Network indexer

InterPlanetary Network Indexer (IPNI) enables users to search for content-addressable data available from storage providers. This page discusses the implications of IPNI for storage providers.

Anetwork indexer , also referred to as anindexer node orindexer , is a node that maps content identifiers (CIDs) to records of who has the data and how to retrieve that data. These records are calledprovider data records . Indexers are built to scale in environments with massive amounts of data, like the Filecoin network, and are also used by the IPFS network to locate data. Because the Filecoin network stores so much data, clients can't perform efficient retrieval without proper indexing. Indexer nodes work like a specialized key-value store for efficient retrieval of content-addressed data.

There are two groups of users within the network indexer process:

- Storage providers
- advertise their available content by storing data in the indexer. This process is handled by the indexer'singest
- logic.
- Retrieval clients
- query the indexer to determine which storage providers have the content and what protocol to use, such as Graphsync, Bitswap, etc. This process is handled by the indexer'sfind
- logic.
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How the indexer works

This diagram summarizes the differentactors in the indexer ecosystem and how they interact with each other. In this context, these actors are not the same assmart-contract actors .

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IPNI and storage providers

Storage providers publish data to indexers so that clients can find that data using the CID or multihash of the content. When a client queries the indexer using a CID or multihash, the indexer then responds to the client with the provider data record, which tells the client where and how the content can be retrieved.

As a storage provider, you will need to run an indexer in your setup so that your clients know where and how to retrieve data. For more information on how to create an index provider, see theIPNI documentation .

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