



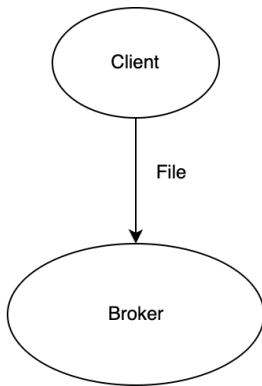
EMQX File Transfer II

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File Transfer Idea Recap



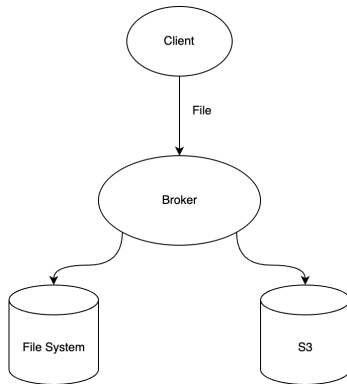


File Transfer Constraints Recap

- ▶ EIP 21
- ▶ Over MQTT
- ▶ Chunked
- ▶ No additional connections from client
- ▶ No subscription to special topics
- ▶ Resumable



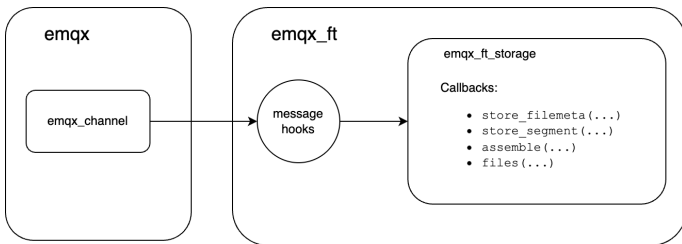
File Transfer Idea





File Transfer

emqx_ft_storage





File Transfer `emqx_ft_storage_fs`

- ▶ Keeps segments in the local file system
- ▶ Has segment assemble logic (from one or many nodes)
- ▶ Has segment GC logic
- ▶ Delegates file export to exporters





File Transfer

emqx_ft_storage_fs config

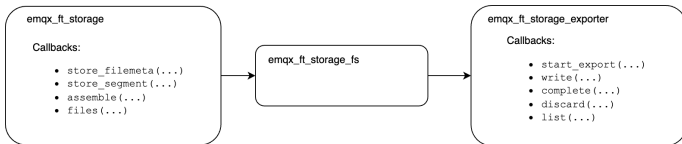
```
file_transfer {  
  storage {  
    type = local  
    segments {  
      root = "data/file_transfer/segments"  
      gc {  
        interval = "1h"  
        maximum_segments_ttl = "24h"  
      }  
    }  
    exporter {  
    }  
  }  
}
```





File Transfer

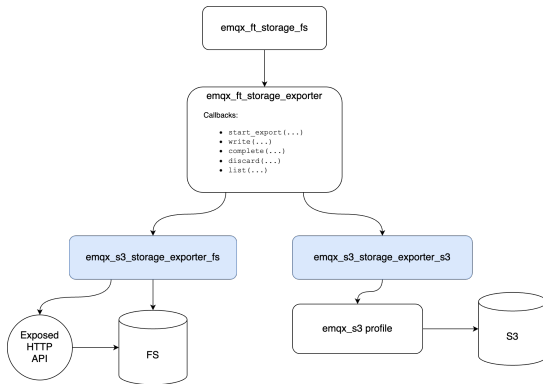
emqx_ft_storage_exporter





File Transfer

emqx_ft_storage_exporter





File Transfer

`emqx_ft_storage_exporter_fs`



- ▶ Exports ready files to the local file system
- ▶ Saves metadata in the local file system together with the file
- ▶ Uses some bucketing logic to avoid having too many files in one directory
- ▶ Exposes its own API to access exported files





File Transfer

emqx_ft_storage_exporter_fs file structure

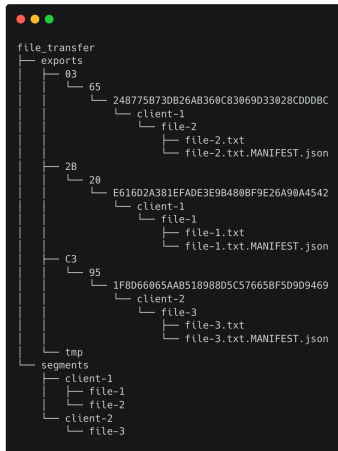
```
file_transfer {  
  storage {  
    ...  
    exporter {  
      root = "data/file_transfer/exports"  
    }  
  }  
}
```





File Transfer

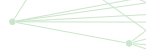
emqx_ft_storage_exporter_fs config





File Transfer

`emqx_ft_storage_exporter_s3`



- ▶ Exports ready files to S3 compatible storage
- ▶ Saves metadata as S3 object metadata
- ▶ Quite a thin wrapper around `emqx_s3` application
- ▶ Does not expose its own API for file access





File Transfer S3 Constraints

- ▶ Standalone application, not related to File Transfer
- ▶ Simply reusable & pluggable
- ▶ * Not strongly coupled with the underlying HTTP library (we use `ehhttpc`)
- ▶ * Supporting long living interactions with S3 (e.g. multipart upload)





File Transfer

emqx_ft_storage_exporter_s3 config

```
file_transfer {
  storage {
    type = local
    exporter {
      type = s3
      host = "s3.eu-north-1.amazonaws.com"
      port = "443"

      access_key_id = "AKIA6CECZDMCXKITWPF0"
      secret_access_key = "... "

      bucket = "mybucket"
      acl = private

      transport_options {
        request_timeout = 30s
        ssl {
          enable = true
          ...
        }
      }
    }
  }
}
```





Thank you!

