

10/06/2018

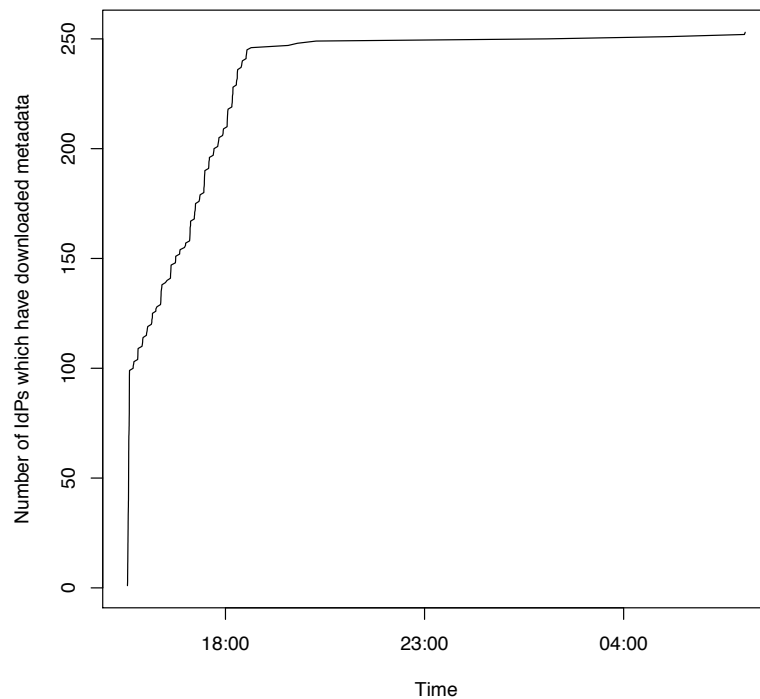
# Metadata propagation in the UK federation

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- » Service owners often ask “How long will a metadata change take to propagate to federation entities?”
- » Probe using SAML 2 AuthnRequests
  - › Deploy Shibboleth SP
  - › Update handlerURL from /Shibboleth.sso to a UUID
  - › Publish updated metadata
  - › Send AuthnRequest to check whether IdP has consumed new metadata
- » Shibboleth v3 IdP has MDQ client and sends HTTP 400/500 response if it hasn't refreshed metadata

Metadata propagation through the UK federation  
(results/2018-05-17-output.txt.processed)

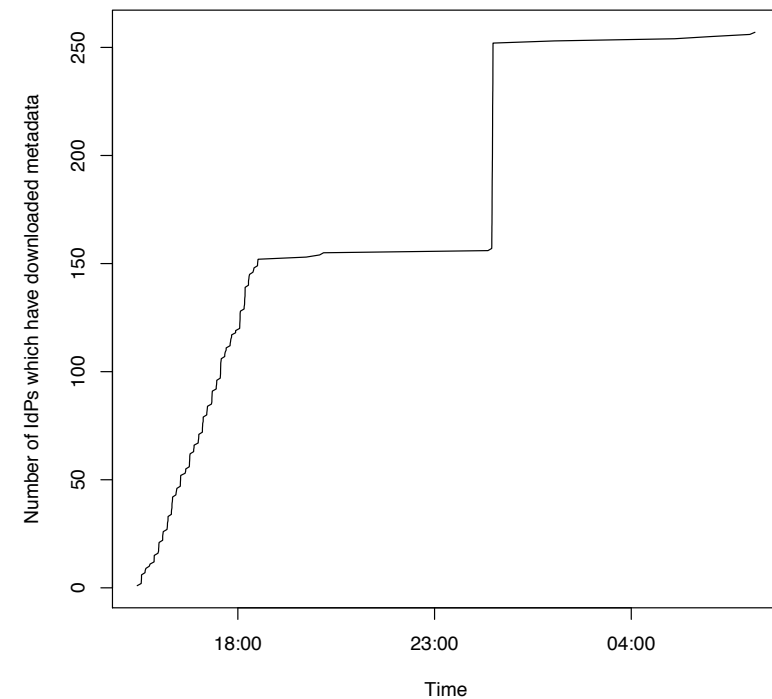


### Run 1: Probe metadata out of cache

As soon as probe starts, MDQ clients read refreshed metadata.

Almost all clients using aggregates refresh in the following 4 hours.

Metadata propagation through the UK federation  
(results/2018-06-01-output.txt.processed)




### Run 2: Probe metadata in cache

Probe starts shortly before new metadata published. Most clients using aggregates refresh within 4 hours after publication. MDQ clients refresh when probe's metadata goes out of cache

- » Approximately 100 (out of 268 in test dataset) Shibboleth v3 IdPs are using MDQ to obtain metadata
- » Deployers almost always use default settings or federation recommendations when configuring systems
- » “just-in-time” MDQ can be slower to refresh metadata than classical aggregate refresh
- » Metadata propagation is, indeed, a few hours, or overnight

- » Measuring metadata propagation from IdP to SP is harder
  - › Lower likelihood that an SP will consume metadata from the test probe
  - › No analogue of AuthnRequest, use unsolicited assertion?
  - › Wide range of SP implementations and potential for SPs to give a wide range of responses
- » Propagation within UK federation is part of a bigger picture.
  - › Daily / emergency metadata publications
  - › Propagation through eduGAIN



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[github.com/alexstuart/MetadataPropagation](https://github.com/alexstuart/MetadataPropagation)



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