

# Notes for CCRP Panel

- Current draft presentation captures structure and topics
- Graphics to be added

# Support for Dynamic Collaborative Action Teams

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# Outline

- Overview of DCAT
- Role of the Resource Broker in DCAT
- Architecture of the Resource Broker
- Brokering Process
- Benefits
- Future Work

# DCAT Overview

- Dynamic Collaborative Action Teams (DCAT)
- The goals of the DCAT effort are:
  - To develop a process and management framework for rapidly assembling collaborative teams.
  - To identify and incorporate business rules.
  - To measure collaborative C2 effectiveness.

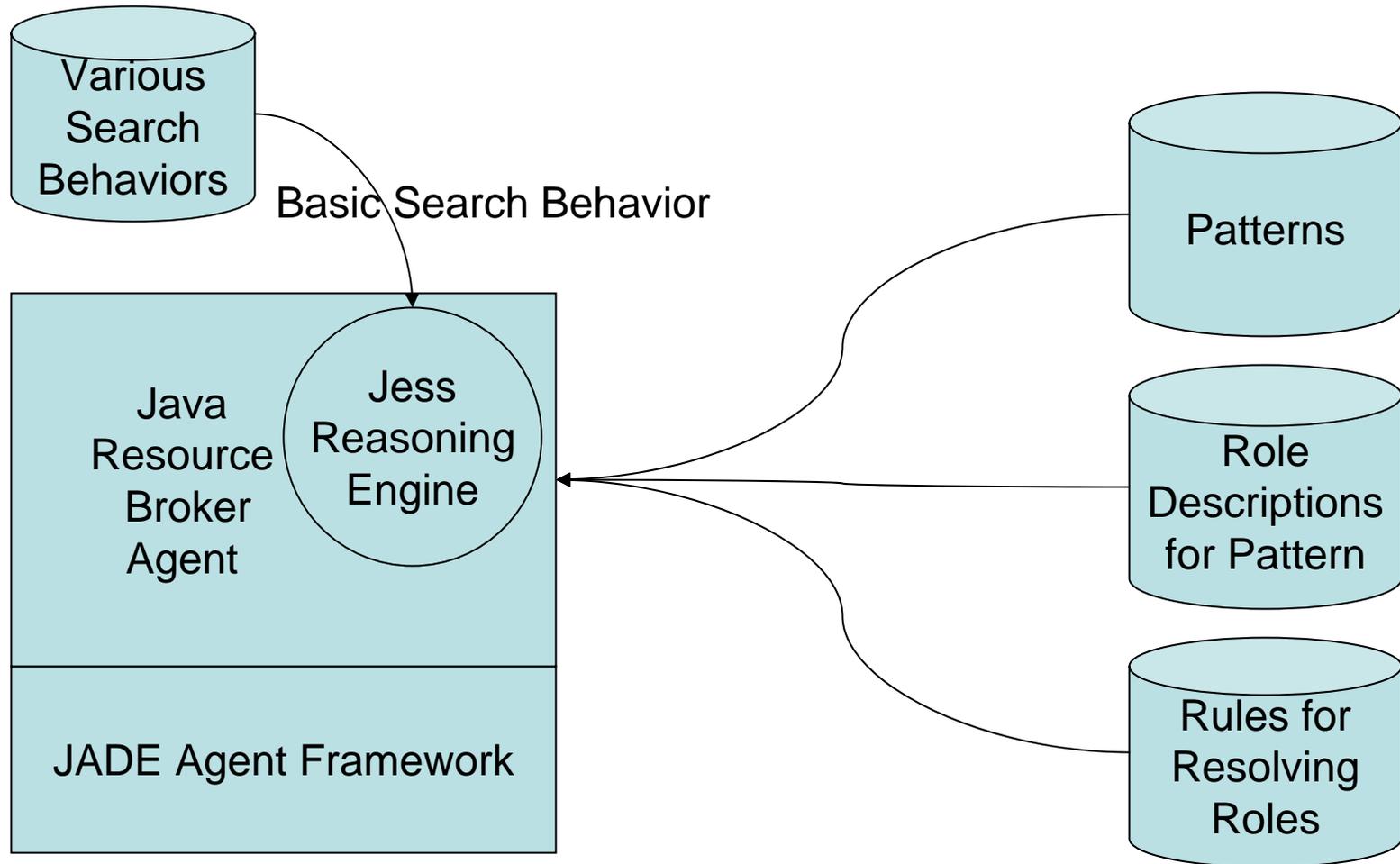
# DCAT Process

- The DCAT Process encompasses:
  - Identification of patterns of activity.
  - Based on known pattern, identification of roles required to field a response.
  - Marshalling of resources based on required roles.
  - Support for collaboration among team members.
  - Facilitation of team activities in fielding an event response.

# Resource Broker: Overview

- Based on requirements specified by a DCAT pattern, resolves needed roles to actual resources.
- Rule-based for flexibility and easy customization.
- Agent-based to support integration with advanced search and interaction frameworks.

# Resource Broker: Architecture



# Broker Agent

- The Broker Agent is entirely rule-based, allowing easy customization and reconfiguration of search behaviors.
- Behaviors can be loaded in response to a specific need, and customized based on user, need and context.
- Based on JADE/Jess agent; supports future interaction with other agent-based components supporting search capabilities (other ongoing work).

# Broker Support: TTPs

- Tactics, Techniques and Procedures (TTPs) describe processes for acquiring specific types of resources.
- Located in a repository which is accessed by the broker.
- Can specify a wide range of methods of search and data access.

# Brokering Process (High Level)

- DCAT Pattern provides broker with role descriptions and location of TTPs.
- Broker acquires TTPs for relevant roles and context.
- Broker implements TTPs to obtain static and operational information on candidate resources.
- Constraints resolution is applied to set of candidates.
- Candidate sets are provided to client for selection/tasking.

# Benefits

- The rule based framework allows easy adaptation to different contexts or solution needs, based on selection or modification of business rules.
- The process separates the high level processes (overall search rules) from specific procedures tailored for resource access (TTPs for specific roles).
- The framework supports the integration of agent-based search technologies, to further enhance resource acquisition capabilities across enterprise boundaries.

# Summary/Future Work

- The Resource Broker provides a mechanism for resolving roles to resources in a flexible and customizable way.
- We would like to explore extensions of this work, to include:
  - More advanced interactions with heterogeneous data sources.
  - The use of ontologies to reason about resources across various domains.