Unit 6 – Agent Dialogue using KQML and KIF

Create an agent dialogue, using KQML and KIF, between two agents (named Alice and Bob).

Alice is an agent designed to procure stock and Bob is an agent that controls the stock levels for a warehouse. This dialogue should see Alice asking Bob about the available stock of 50 inch televisions, and also querying the number of HDMI slots the televisions have.

Agent Dialogue (KQML + KIF)

Step 1 – Alice asks Bob about available stock:

```
(ask-one
  :sender Alice
  :receiver Bob
  :language KIF
  :ontology warehouse-ontology
  :content "(stock-available ?item 50-inch-TV)"
)
```

Step 2 – Bob replies with the available quantity:

```
(tell
  :sender Bob
  :receiver Alice
  :language KIF
  :ontology warehouse-ontology
```

:content "(= (stock-available 50-inch-TV) 25)"

)

Step 3 – Alice asks about HDMI slot count:

(ask-one

  :sender Alice

  :receiver Bob

  :language KIF

  :ontology warehouse-ontology

  :content "(hdmi-slot-count ?item 50-inch-TV)"

)

Step 4 – Bob replies with HDMI slot information:

(tell

  :sender Bob

  :receiver Alice

  :language KIF

  :ontology warehouse-ontology

  :content "(= (hdmi-slot-count 50-inch-TV) 3)"

)

Reflection

This dialogue illustrates how intelligent agents communicate using standardized message protocols. KQML defines the message type (e.g., ask-one, tell), while KIF carries the semantic content. Such structured interactions are vital in multi-agent systems, enabling them to share knowledge and make coordinated decisions autonomously.