



Information Labelling

(for MULTI-LEVEL / MULTI-CAVEAT SECURITY & PRIVACY)

March 2007

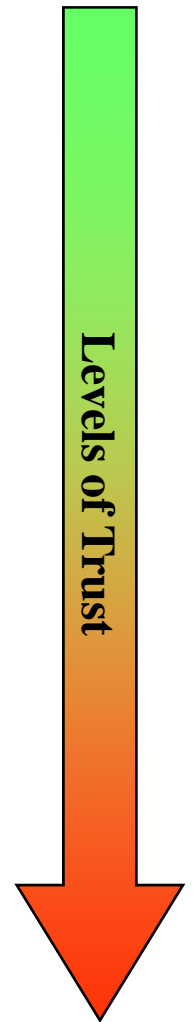
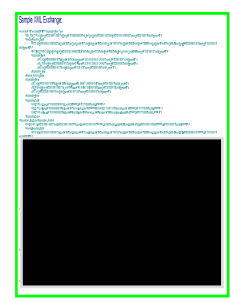
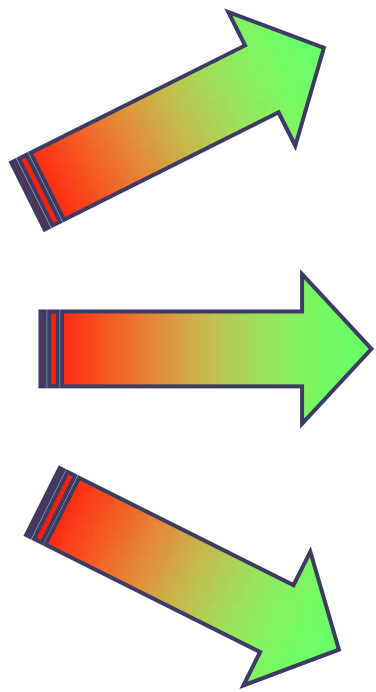
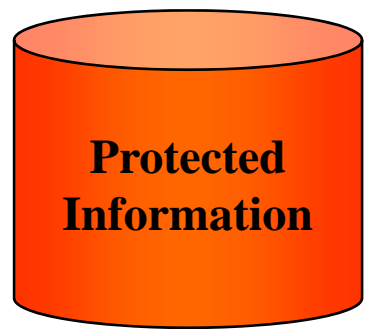


Labelling Challenges

- Labelling Standard
- Application of Labelling standards to data stores
 - Unstructured
 - Semi-structured
 - Structured
- Processing labels
- Security Profile / Accreditation

What are we trying to do?

Selective Data Release-ability



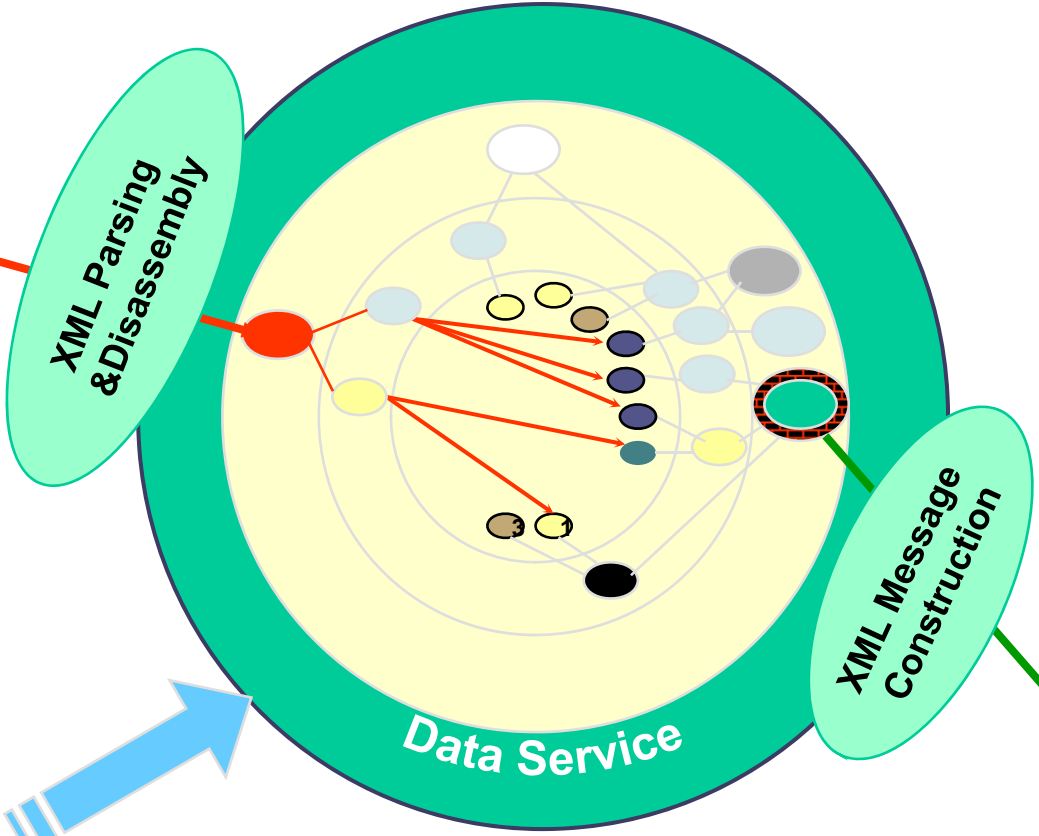
Data Release-ability (XML Example)

```

Sample XML Exchange
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<root>
  <data>
    <id>1234567890</id>
    <name>John Doe</name>
    <age>30</age>
    <gender>M</gender>
    <email>john.doe@example.com</email>
    <phone>1234567890</phone>
    <address>
      <street>123 Main St</street>
      <city>New York</city>
      <state>NY</state>
      <zip>10001</zip>
    </address>
  </data>
</root>

```

<CLASSIFIED>



Data Service

- IA Policy
- XML Schema
- Business Rules
- Filter Characteristics

<LOWER CLASSIFICATION>

```

Sample XML Exchange
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<root>
  <data>
    <id>1234567890</id>
    <name>John Doe</name>
    <age>30</age>
    <gender>M</gender>
    <email>john.doe@example.com</email>
    <phone>1234567890</phone>
    <address>
      <street>123 Main St</street>
      <city>New York</city>
      <state>NY</state>
      <zip>10001</zip>
    </address>
  </data>
</root>

```

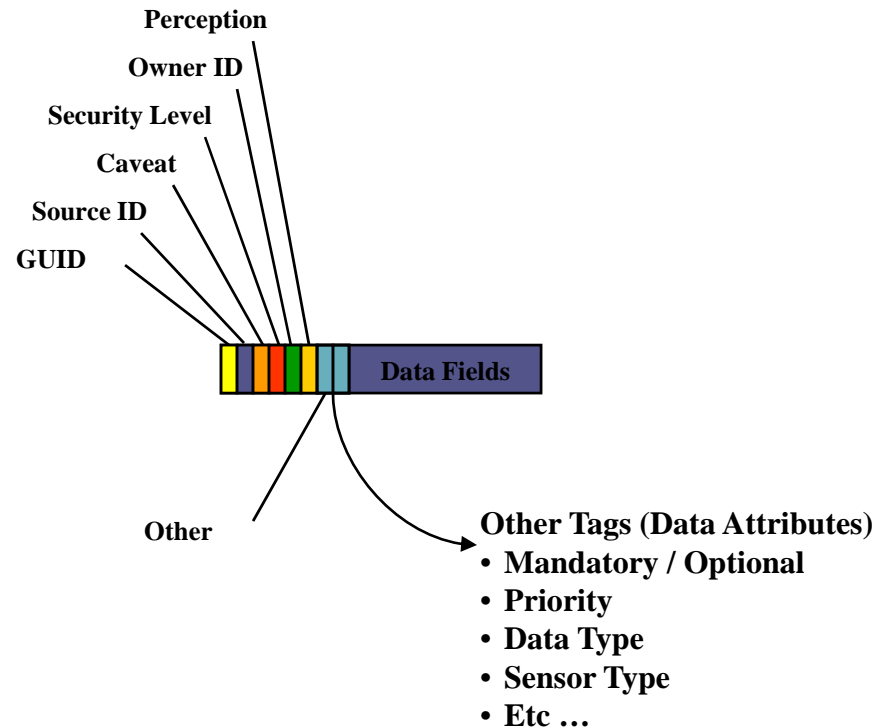
Security and Pedigree Tags

Primary Interest

- GUID
- Security Level
- Caveat

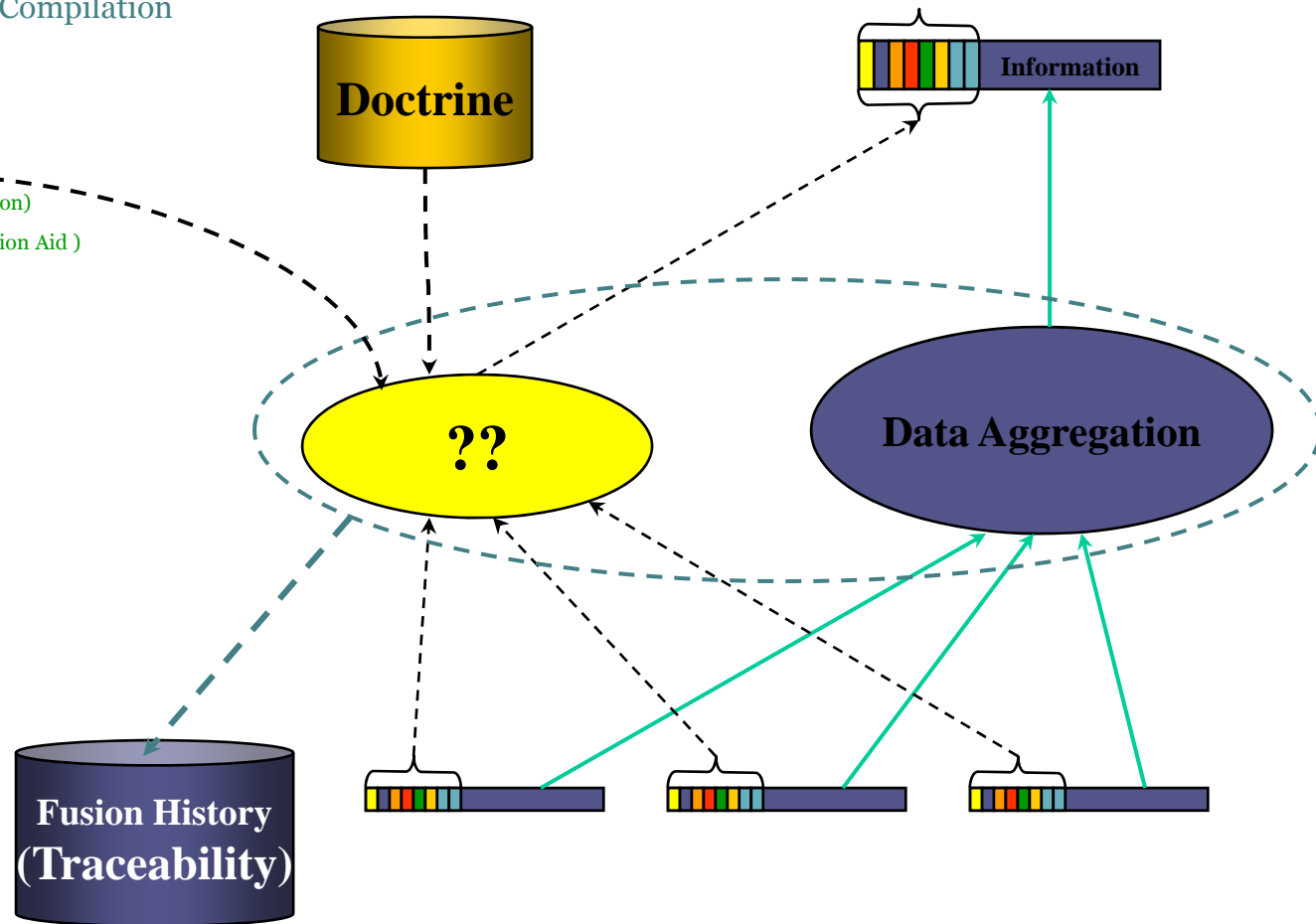
Secondary Interest

- Data Ownership
- Perception
- Source ID



Data Aggregation Challenge to IA

- Data Aggregation
 - E.g., Tactical Picture Compilation
- Tag Aggregation
 - ✓ GUID
 - ✓ Data Owner ID (Role/Function)
 - ✓ Source ID (fusion App / Decision Aid)
 - × Security Level
 - × Caveat (Eyes Only??)
 - × Perception



IS: Information Sharing
IA: Information Assurance
IQ: Information Quality
QoS: Quality of Service

IS/IA Challenge to Messaging

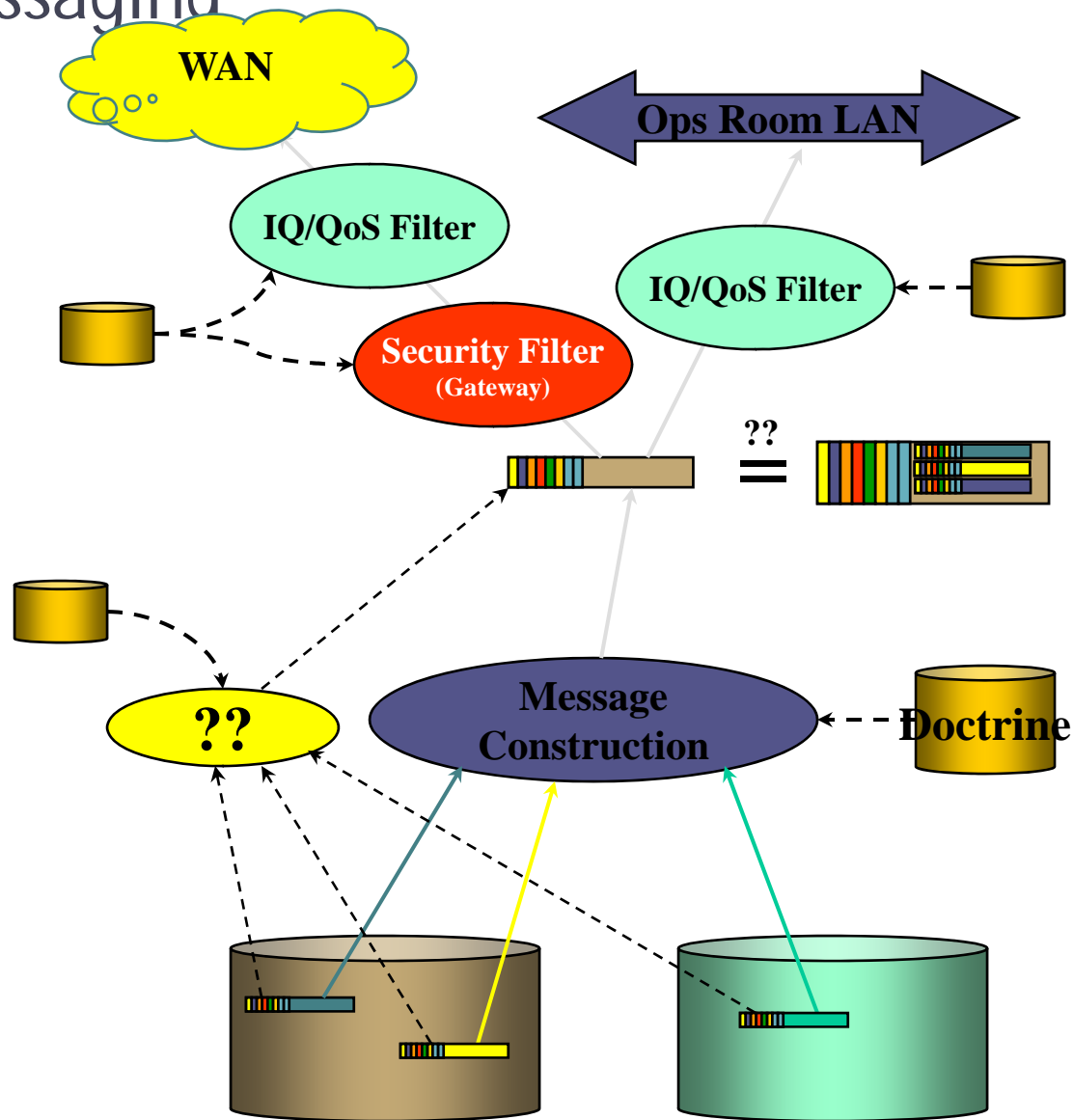
- Security Filter

- Will Embedded Elemental Data Tags contained In Message??
- Will Filters be required to Address Semantics??

- IQ / QoS Attributes?

- Doctrine (Attributes of ??)

- IS
- IA
- IQ



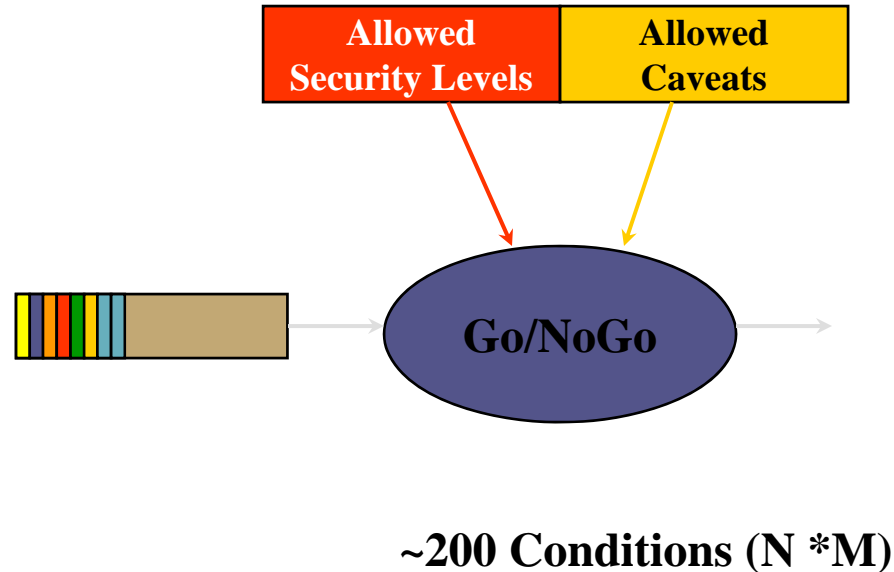
Current Security Capability

- **Current Accredited MLS Solution**

- GO / NOGO Gates based on Document/Message Tags
- Tagged to document – no data element level
- MLS Applications assume tagging prior to receipt
- No ability to do message downgrade

- **Results**

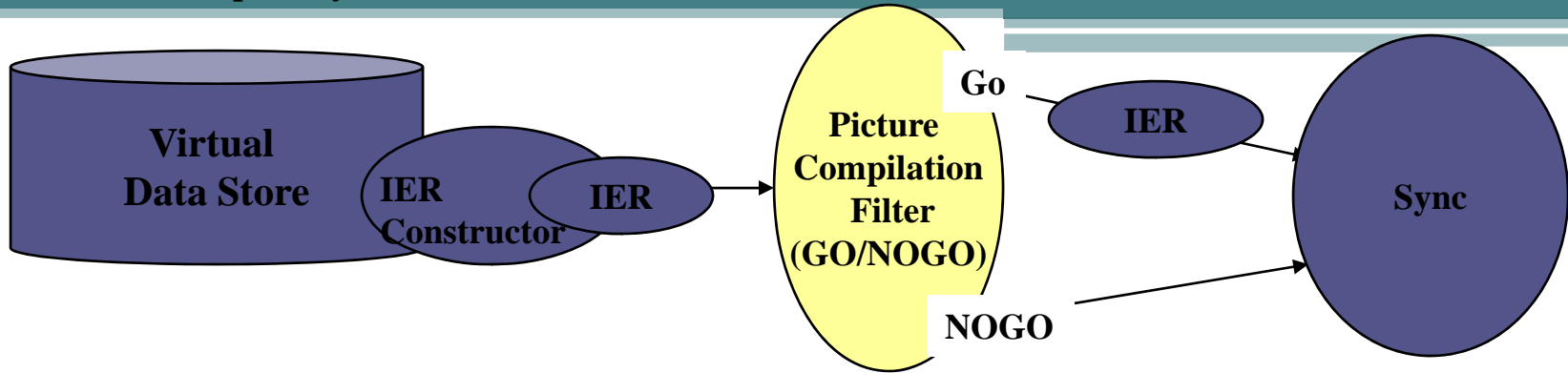
- Fusion Application Need a Tag Aggregate Data
- Message Construction Applications need to Tag Messages
- HMCCS Needs Doctrine



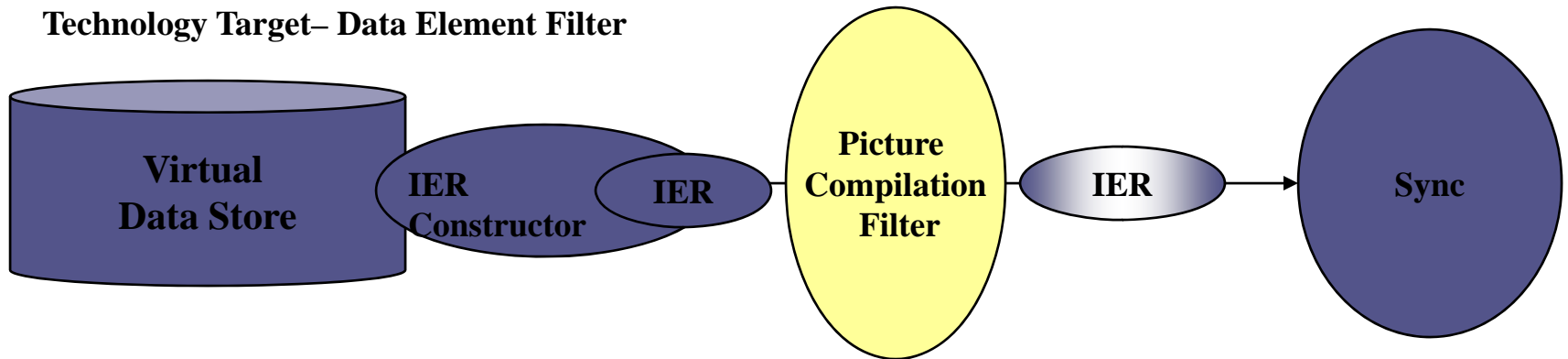
$N = \#$ of security Levels (UC, R, C, S, ...)

$M = \#$ of Caveat Supported (<40 Caveats)

Current Capability – GO/NOGO Filter



Technology Target– Data Element Filter



Required– Data Element Filter

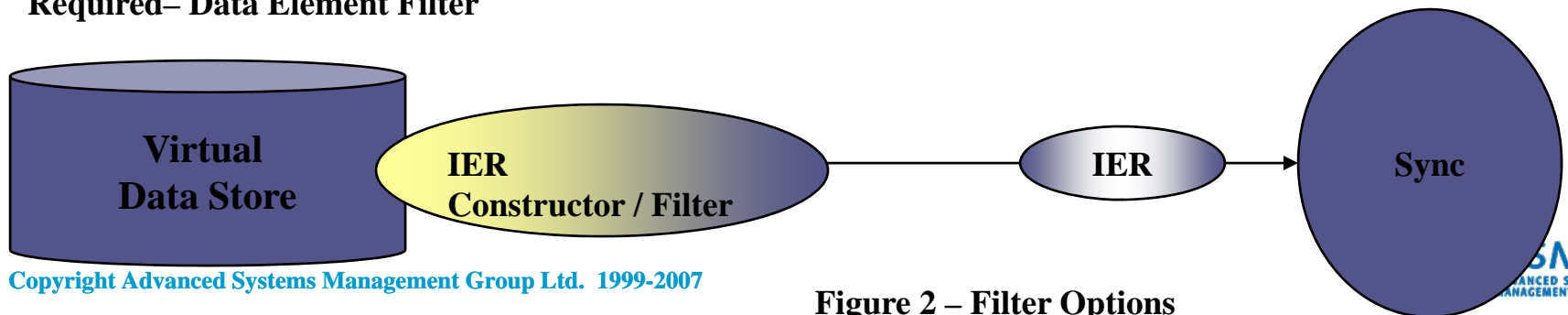
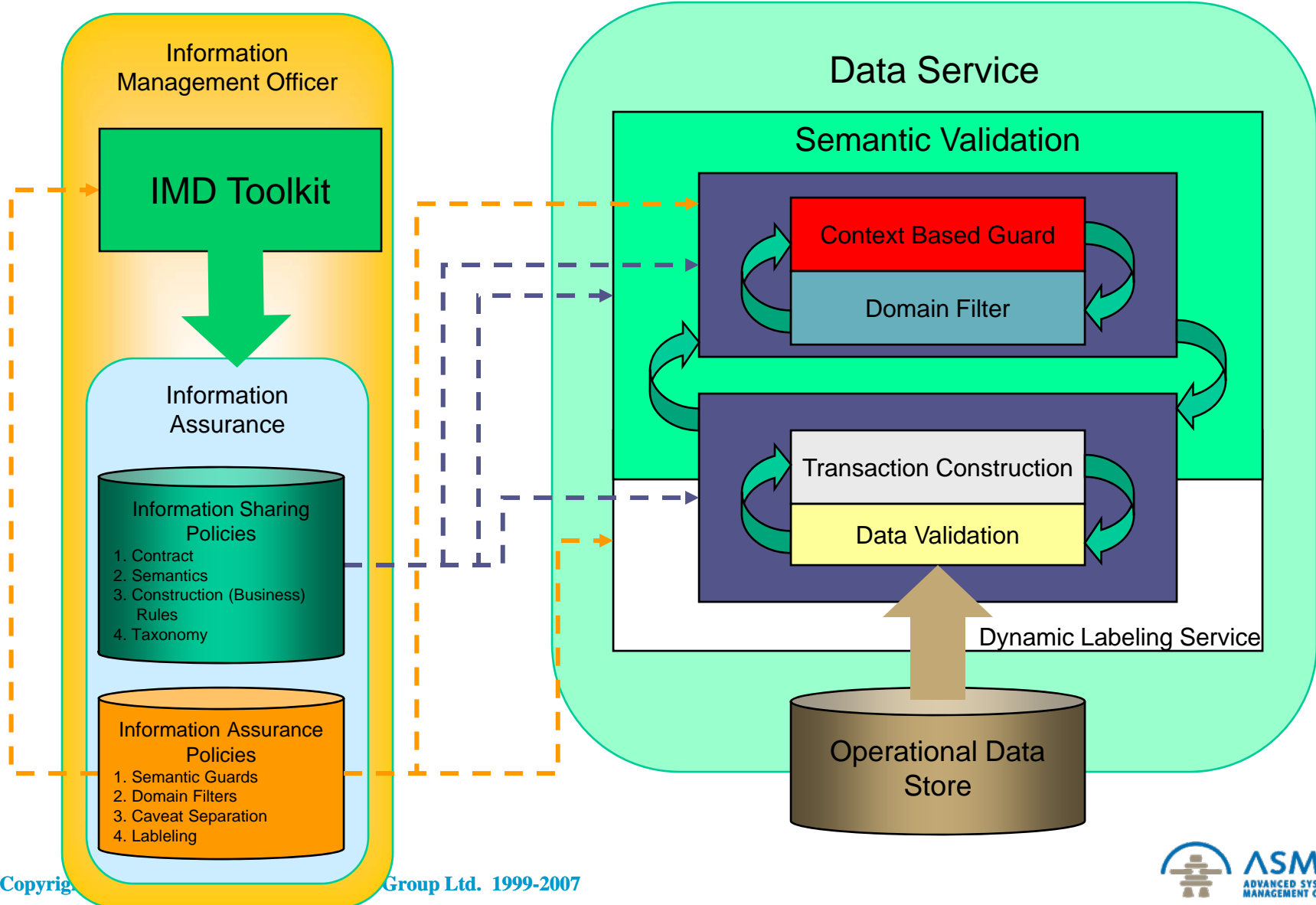


Figure 2 – Filter Options

Operation of a Data Service



Q & A

- Labelling Standard
- Application of Labelling standards to data stores
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- Processing labels
- Security Profile / Accreditation