Advanced Topics

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Advanced Topics

- The REST API world is very rich

- We'll discuss:

  - HATEOAS

  - API Discovery & Gateway

HATEOAS

Hypermedia As The Engine Of

Application State

HATEOAS

- Each REST request returns related resources

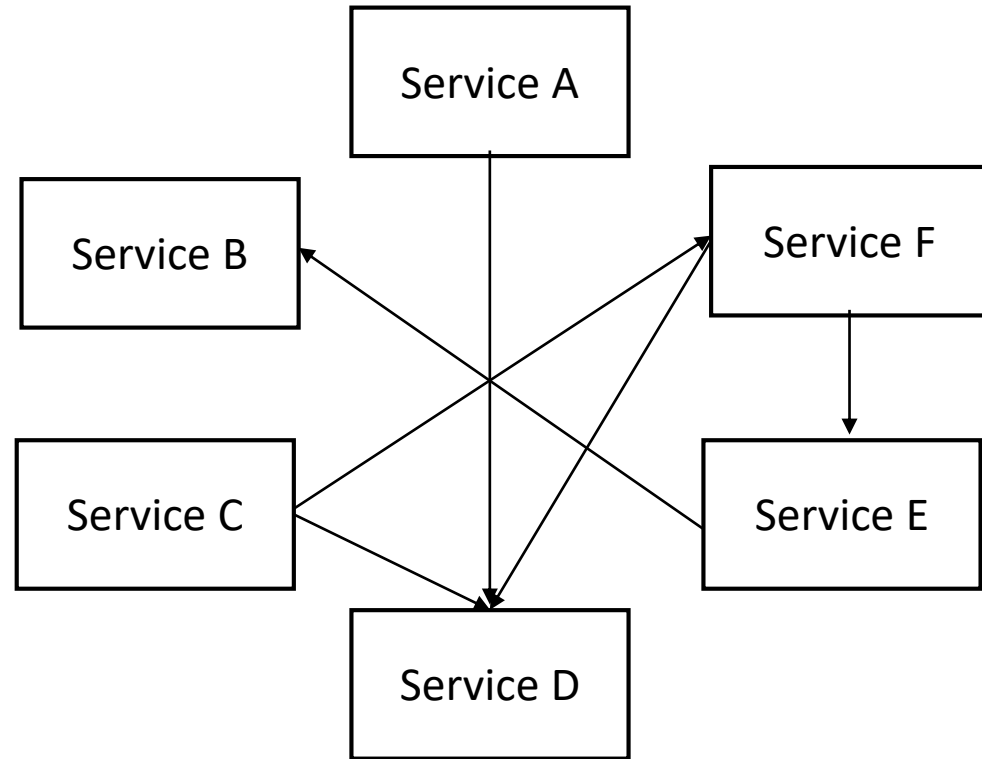- Client should not have prior knowledge about other resources

HATEOAS

- Example:

  - **Netflix Genie**

    - Overview: https://netflix.github.io/genie/

    - HATEOAS:

      https://netflix.github.io/genie/docs/3.0.0/rest/#_get_a_job
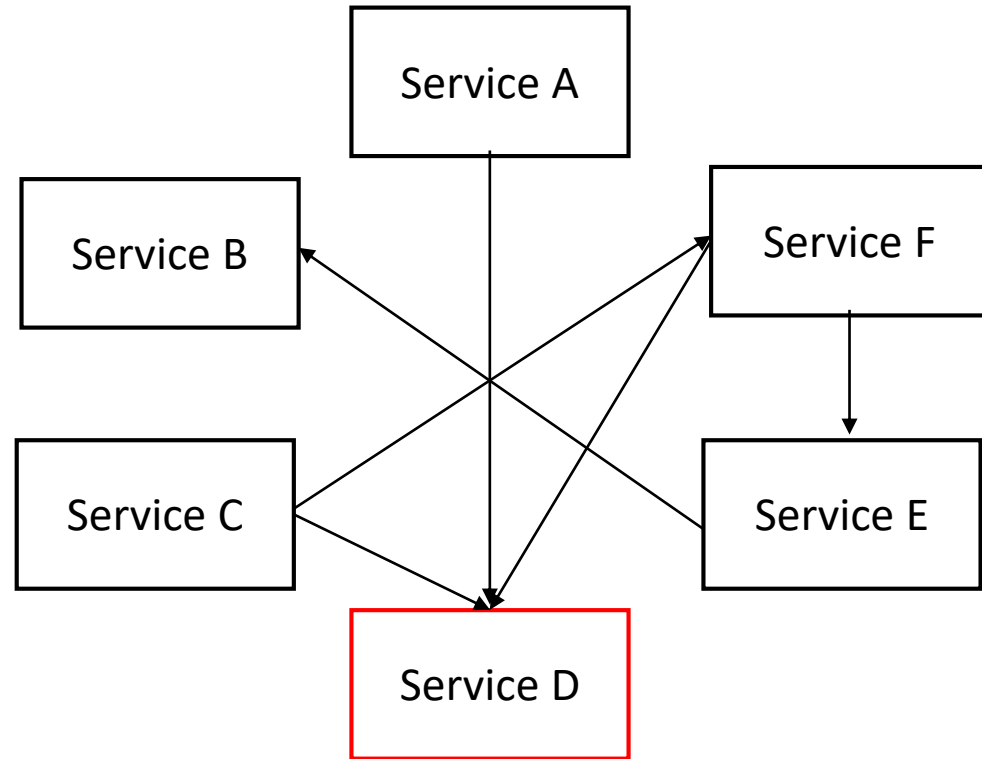
API Gateway & Discovery

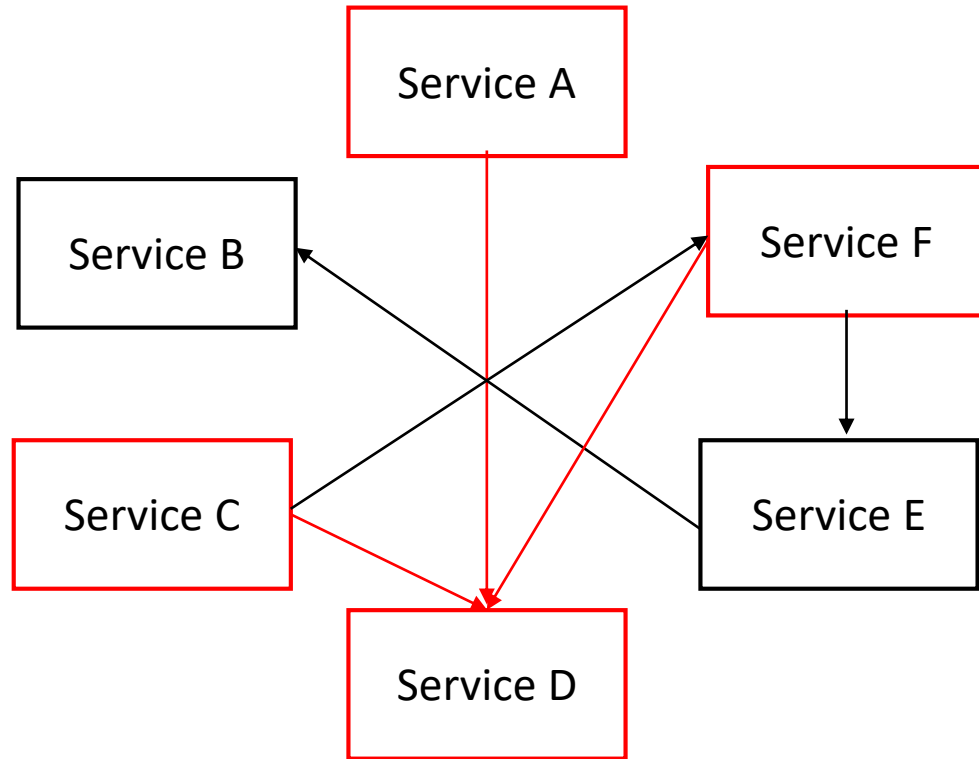- Solves the loose-coupling challenge of services

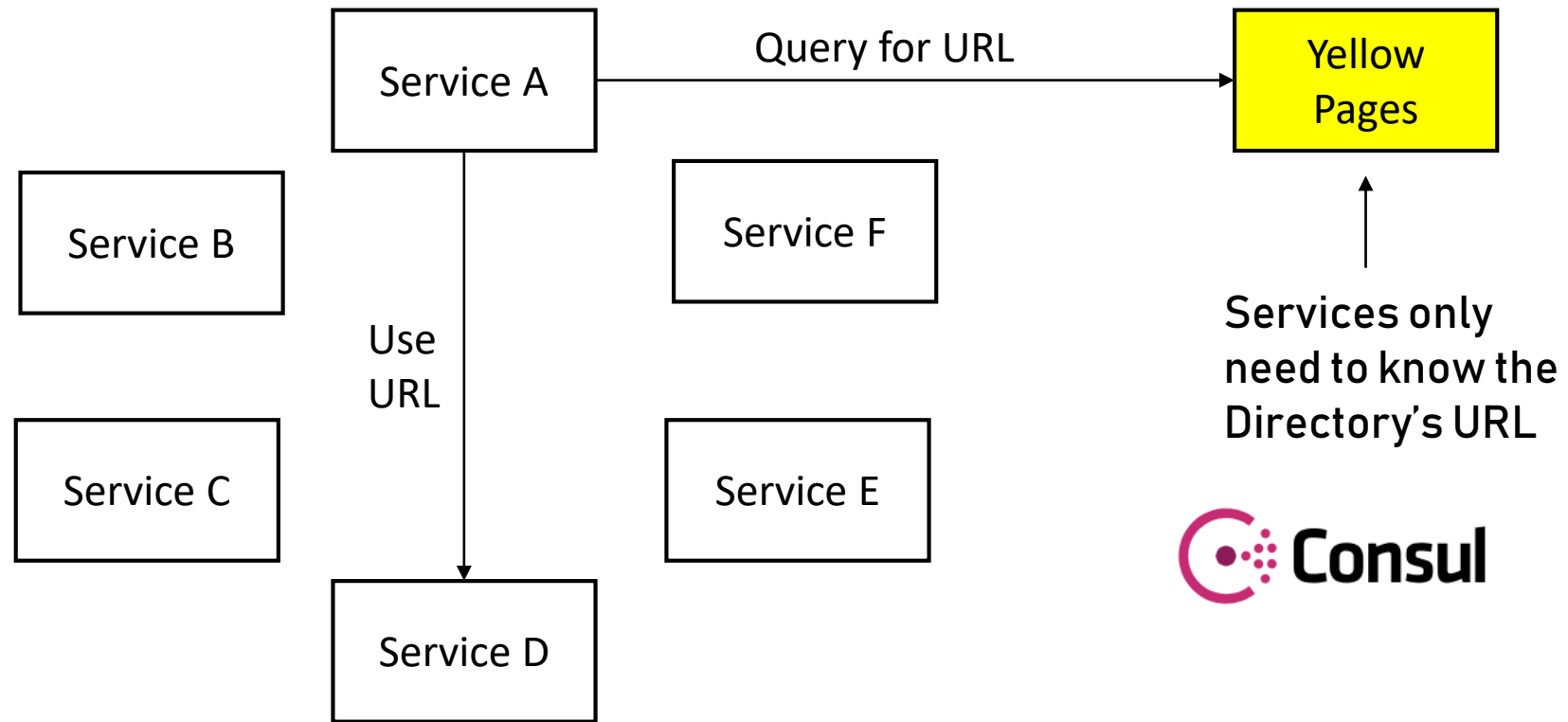# Loose Coupling

The Spiderweb

Loose Coupling

Loose Coupling

Loose Coupling – Directory

Service A ——— Query for URL ———→ Yellow Pages

Service B

Service F

Use URL

Service C

Service E

Service D

Services only need to know the Directory's URL

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Loose Coupling – Gateway

Service A

Service B

Service F

Gateway

Service C
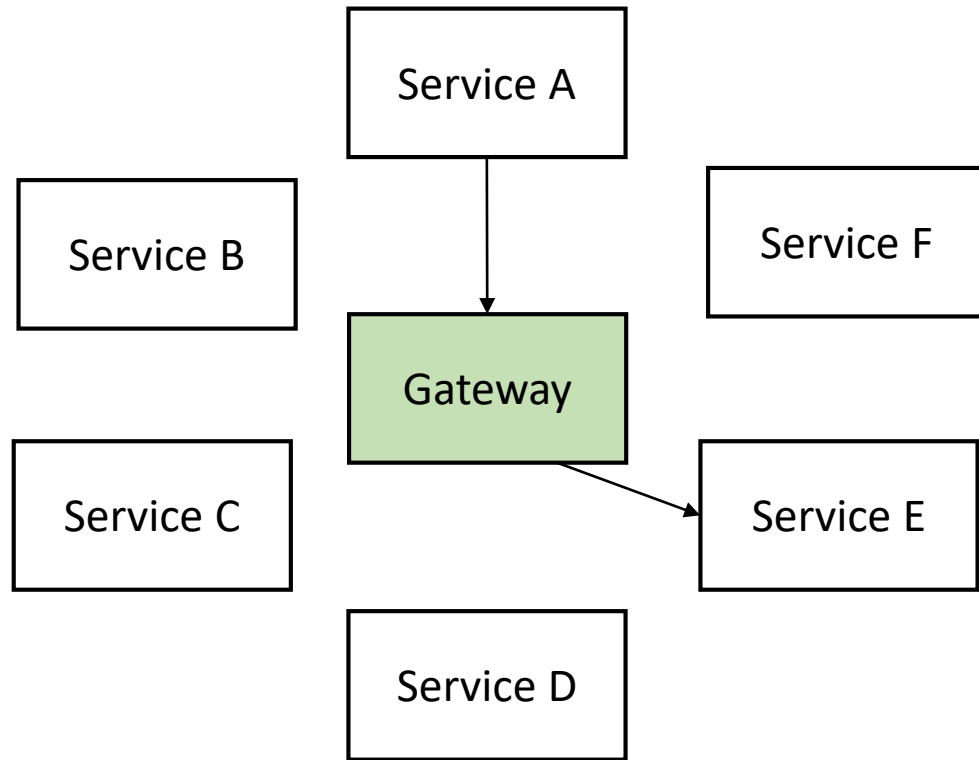
Service E

Service D

Services only need to know the Gateway's URL

API Gateway vs Discovery

API Gateway	Discovery
Difficult to implement (especially on-premise)	Easy to implement
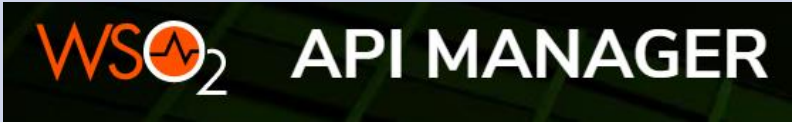
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Man-in-the-middle	External service

API Gateway vs Discovery

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Man-in-the-middle	External service
Can provide: - AuthZ & AuthN - Monitoring - Routing - Policies - Load Balancing	Provides mainly URLs, and sometimes load balancing

API Gateway Engines

Cloud	On Premise
Microsoft Azure — API Management	WS02 API MANAGER
aws — API Management	Tyk
Google Cloud — Apigee	