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VERAE TIME × ZAPIER

## 07 external resources

site/packages/overview/07-external-resources.md

# 7. External resources: search, storage, and the chain

| Resource                                                        | Where                                                                 | How a Zap reaches it                                                                           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Central chain</b><br>(itemized SHA-256 + time + certificate) | <code>api.veraetime.net</code><br>or MOCK                             | HTTPS via middleware: create / wait / <code>GET /hashes/{sha256}</code>                        |
| <b>Bulk Merkle root</b>                                         | Same chain, one seal                                                  | <code>POST /timestamp/batch</code>                                                             |
| <b>Leaf proofs</b> (hash only in a bulk summary)                | Tree-node WORM on NATS                                                | <code>GET /hashes/{sha}?includeTree=true</code> → <code>verae.archive.query kinds= tree</code> |
| <b>Public / private metadata, files</b>                         | WORM archives                                                         | <code>includeAttached</code> ; never on chain                                                  |
| <b>Search (central)</b>                                         | Chain lookup                                                          | Zapier search <b>Find Timestamp by SHA256</b>                                                  |
| <b>Search (external tree / extra stores)</b>                    | NATS query to every node that might hold the key                      | Zapier search <b>Find Hash (tree nodes + central)</b>                                          |
| <b>Future search / store</b>                                    | New <code>verae.search.*</code> or <code>verae.store.*</code> process | Copy <code>verae-nats-process</code> ; optional middleware GET                                 |

Storage that is **not** the blockchain stays on WORM/tree nodes (and later any process that answers `verae.archive.query` or a new store address). The chain stores hash + time + certificate (+ Merkle root for batches).

External “unplanned” storage or search is the same pattern: new address, bloom or index on that node, silence on miss, aggregator or the template’s reply subject.