9f52ba57fa07a578f21ee283fa143"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "l": "d5e035047ec34ba4af640f01d2404f8e6f282f84df5718da229e73f30f0ef925"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "r": "bc69d46e01ce768c2acd1441b1fbf41d3d303e2a95a2742b51006fb7ba1f04e4"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "r": "b14f95db1788d378343b82bcc4e68459487fbd900709bc4b0b4f1cec753f6f45"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "l": "3c721b15ca2dc3c4eecaa4fa1924cb00b60df35d6d86b8dfc2f9d039703b5eb1"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "l": "c6ad594a717496d51b7d9354a62ba5a2acbbd635d94f7a1d0555dc111a92b717"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "l": "e51878d44a0326ca4a521059ee78ad85f27639de54ac502be2565ca70ee0bba0"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "l": "0fa2c5450755dcace9db8908bb29d26150030e9c7b7ccc772b6993684ce554b4"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "r": "df1fb8fb4b6f0a9296df5d7e26d9c3e53abe9082fd43dd6a65069b2a10589777"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "r": "50322064dd6b2055edafa508066436731759671f1e28efce9008b4bbb0d85761"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "r": "62ee14b72f74d93c483285cd5f4be19ca9f5c4681c9dd1c1231ae389df73fa7c"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "r": "e79a085cd8bd323ce1d6877e00a457661826d105803f735fbedde3798239eaab"

            },

            {

              "op": "sha-256-x2"

            },

            {

              "anchors": [

                {

                  "type": "btc",

                  "anchor\_id": "533571",

                  "uris": [

                    "<https://c.chainpoint.org/calendar/1821243/data>"

                  ]

                }

              ]

            }

          ]

        }

      ]

    }

  ]

}

## Schedule 3: List of printable links in the document

|  |  |
| --- | --- |
| Link to the document being proven: | <http://dbproof.com/document/8ba2570136f7> |
| Link to Chainpoint.org: | <https://chainpoint.org/> |
| Link to Chainpoint proof for the document | <https://dbProof.com/proofs/f13783> |
| Link to the Chainpoint calendar entry for the proved document: | <https://c.chainpoint.org/calendar/1808904> |
| Link to bitcoin block containing the proof | <https://live.blockcypher.com/btc/block/533571/> |
| Link to the blockchain transaction | <https://live.blockcypher.com/btc/tx/f17373a82b8661c1de788f31dba6b9c6f1400bd3b3051582b92c9e3e87a3cc12/> |
| Link to open source validation tool | <http://dbproof.com/downloads/validateHash>. |

1. Identical versions of this document will generate the same hash value: by regenerating the hash value (see Schedule 2) you can determine the authenticity of this proof. [↑](#footnote-ref-1)