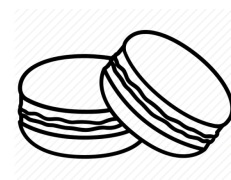


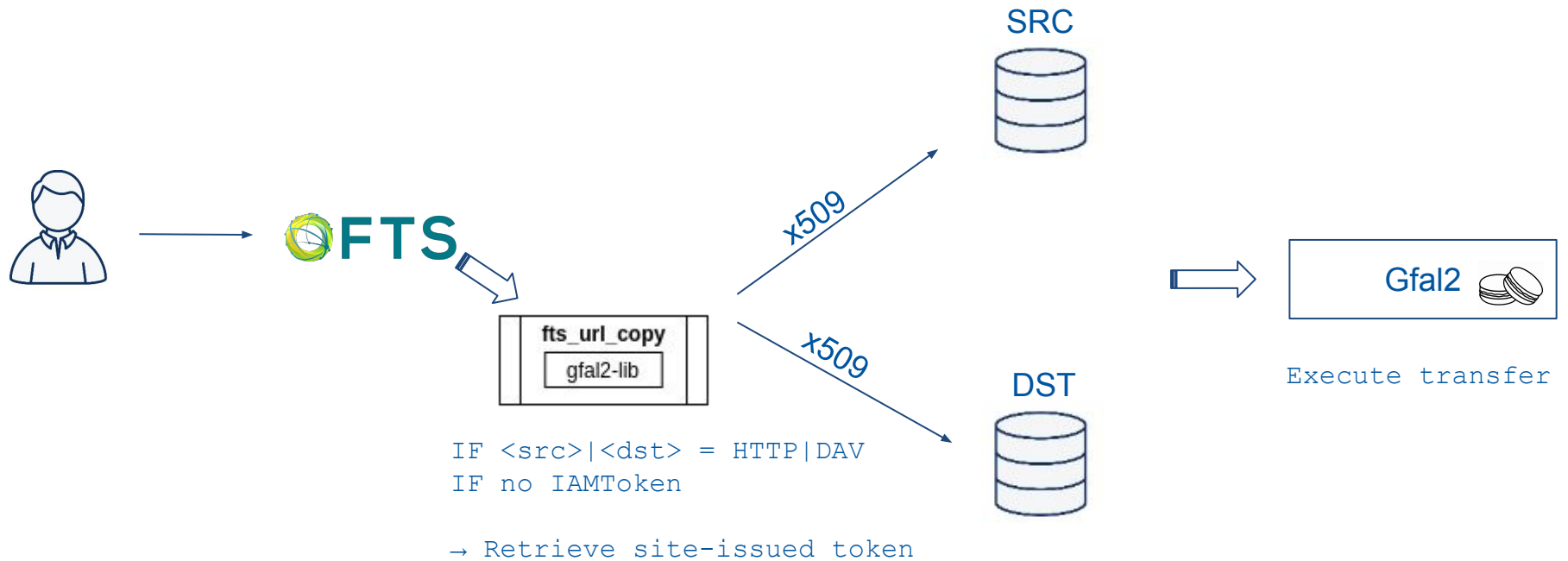
FTS ↔ Gfal2 Macaroons



Disclaimer: macaroon meaning replaced by site-issued token (SI-token)

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DOMA TPC (21st October 2020)

FTS Transfer with site-issued tokens



Macaroon image from NicePng

FTS Transfer with site-issued tokens

- Obtain SI-token for site (`setupMacaroon()` or `setupBearerToken()`):

SRC	DST
<code>activity("DOWNLOAD")</code>	<code>activity("MANAGE")</code>
<code>activity("LIST")</code>	<code>activity("UPLOAD")</code>
	<code>activity("DELETE")</code>
	<code>activity("LIST")</code>

Validity: `2 * (estimated_)transfer_timeout`

- Register token in Gfal2 credentials-map (`bearerInit()`):
 - <src> URL ↔ token mapping
 - <dst> Host ↔ token mapping

Gfal2 Transfer with site-issued tokens

- Setup TPC credentials:
 - x509 always enabled
 - retrieve token from credentials-map by URL, fallback to hostname
 - Add headers for passive site

	SRC	DST
PUSH		TransferHeaderAuth: <token> Credential: None
PULL	TransferHeaderAuth: <token> Credential: None	

Refactoring (suggestion)

FTS

- Remove `setupMacaroon()` / `setupBearerToken()` / `bearerInit()` code segments

GFAL2

- `HTTP_SITE_TOKENS` (behavior switch)
- Setup TPC credentials:
 - x509 always enabled
 - retrieve SI-token by URL, fallback to hostname
 - no token associated with URL/host:
 - > obtain token if allowed

Refactoring (cont'd)

Allowed to obtain site-issued token if:

- No token associated with URL/host
- No BEARER_TOKEN environment set
- HTTP_SITE_TOKENS environment set to appropriate behavior

Objective

Allow Gfal2 to independently obtain site-issued tokens

- Technology mature enough to be standalone in Gfal2
- Necessary step to facilitate SRM ↔ SRM transfers via HTTP-TPC
- Ease debugging of HTTP TPC transfers

Refactored: FTS Transfer with site-issued tokens

