

# *Information Dissemination (ID)*

GGF11: Honolulu June 2004



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# *Agenda*



- Recap from GGF 10
  - Scope
  - Model
- Detailing important areas
  - Model choice
  - Subscriber driven publication
  - Propagation
- Scenarios

# *Agenda*

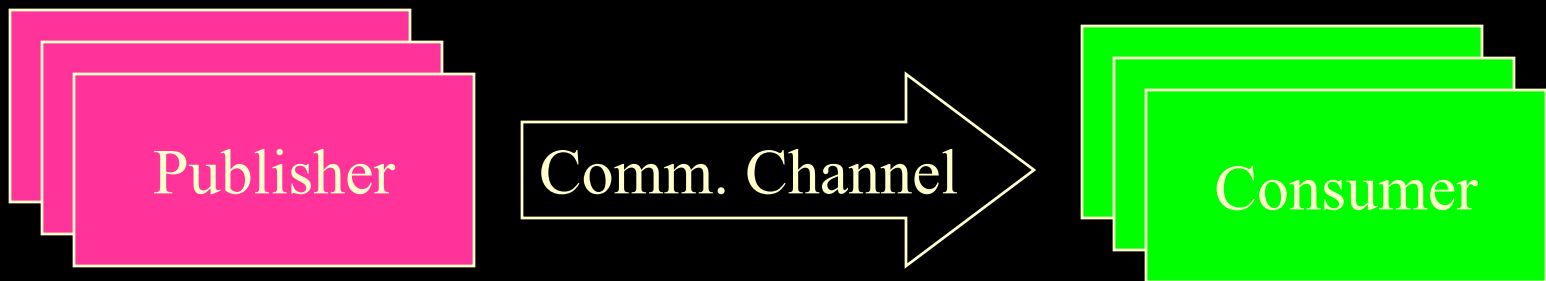


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# *Scope*

- Define a model and operations
- Define common pattern/scenarios and high-level interface for these pattern/scenarios
  - These interfaces are designed to simplify the use of INFOD for the majority of the anticipated users
- Position INFOD with respect to related standards and standards activities
  - Determine which of these evolving standards may be leveraged as infrastructure once they are ratified, e.g., WS-Notifications

# *The Basic Model*



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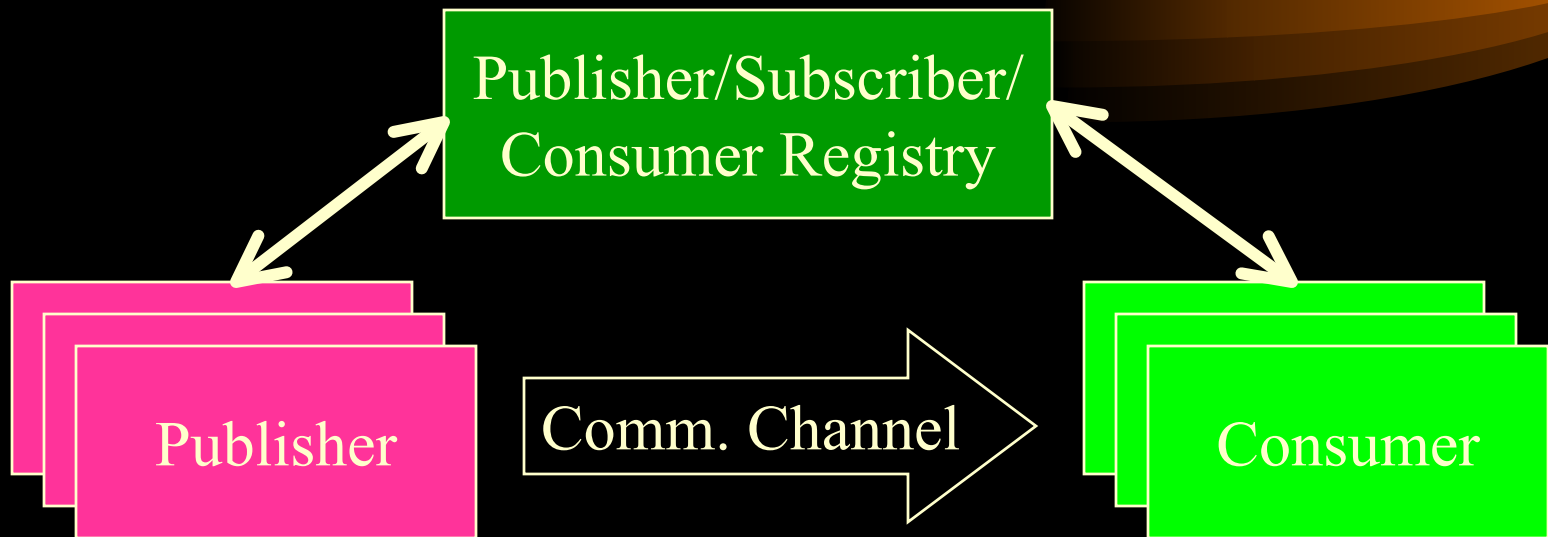


- The elements (basic entities)
  - Publisher
    - Creates information
    - Determines who needs what information, in what form, when and through which channel
      - There is no queue, subject, ... model
      - There is no subscription
    - Knowledge about consumer is NOT part of model
  - Consumer
    - Receives and consumes information
    - Reaction to information is NOT part of model.

# *Reaching Any Mix of Consumers*

- Send information to:
  - SMTP: [dieter.gawlick@oracle.com](mailto:dieter.gawlick@oracle.com) ASAP, TEL: +1-650-506-8706 BETWEEN 7 am and 6 pm
  - MYREG: [name] Susan, Dieter, Chris DURING WORK HOURS
  - MYREG: [name] manager = 'bill' or telephone %5555%
  - MYREG: [name] TOP 10 ORDERED BY (credit\_rating, distance) WITH ((EVALUATE (car, interest) IS TRUE) AND (DISTANCE (here, location) <= 10))

# *The Extended Model*





# *The Extended Model*

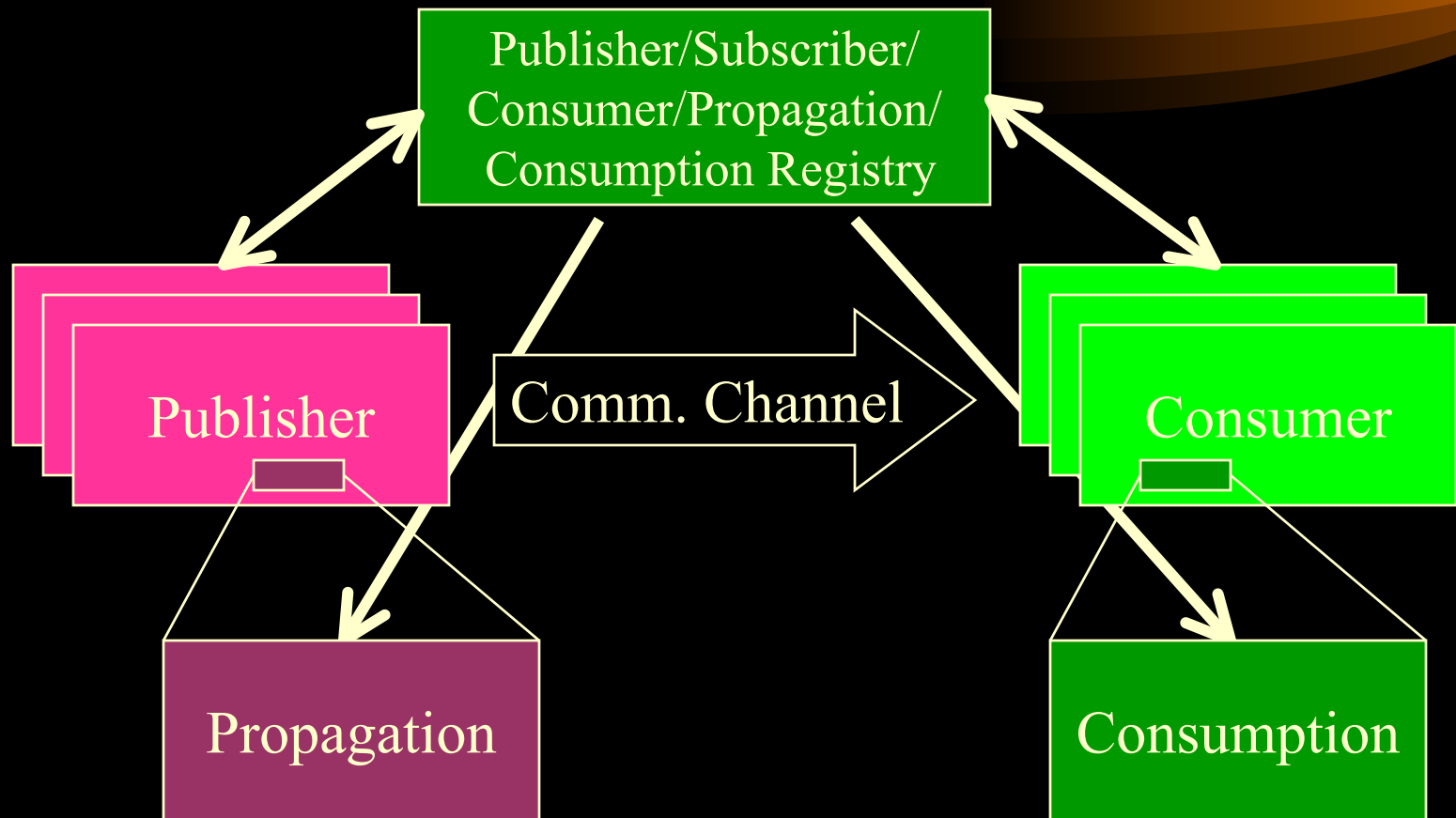
- Publisher, consumer, and ...
- Registry of profiles (for entities)
  - Publishers
  - Consumers
  - Subscribers
  - Entities can play multiple rules concurrently

# *The Extended Model*



- Profile information
  - Name, any other relevant characteristic
  - Publisher profile
    - Available information (publications, topics, subjects, files, tables, collections, ...)
    - Language(s) to describe interest
  - Subscriber
    - Specification of interest (what, when, for whom)
  - Consumer
    - Specification of channel(s), time, and conditions

# *The Full Model*



# *The Full Model*



- Propagation
  - Determines how published information should be disseminated
    - To whom, at what time and with which operational characteristics
- Consumption
  - Determines how propagated information should be processed

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# *Subscriber Driven Publications*

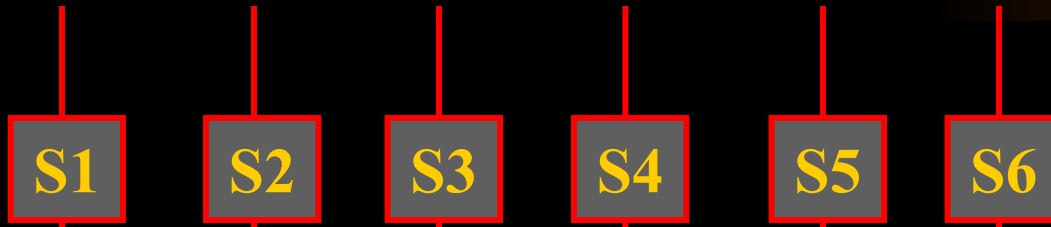
- Places of rules (acting as filters)



- Rules have moved up to producers
  - Generic information → rules towards/in consumers
  - Customized information → rules towards/in publishers
  - Rules **in** publishers provide highest customization and provide **Subscriber Driven Publication**

# *Subscriber Driven Publications*

- Publisher captures history of information



- New state due to change of information or time
- Review each all rules with any state change
  - Rules have to be able to compare states
  - Rules can be evaluated on demand, on schedule, 'ASAP'
  - Rules 'watch' evolution of data/information

# *Propagation*

- Separation of subscription from delivery
  - Subscription
    - What is of interest?
  - Delivery/Propagation
    - When and how should the information be delivered?
    - More general
      - What process should be activated
      - When should a process be activated



# *Propagation*



- Performance, scalability
  - Size of messages, # of messages, # of recipients, # of subscriptions
- Best effort, at least/most once, exactly once
- Non transactional, transactional
- Secure, ...
  - Auditable, non-reputable
- ‘Fair’ distribution of information – everyone gets information within a specified time limit

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# *Scenarios*



- Use Cases
  - DAIS
  - Replication
  - EAI, Workflow
  - ‘Information Driven’ SOA
    - RFID, BAM

# Scenarios

- DAIS
  - Execute Query/DML statements based on schedules or rules
    - Manage invocation of processes
    - Provide operational such as recovery
  - Disseminate Query/DML results
- Replication
  - Replicate selected information to selected consumers as it becomes available

# Scenarios

- EAI, Workflow
  - Drive actions in response to the evolution of all data, not just control data
  - Provide information dissemination based on rules
  - Provide operational characteristics for mission critical applications
    - Exactly once messaging, reliability
    - Security, auditing, and tracking