

Information Dissemination (INFO-D)

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Agenda



- Motivation
- Patterns/Scenarios
- The basic model
 - Publisher and consumer
- Extended model
 - ... + registry of information about publishers and consumer
- The full model
 - ... propagation and consumption

Motivation



- What do we have
 - There is acceptable support to **pull** information
 - There is limited support to disseminate information
- What we need
 - A support for the timely awareness of new/changing information – to **push** information

Patterns/Scenarios



- Publishing information to any – mix of - consumers
- Publishing relevant information
- Business scenarios

Reaching Any Mix of Consumers



- Send message to:
 - SMTP: dieter.gawlick@oracle.com, TEL: +1-650-506-8706
 - REG: [name] Susan, Dieter, Chris
 - REG: [name] manager = ('bill' or telephone %5555%)
 - REG: [name] (EVALUATE (car, interest) = T) and (DISTANCE (here, location) <= 10) ORDERED BY (credit_rating, distance) TOP 10

Reaching Any Mix of Consumers

- A mix of recipients specified by addresses on different communication channels
- A list of recipients
- A set of recipients characterized through an expression against information in a registry
- A set of recipients who are interested in specific information (classical publish/subscribe)
- A set of recipients who are interested and who have the 'right' characteristics (mutual filtering)
- Any mix of the above

Publishing Relevant Information

- Publish/subscribe requires publishers to capture the right information
 - There is no limit to what could be of interest – the number of potential publications is *infinite*
 - The reason (event) to create information and its content depends on the needs of the subscribers
- A solution: Publish based on subscriptions – or demand driven publication
 - Demand driven publication will become the sweet-spot for INFO-D
 - This function complements the – pull - data access

Business Scenarios



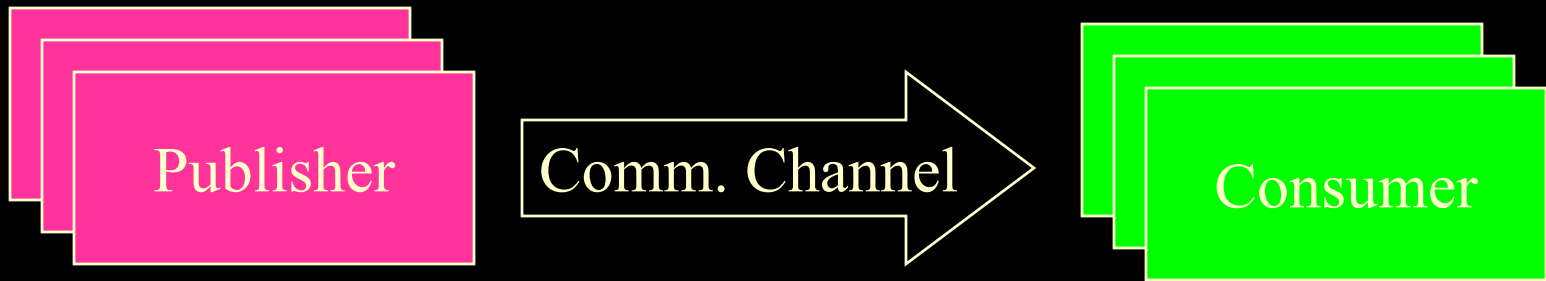
- Replication
 - Replicate selected information to selected recipients as it becomes available – based on rules
- EAI, workflow
 - Classical integration technology
- BAM – Business Activity Monitoring
 - Supervise business objectives and react to deviations – activate agents, propagate information
- RFID
 - Application requiring EAI plus BAM

The Basic Model



- The elements
 - Publisher
 - Creates publication
 - Determines who will receive what information, in what form, when and through which channel – no involvement of consumer
 - Acquisition of knowledge about consumer is NOT part of model
 - Consumer
 - Receives information
 - There is no explicit subscription
 - Reaction to information is NOT part of model.

The Basic Model



The Extended Model

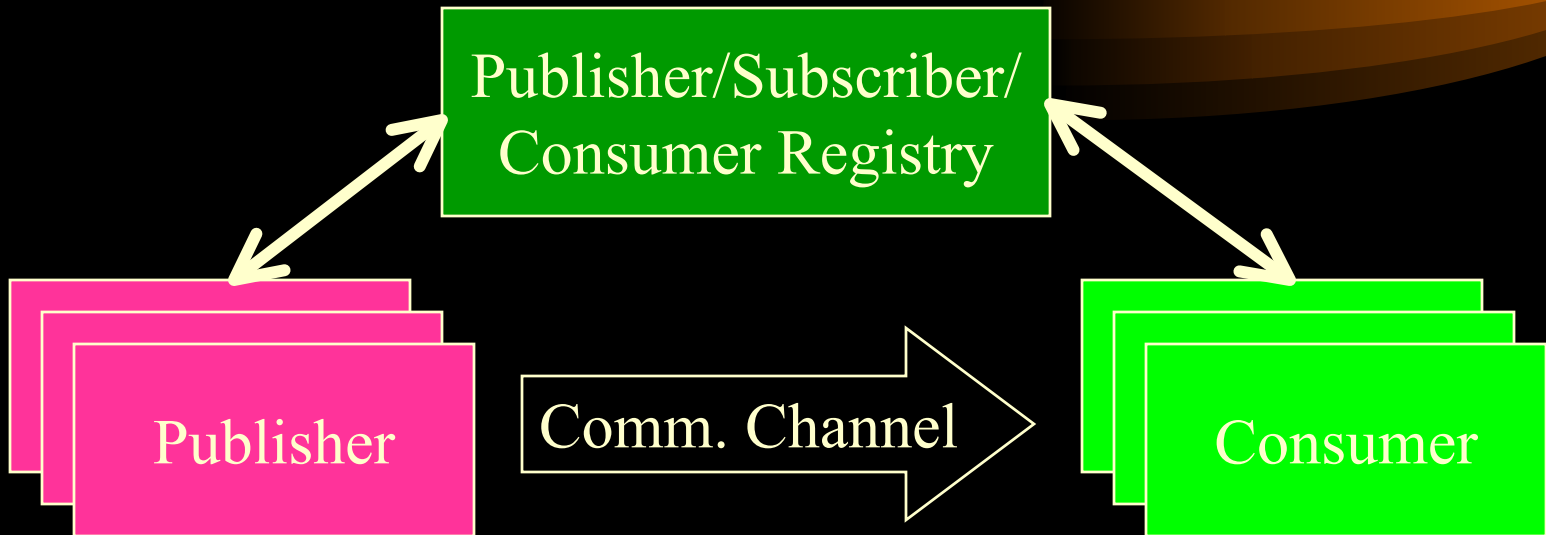
- Publisher, consumer, and ... registry of profiles for
- Publisher
 - Name, any other relevant characteristic
 - What information is available (publications, topics, subjects, files, tables, collections, ...)
 - Language(s) to specify interest

The Extended Model



- Subscriber
 - Name and other relevant characteristics
- Consumers
 - Name, any other relevant characteristics
 - When and what information is of interest
(Subscription represented by rules)
 - What should be done if information becomes available

The Extended Model

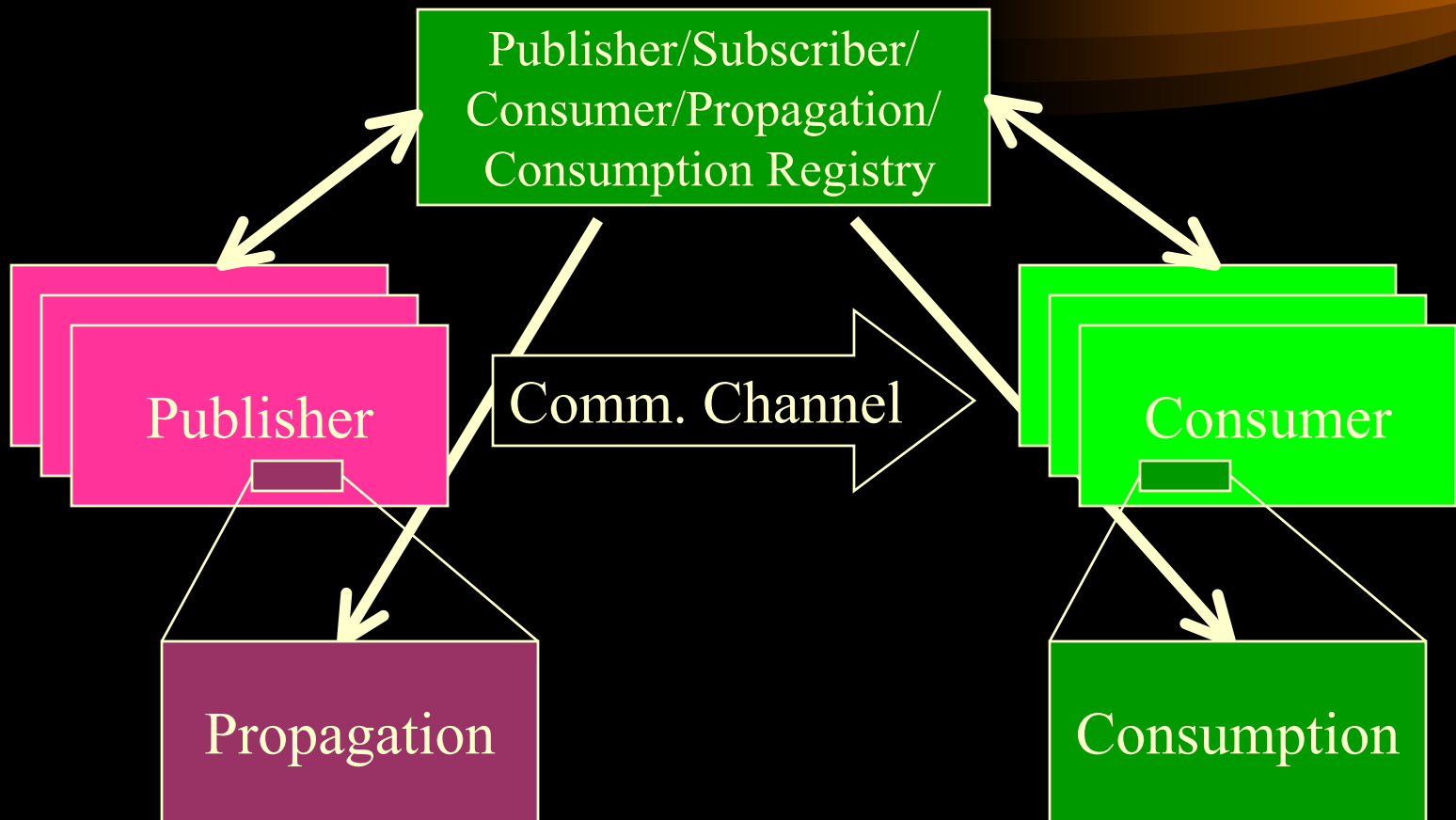


The Full Model



- Propagation
 - Determines what published information has to be propagated where at what time and with what operational characteristics (rules)
- Consumption
 - Determines how propagated information has to be processed (rules)

The Full Model



Operational Characteristics



- 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
- Distribute information ‘fairly’ – everyone gets information within a specified time limit

Where to Learn Much More



Friday, March 12 at 2 – 3:30 pm:

Data Access and Integration
Services – WG



Questions

Comments