An HTTP-based DECADE Resource Protocol

draft-wang-decade-drp-01

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Overview

- Involved Function Entities
- DRP & SDT
- Protocol Architecture
Major concern: CDMI is still evolving

Many benefits, e.g., stateless server

- Widely adopted, mature protocol
- Human readable
Major DRP Functions

- **Set**
  - Resource Access Control: who can access
  - Resource Usage Control: how much can access

- **Get**
  - Resource State/Status Query

(Futuristic) Content forwarding state

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Two Major Design Options

- **Setup state at server**
  - Analogy: “connection oriented”
  - Example: setup ACL on each object for access control

- **Carry state by request**
  - Example: Token for access control
Token V.S. ACL

Token
- May or may not need to use identity
  - App can implement flexible access control policy
- May need to verify each token

ACL
- May be based on multiple request attributes

Question: anything that can be implemented by ACL can always be by token?
Parameters in Token

- Permitted operations
- Permitted objects
- Permitted clients
- Expiration time
- Priority

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Message Design – DRP Messages

- Transport_Query
- Access-Token (may or may not need)
- Server_Status_Query
  - From system’s view
  - From user’s view
- Object_Property_Query
- Object_Property_Set
SDT Messages

- Make extension to include tokens
  - Put_Data
  - Get_Data
  - Delete_Data
Security Consideration

Token leaking

- Associate token w/ IP address to reduce the problem?
Next Step

- Remote_Get Message
- A Mandatory Naming Scheme
  - Improve interoperability and deduplication
- Detailed Protocol Design

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Thank you!