



# Discovery

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# Requirements

- Capabilities
  - Support both local and global discovery
  - Support semantic queries
  - Support directories
  - Support peer-to-peer (self-identifying) discovery
- Privacy-Preserving Architecture
  - Device and Information Lifecycle
  - Distribute TDs only to authenticated and authorized users
  - Don't leak metadata to unauthorized users
- Alignment with existing standards
  - E.g. IETF CoRE Resource Directories, CoRE Link Format
- Optional:
  - Support for Scripting Discovery API

# Proposal: Two-Phase Discovery

- Introduction
  - Obtain address of directory service
  - Address should not leak any other metadata, eg type of devices
  - Can have multiple mechanisms for introduction
    - Local: QR code, mDNS, DNS-SD, Bluetooth beacon, etc.
    - Global: search engine
    - Self: Well-known addresses, eg “.well-known/td”
- Exploration
  - Authentication required, and then...
  - Queryable Directory service
    - Lightweight: specific query parameters, eg. location, keywords
    - Full: SparcQL semantic query
  - Gateway: registration sub-API, timeouts, etc.
  - Self: same query API, but no public registration API
  - Mutable IDs → need way to notify registered users of changes

# Actions

- Create Discovery Repo:
  - wot-discovery
- Create Discovery TF under WoT WG (new charter)
- Develop formal Use Cases and Requirements
- Develop Design Documents
- Get Feedback from Privacy IG
- Aim to develop prototypes by IETF Hackathon
- Aim to present at T2TRG/WoT workshop on Nov 15
- Develop Draft Specification