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INFOD Session GGF15

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INFOD-WG
4 October, 2005 (GGF15 in Boston)

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Agenda

- Introduction and Next Steps - Susan Malaika – 10 minutes

- INFOD specification - Abdeslem Djaoui - 30 minutes
  INFOD patterns and use cases – Dieter Gawlick - 30 minutes

What is it?

- ***Information Dissemination*** supports timely and efficient dissemination of information customized according to consumers' needs.

- It is assumed that the information (a message) to be disseminated is created in response to an *event* and an objective is to disseminate information as soon as it becomes available.

History and Status

- The INFOD group was formed in 2003
  - Currently having weekly phone calls
  - A 1 day F2F was held immediately prior to GGF15
  - Further F2Fs are likely

- Oasis WS-Notification activities are tracked to try to ensure consistency across INFOD and WS-Notification specifications

- Do join us INFODers ☺
  - Providing a Use Case is a good way to contribute

INFOD Motivation

- *Event based systems* are becoming more common
  - sensor based computing where sensors produce messages as a result of events
  - message publishing from computing resources to help monitor and debug grid systems
  - Data streams BOF held at GGF15 on 3 October

- Standards are being developed to describe interfaces that help support *message based systems*, e.g.,
  - WS-Notification in Oasis, which describes interfaces for message publishers and brokers, to publish and filter messages; and for subscribers and consumers to express interest and consume messages

- INFOD pushes the envelope by
  - Supporting creation of messages based on events or state changes
  - Supporting publishers in the dissemination of messages
 - Supporting matching of publishers and consumers

Publishers, consumers and subscribers

- Publishers detect events and produce messages as required

- Subscribers can express interest in messages on behalf of potential consumers through subscriptions
  - Subscriptions are not a prerequisite for information dissemination to take place

- Dissemination can occur as soon as the information becomes available, or it can be deferred

- Information Dissemination makes it possible for INFOD objects (e.g., publishers, subscribers, and consumers) to play a part in defining events and messages, and in determining who consumes messages

Some INFOD capabilities

- Message subscribers and consumers have increased control, e.g.,
    - subscribers can define dynamically what constitutes events that cause messages to be published
    - subscribers can define dynamically what should appear in messages
    - Consumers can limit messages received

- Message publishers have increased control, e.g.,
    - publishers can target specific consumers

- Message filters and transformations can be applied flexibly, e.g.,
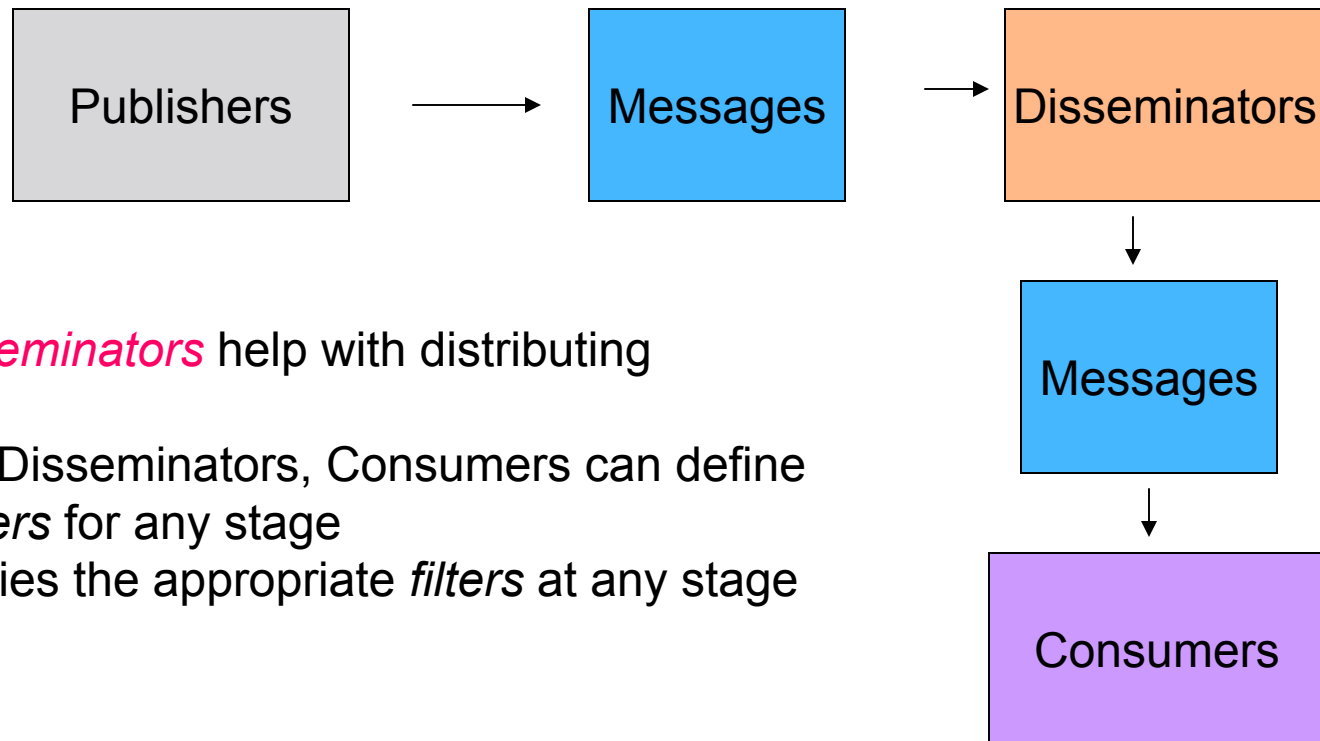   - filters can be applied at various stages

INFOD Message Creation
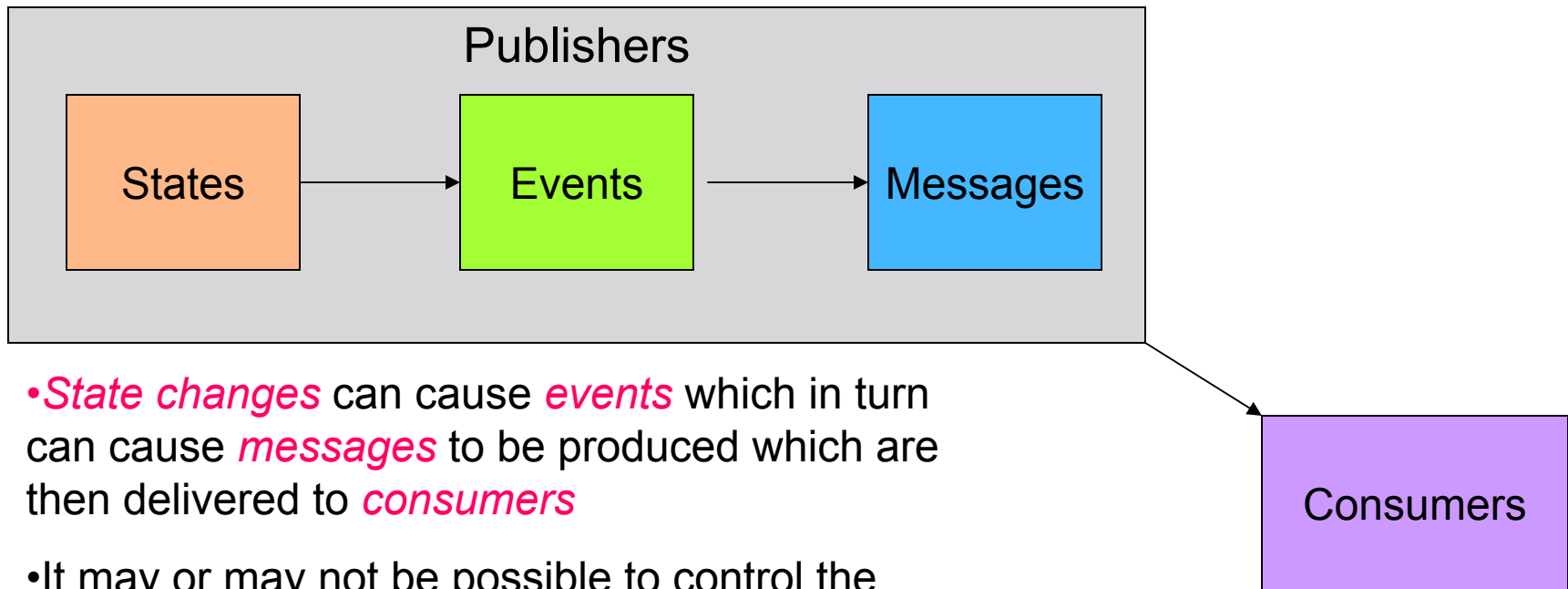
- *State changes* can cause *events* which in turn can cause *messages* to be produced which are then delivered to *consumers*

- It may or may not be possible to control the creation of messages based on events or even state

INFOD Disseminators

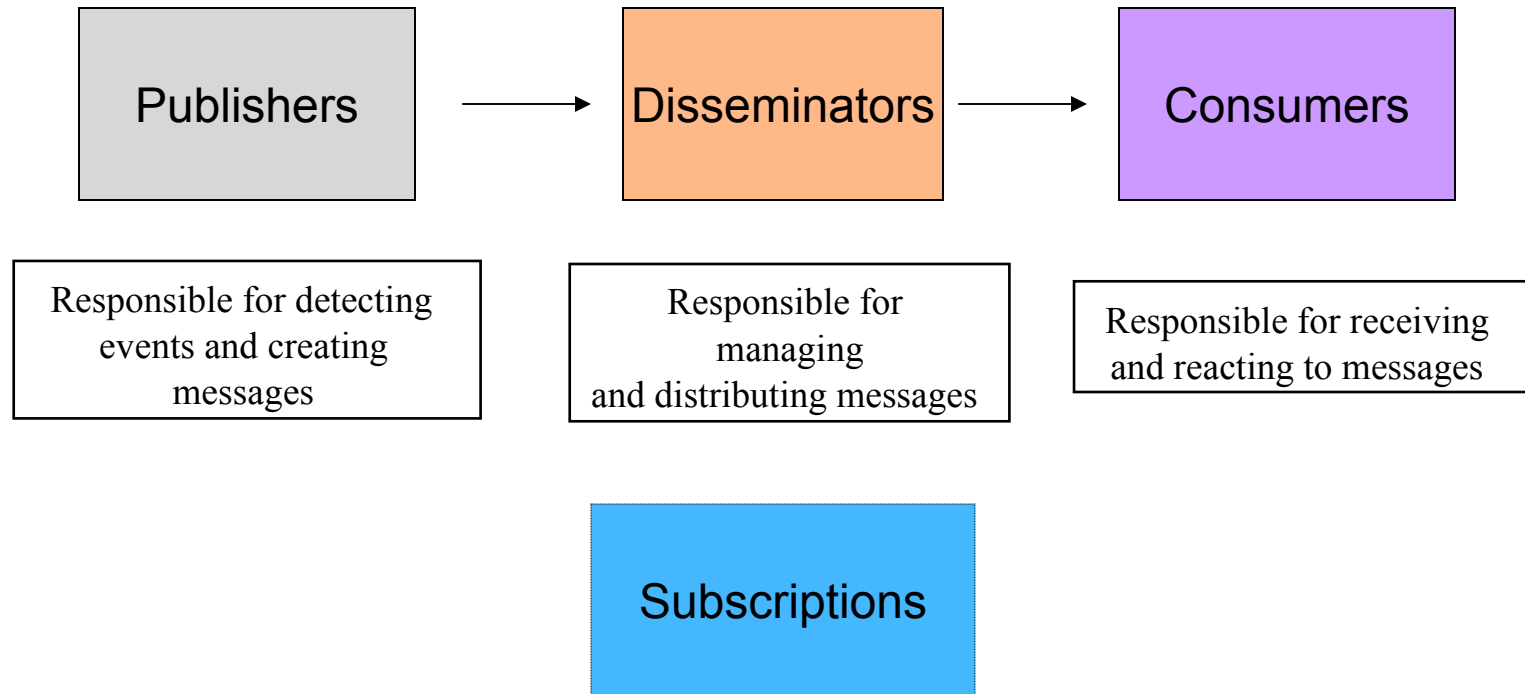Publishers → Messages → Disseminators → Messages → Consumers

- INFOD *disseminators* help with distributing messages
- Publishers, Disseminators, Consumers can define message *filters* for any stage
- *INFOD* applies the appropriate *filters* at any stage

INFOD Propagation

Publishers

Propagation

Messages → Disseminators → Messages → Disseminators

Messages

Consumers
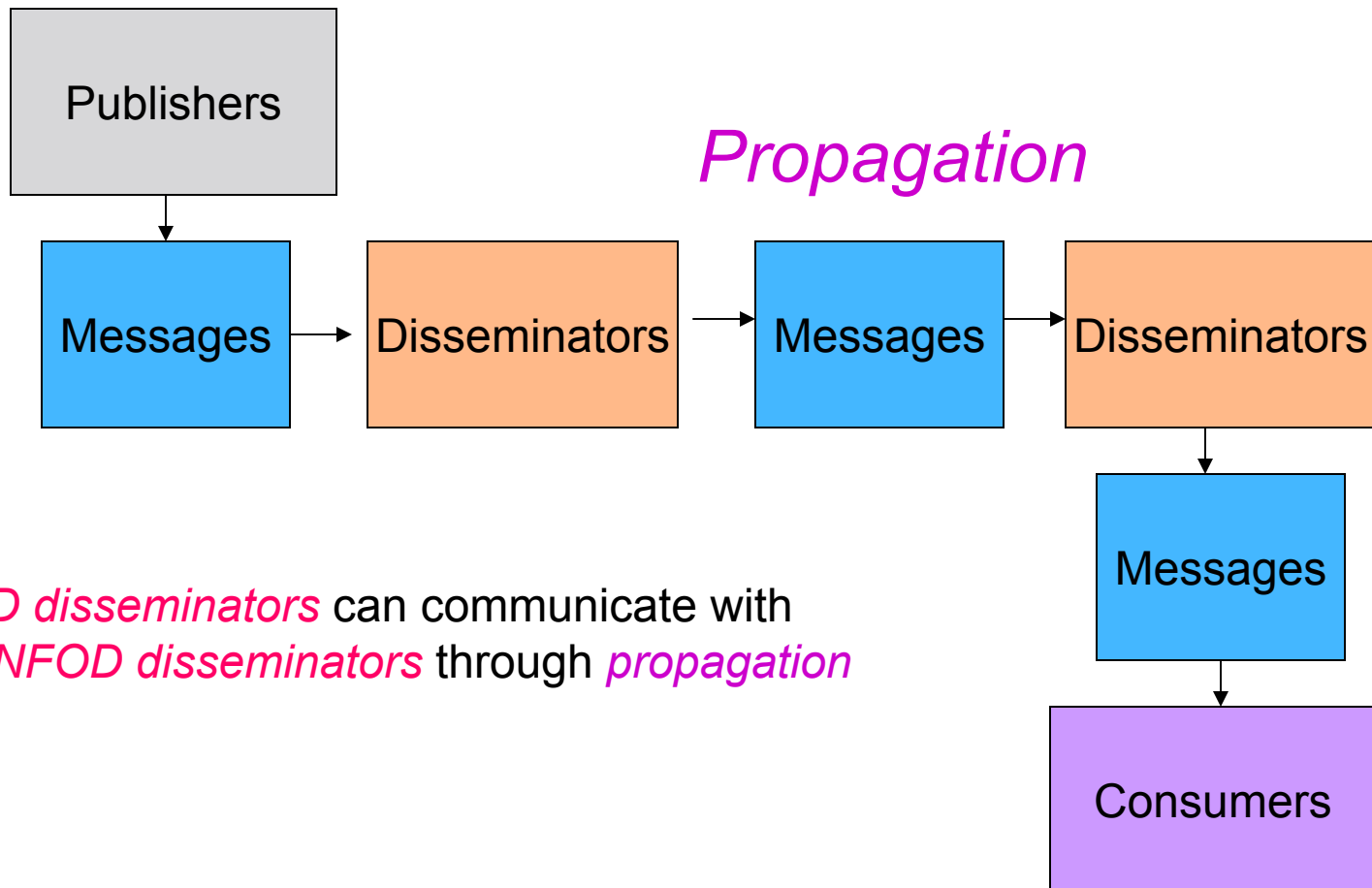
• *INFOD disseminators* can communicate with other *INFOD disseminators* through *propagation*

INFOD Objects

Publishers	→	Disseminators	→	Consumers

Responsible for detecting events and creating messages	Responsible for managing and distributing messages	Responsible for receiving and reacting to messages

Subscriptions

INFOD Registration Manager

- Contains information about all objects
  - Name
  - Properties
    - Application specific
    - Operational
  - Relations

- This is the core of the matching
  - Subscribe to all publishers who 'understand by request' and 'are trustworthy'
  - Send message to people in reporting directly or indirectly to Larry and are currently on duty
  - Accept messages only from publishers 'I trust'
  - Send messages only to consumers ' who are entitled to see them.'

Relationships Summary

- OGSA Data
- DAIS
- WSN

General WSN Comparison

- There are three distinct stages in the Publishing process
  - (1) Observation of the Situation and its noteworthy characteristics;
  - (2) Creation of the NotificationMessage artifact that captures the noteworthy characteristics of the Situation; and
  - (3) Distribution of copies of the NotificationMessage to zero or more interested parties.

- Stages (1) and (2) happen largely outside of the scope of the WS-Notification architecture; WSN does not restrict the means by which these stages must occur. WSN refers to an entity that performs stages 1 and 2 as a Publisher

- INFOD enables subscribers to influence (1) and (2) by explicitly permitting subscribers to refer to predefined or application defined situations and to cause the publisher to execute processes (usually pre-installed) that issue messages that correspond to the subscribers requirements

Actions from GGF14 Status

One INFOD F2F meetings was held since GGF14

Actions: From GGF14

Work on Use Cases

- Produced INFOD patterns and new use cases template around which the use cases will be revised
- Produced new use case (car dealer)

Work on Specification

- Interfaces have been cleaned up

Work on Issues List

- Single issues list produced

Revise Charter

- Goal to produce specification and use cases document prior to GGF16

Implementations

- Not certain yet

Next Steps

- Produce Use Cases Document prior to GGF16
  - Revise: RGMA; Sensornet, Nextgrid Animation, Car Dealer, DAIS third party delivery use cases in accordance with new template
  - Create: Chemical Spill use case

- Produce Specification Document prior to GGF16
  - Work on Specification
    - Apply Issues to the specification
    - Review specification support of use cases

- Continue compiling and managing single issues list

- Long term steps - proposal
  - 1 - Base spec - ignoring WSN - by GGF16
  - 2 - Base spec modified to augment WSN
  - 3 - Higher level spec (propagation etc)

- Volunteers needed

INFOD F2F in Chicago