



# Amazon Warehouse / Kiva

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# General

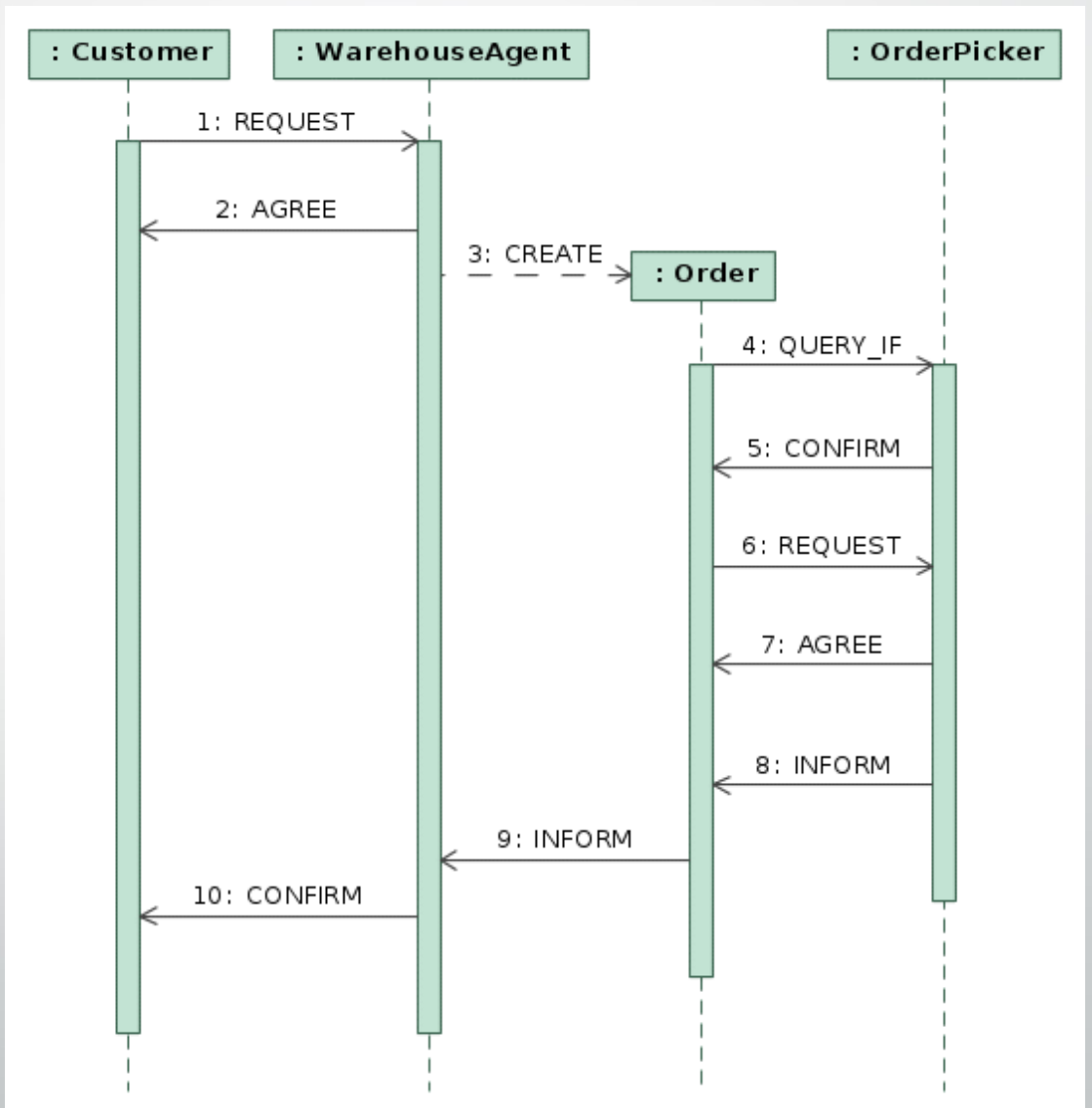
- Data transferal: JSON
- Action differentiation: JADE Performatives
- Configurability: JADE or JSON
- Customer simulation:
  - Ticking: Repeatedly spawns random orders
  - Parse: Takes orders as parameters
    - Part of json config
    - Entered in JADE on customer agent creation

# Communication

Order assignment

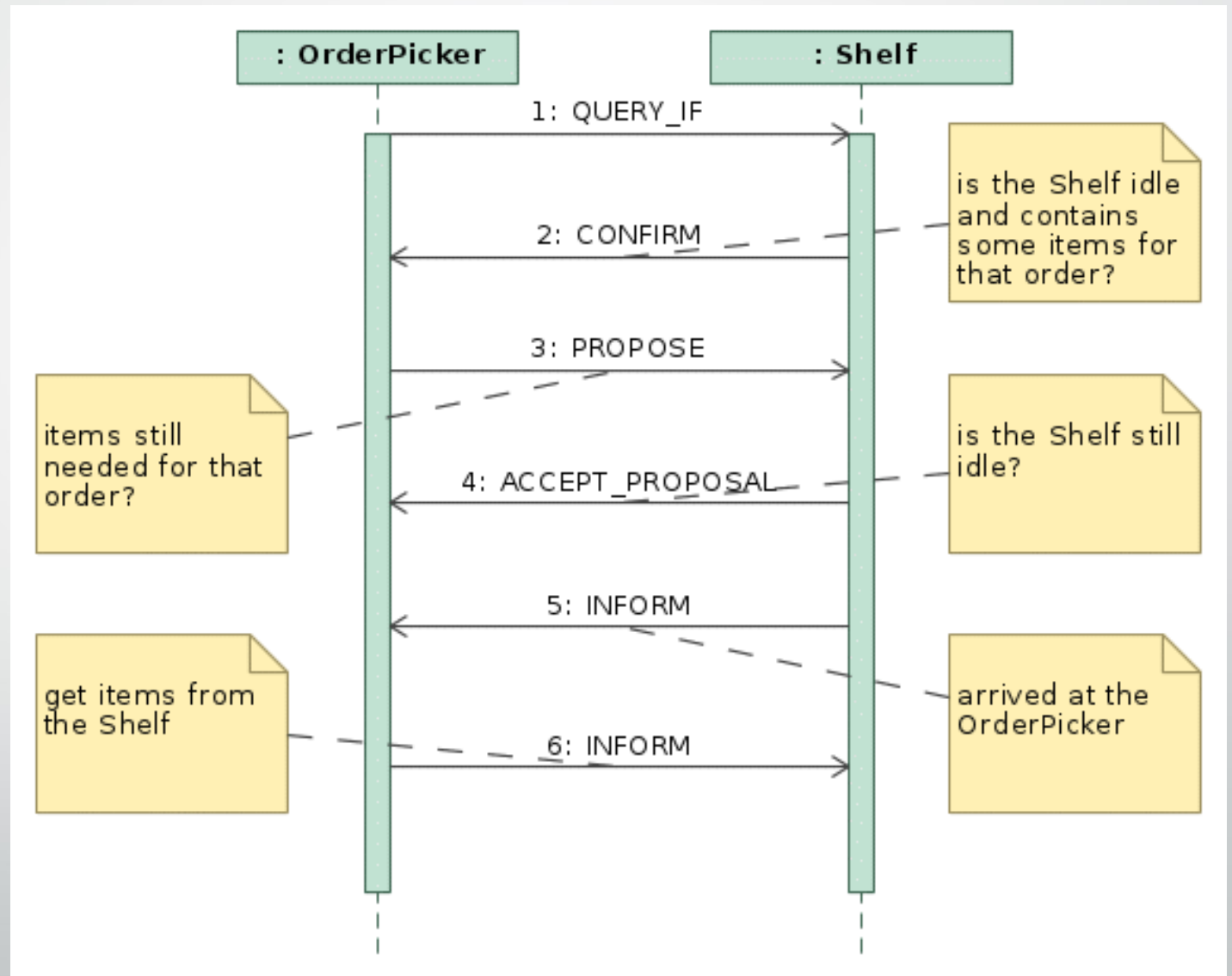
Data flow:

- REQUEST:  
{id:o,products:[{name:count}]}}



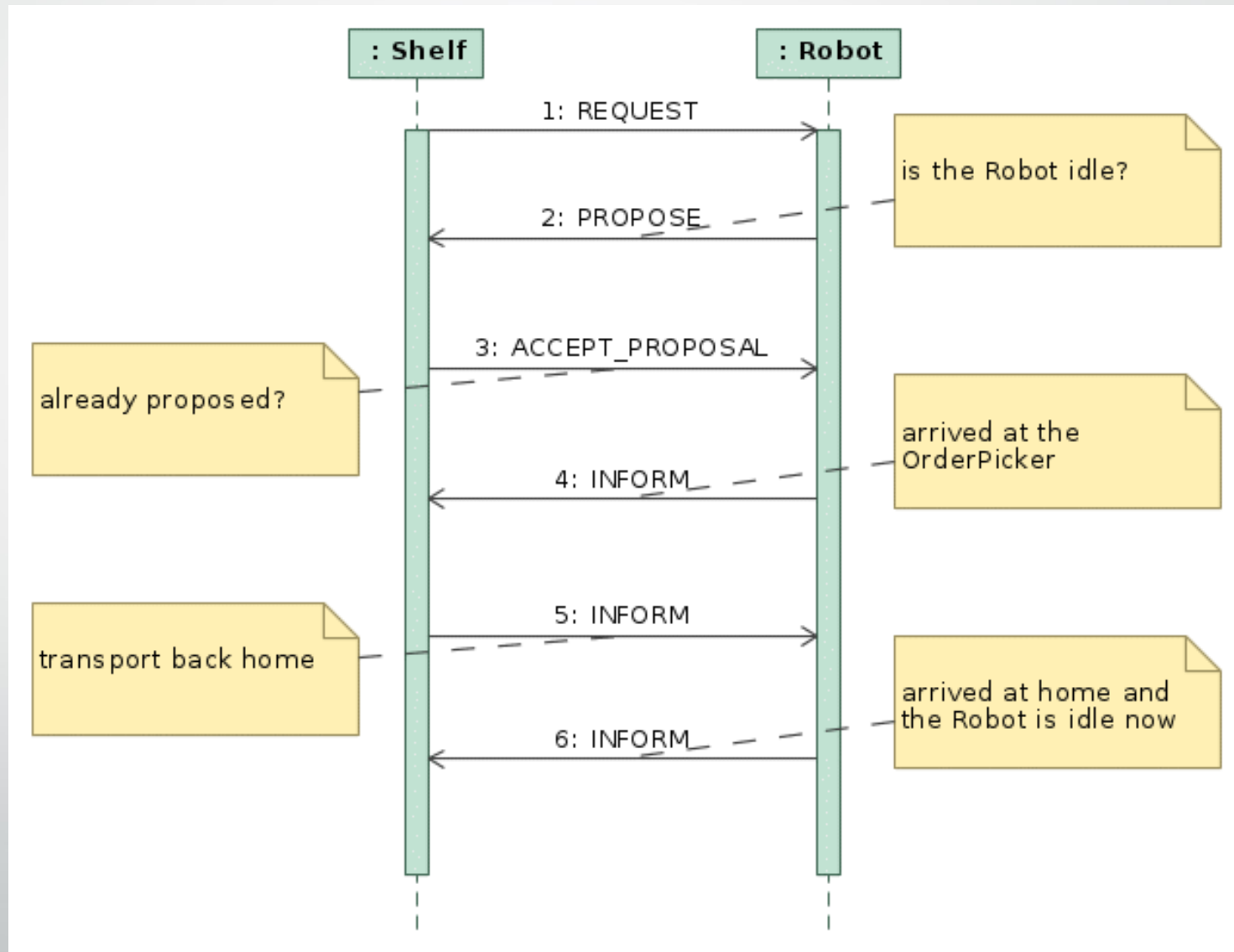
# Communication

Order processing



# Communication

Order processing



# Monitoring

- General Warehouse logs to console
- OrderPickers generate logfiles for every Order due to communication complexity and better traceability
- Shelves update their stocks „live“ in a window

```
orderpicker2_Order1000.txt X
316
317 ---shelfInteraction---
318 from: shelf_4
319 aclmessage: INFORM
320 content: [{"CAMERA":9}, {"SPOTLIGHT":5}]
321
322 ---itemStatus---
323 {BATTERY:2} : PROPERTY
324 {CAMERA:9} : PROPERTY
325 {ROTOR:6} : PROPERTY
326 {CHARGER:2} : PROPERTY
327 {CASE:7} : PROPERTY
328 {ENGINE:1} : PROPERTY
329 {STABILISER:8} : PROPERTY
330 {CIRCUIT:4} : PROPERTY
331 {SPOTLIGHT:5} : PROPERTY
332 {TUNER:1} : PROPERTY
333 {SCREW:8} : PROPERTY
334
335 Order complete, send INFORM to Order1000!
336
337
```

Warehouse - ShelfStock	
shelf_4	
SPOTLIGHT	2
CAMERA	3
CASE	74
shelf_1	
ROTOR	8
STABILISER	0
SCREW	6
shelf_3	
SCREW	79
CHARGER	73
ENGINE	3
shelf_5	
BATTERY	8
CHARGER	13
CASE	53

# Configuration

- Define kiva.config.json
- Execute parse.js to get JADE call

```
{  
  shelves: [ {uid:0, products:[  
    {name:"x",stock:{current:10}},  
    {name:"y",stock:{current:10}}  
  ]},  
  pickers: [{uid:0}, {uid:1}],  
  robots: [{uid:0}, {uid:1}],  
  orders: [{uid:0, products:[  
    {name:"x", quantity:1},  
    {name:"y", quantity:3}  
  ]}]  
}
```