



**BITS Pilani**  
Pilani | Dubai | Goa | Hyderabad

# Message Routing

---

**Madhu Venkat**

Guest Faculty  
BITS, WILP

# Message Routing

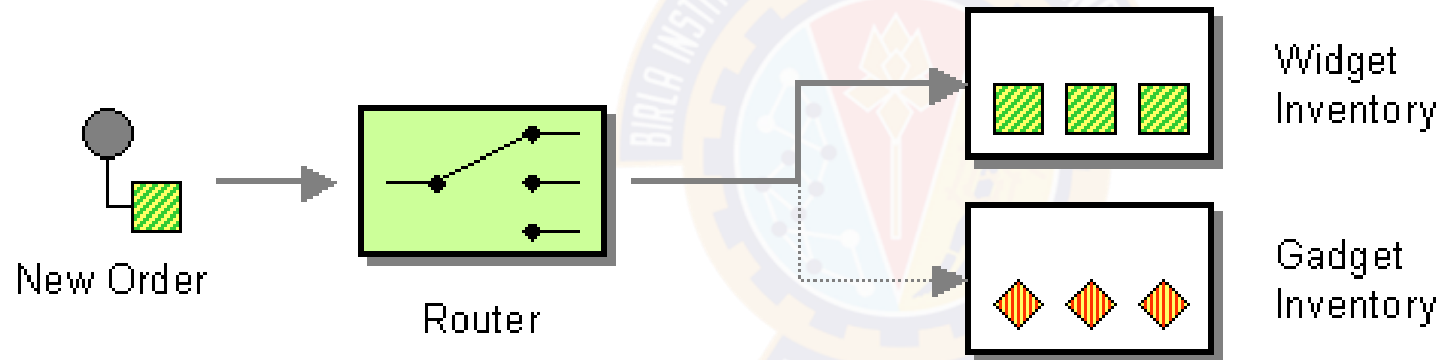
- Content-Based Router
- Message Filter
- Dynamic Router
- Recipient List
- Splitter
- Aggregator
- Resequencer
- Composed Msg-Processor
- Scatter-Gather
- Routing Slip



# Message Routing

## Content-Based Router

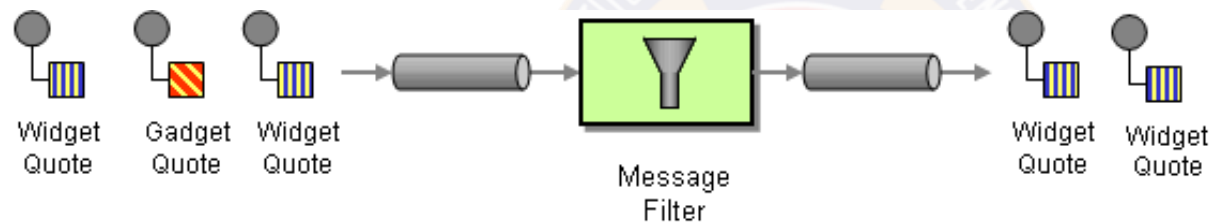
- The *Content-Based Router* examines the message content and routes the message onto a different channel based on data contained in the message. The routing can be based on a number of criteria such as existence of fields, specific field values etc.



# Message Routing

## Message Filter

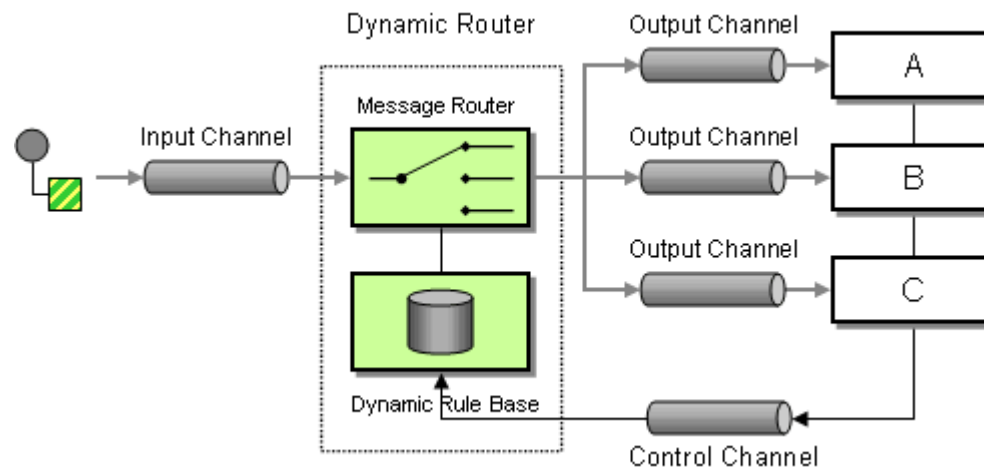
- The *Message Filter* has only a single output channel. If the message content matches the criteria specified by the *Message Filter*, the message is routed to the output channel. If the message content does not match the criteria, the message is discarded.



# Message Routing

## Dynamic Router

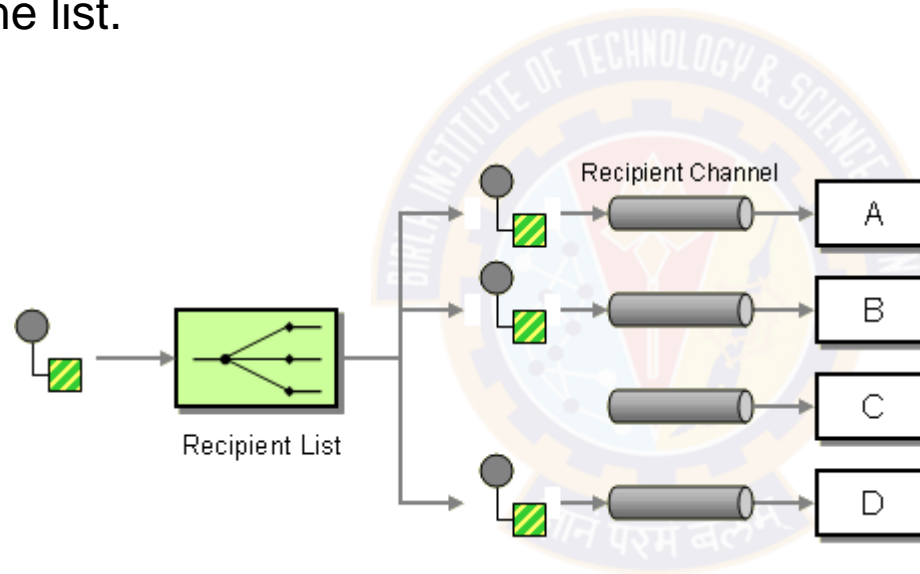
- Use a *Dynamic Router*, a Router that can self-configure based on special configuration messages from participating destinations.



# Message Routing

## Recipient List

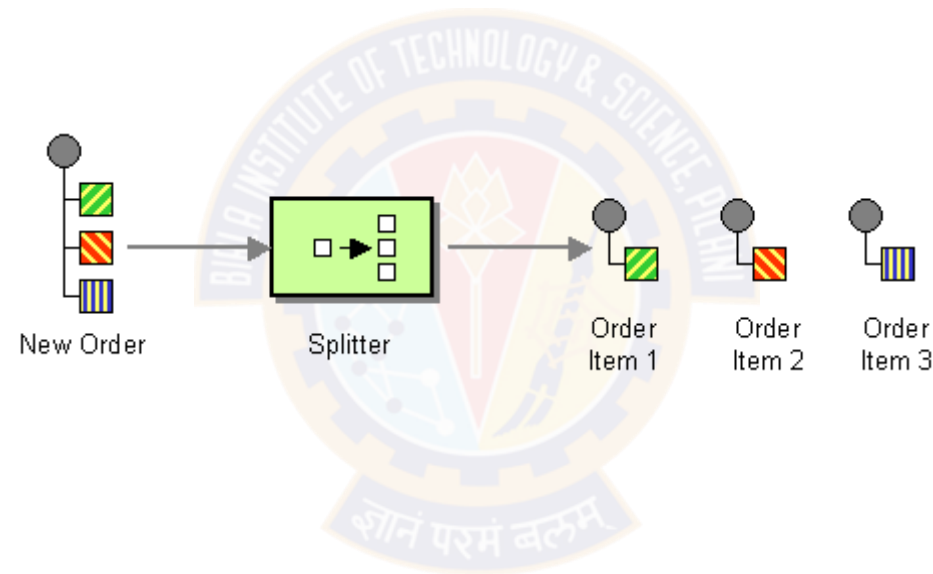
- Define a channel for each recipient. Then use a *Recipient List* to inspect an incoming message, determine the list of desired recipients, and forward the message to all channels associated with the recipients in the list.



# Message Routing

## Splitter

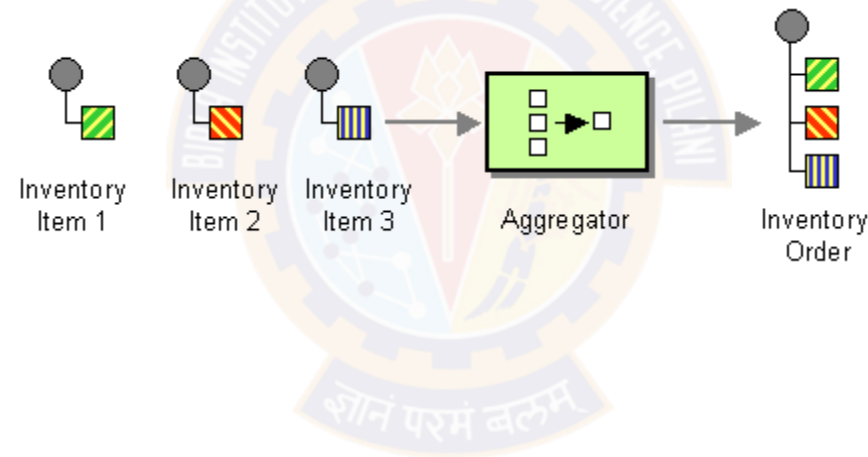
- Use a *Splitter* to break out the composite message into a series of individual messages, each containing data related to one item.



# Message Routing

## Aggregator

- Use a stateful filter, an *Aggregator*, to collect and store individual messages until a complete set of related messages has been received. Then, the *Aggregator* publishes a single message distilled from the individual messages.

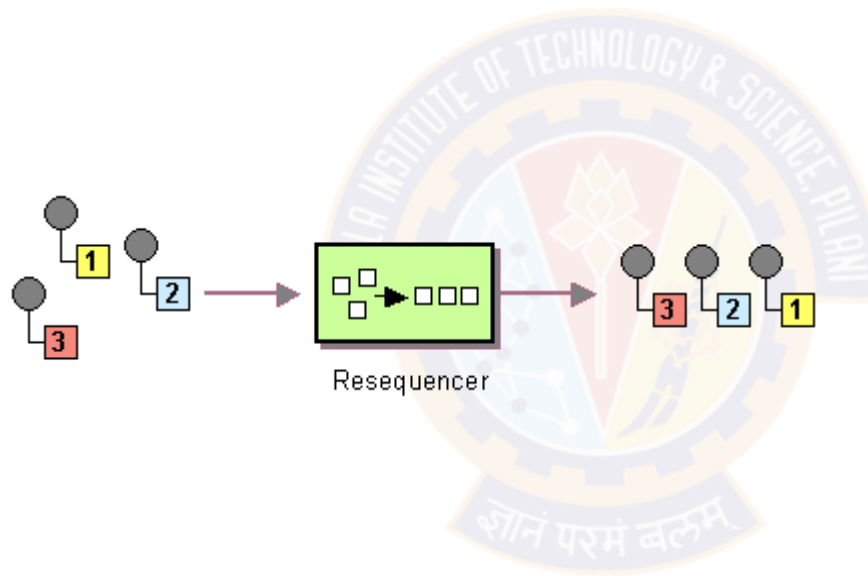




# Message Routing

## Resequencer

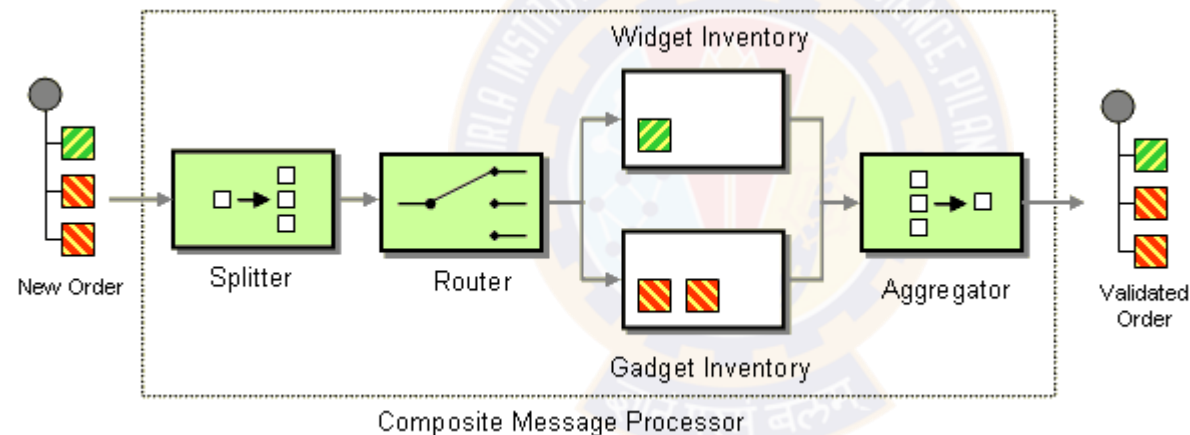
- Use a stateful filter, a *Resequencer*, to collect and re-order messages so that they can be published to the output channel in a specified order.



# Message Routing

## Composed Message Processor

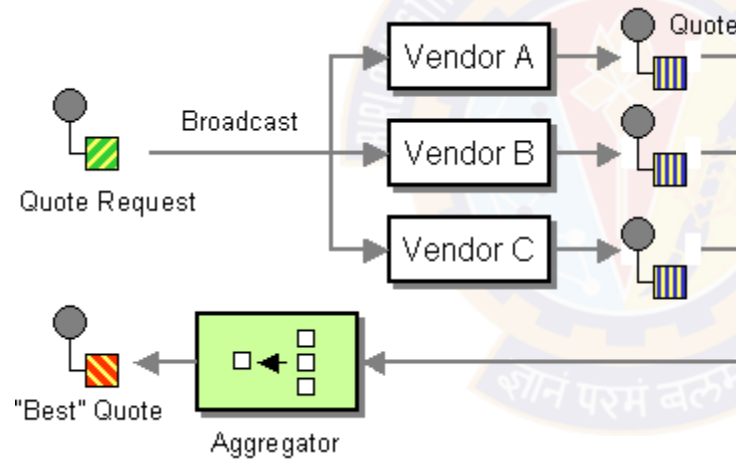
- Use **Composed Message Processor** to process a composite message. The **Composed Message Processor** splits the message up, routes the sub-messages to the appropriate destinations and re-aggregates the responses back into a single message.



# Message Routing

## Scatter-Gather

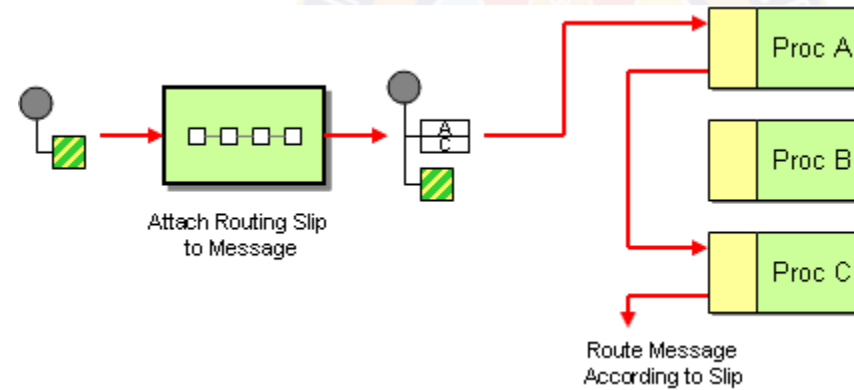
- Use a *Scatter-Gather* that broadcasts a message to multiple recipients and re-aggregates the responses back into a single message.



# Message Routing

## Routing Slip

- Attach a *Routing Slip* to each message, specifying the sequence of processing steps. Wrap each component with a special message router that reads the *Routing Slip* and routes the message to the next component in the list.





# Thank You!

In our next session:  
Message Transformation