Problems:
- Web services should locate other services they need
- Services should compose into more complex services

Paper focuses on first problem

Use DAML-S to describe services
- Seems to be replaced by OWL-S
- SOAP and WSDL describe messages, not how to find services
- UDDI does not represent capabilities of services

Uses DAML+OIL to do subsumption reasoning on taxonomies
- OWL supersedes DAML+OIL
Create an upper ontology for service profiles

- Actor - Provider of service
- Functional Attributes
  - Ratings, locations, etc
- Functional Description
  - Inputs, outputs, preconditions, effects
Goals:
- “Flexible” matches
- Minimize false positives and false negatives
- Encourage honesty
  - Advertisers shouldn’t say they provide everything
  - Shouldn’t be able to request everything
- Matching should be efficient

Algorithm:
- For each advertisement, find the *degree* of match
  - If degree is below a certain threshold, reject
  - else, put in list
- Sort list
- Return the service with the highest degree
Based on minimal distance between concepts in taxonomy tree
Sort on outputs first, break ties with inputs

Degrees:
- **Exact** - if requests are equivalent, or advertiser is direct parent of request
- **Plug-In** - if advertiser subsumes request
- **Subsumes** - if request subsumes advertiser
- **Fail** - no relation
Advertisements are converted into UDDI service descriptions

Services can be found with UDDI keyword search or matching
Questions?