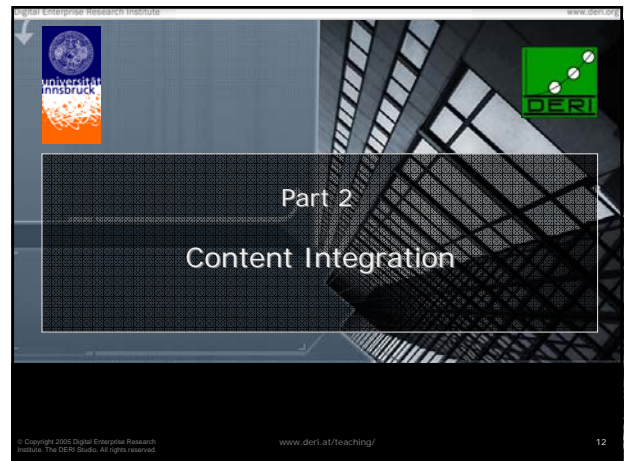
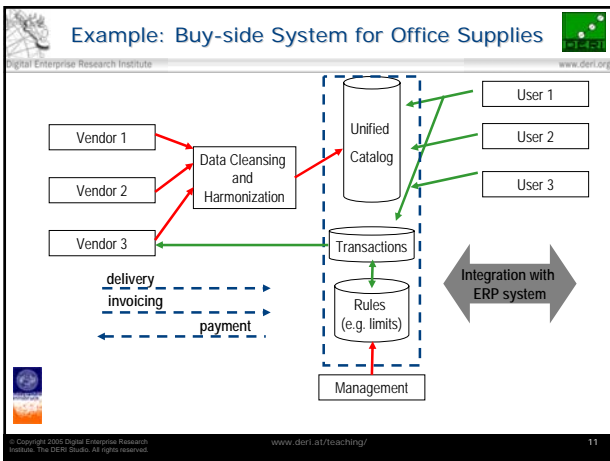
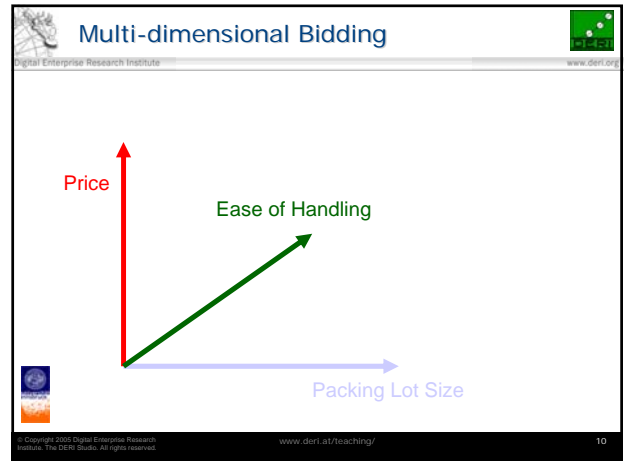


- ### Price-finding Mechanisms
- List prices
 - Auctioning
 - e.g. as in e-bay
 - Reverse Auctions
 - Tendering
 - especially in the public sector



Content Integration

- The task of integrating data from multiple sources into a consistent target data collection.
- Examples
 - Catalog data integration
 - spend analysis
- Characteristics
 - highly operational
 - many sources, many targets
 - heterogeneity in structure and semantics very frequent
- Two approaches
 - Standardization
 - Integration

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Data Exchange with XML

```

    graph LR
      A[Application A] --> XML[XML Document]
      XML --> B[Application B]
  
```

Good foundation for **common** and **lasting** exchange formats!

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Using XML Grammars as Interface Specifications

- For requirements specifications,
- Service-level agreements,
- Legal documents,
- etc.

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XML and CAD

- DesignXML
 - www.designxml.org
 - Autodesk Initiative
 - supported by AutoCAD 2002, but not yet widely in use.
- aecXML
 - International Alliance for Interoperability (IAI)
 - <http://www.iai-na.org/aecxml/mission.php>

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Countless XML Initiatives

| | | |
|-------------------------|------------------------|-------------------------|
| Accounting (11) | Energy/Utilities (23) | Religion |
| Advertising (6) | Environmental (1) | Retail (6) |
| Aerospace (24) | Healthcare (15) | Robotics/AI (5) |
| Agriculture (3) | Human Resources (23) | Science (59) |
| Arts/Entertainment (25) | Industrial Control (3) | Security (1) |
| Astronomy (14) | Insurance (6) | Software (82) |
| Automotive (12) | Internet/Web (25) | Supply Chain (23) |
| Banking (11) | Legal (10) | Telecommunications (24) |
| Biology (4) | Literature (14) | Translation (7) |
| Business Services (3) | Manufacturing (4) | Transportation (8) |
| Catalogs (9) | Marketing/PR | Travel (3) |
| Chemistry (3) | Math/Data (1) | Waste Management |
| Computer (8) | Mining (10) | Weather (6) |
| Construction (10) | Multimedia (24) | Wholesale |
| Consulting (17) | News (10) | |
| Customer Relation (6) | Public Service (3) | |
| Customs (2) | Publishing/Print (28) | |
| Databases (8) | Real Estate (15) | |
| E-Commerce (56) | | |
| EDI (18) | | |
| ERP (4) Economics (2) | | |
| Education (43) | | |

etc.

<http://xml.coverpages.org/xmlApplications.html>

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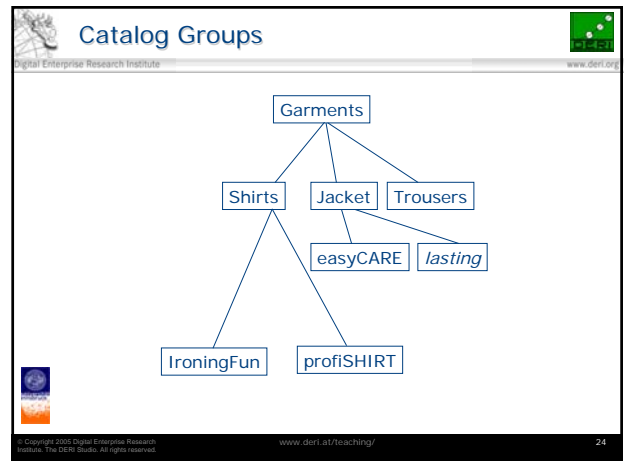
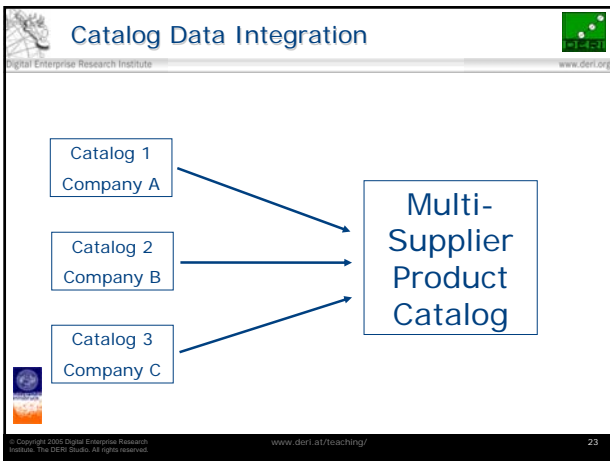
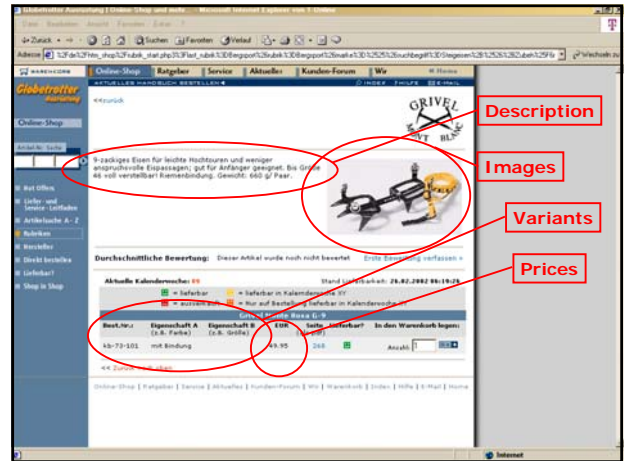
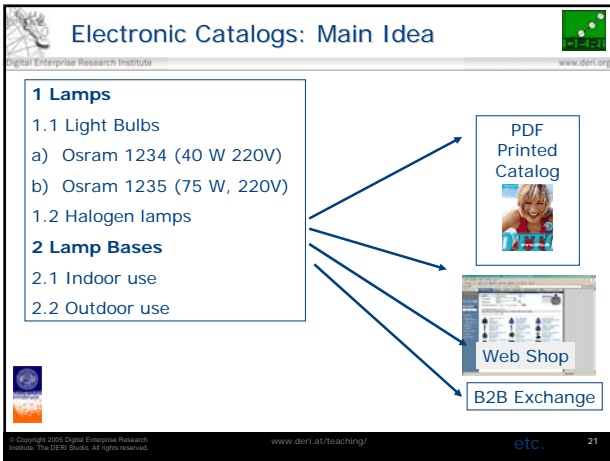
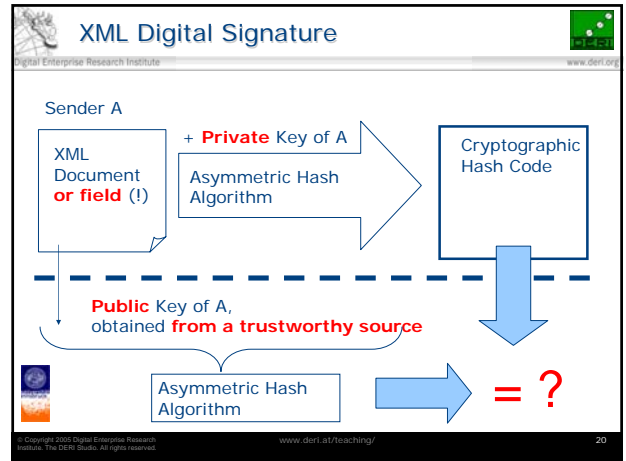
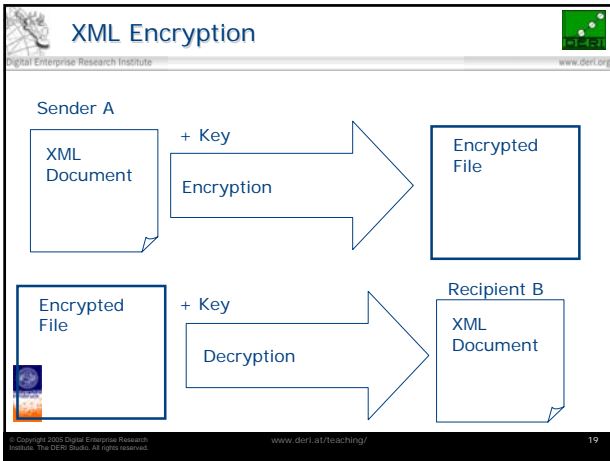
XML Data Transmission

```

    graph LR
      XML[XML Document] -- "e-mail, FTP, floppy disk, CD-ROM, ..." --> Dest[Destination]
  
```

XML documents are just files...

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BMEcat: Catalog Data Interchange Specification

- more than 11 000 users
- massive support from German corporations
 - Alcatel, American Express, Audi, Bayer, BMW, DaimlerChrysler, Deutsche Bahn, Deutsche Telekom, Lufthansa, Mannesmann, Siemens,...
- www.bmecat.de

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BMEcat: Three Transactions

- Complete Catalog (T_NEW_CATALOG),
- Update single products (T_UPDATE_PRODUCTS) and
- Update prices (T_UPDATE_PRICES).

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BMEcat and Catalog Data Management with SAP

- SAP Exchange Infrastructure (SAP XI)
- Success study (no endorsement ©)
 - http://www.all-for-e.de/projekte/mennekes_success.htm

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BMEcat: Basic Message Structure

- **Header:** Control data, supplier, customer, relevant framework agreement
- **Transaction Data:** Product descriptions (identifier, properties, prices,...)

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Classification Schemes for Products and Services

```

graph TD
    Fuels --> Diesel
    Fuels --> Gas
    Fuels --> Kerosene
    Diesel --> regular
    Diesel --> Biodiesel["Biodiesel (sic!)"]
    Gas --> unleaded
    Gas --> leadet
  
```

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UNSPSC

Nummernsystem

Allgemeine Beschreibung der einzelnen Stufen

- 43 → Segment (Stufe 1)
- 43-17 → Familie (Stufe 2)
- 43-17-22 → Klasse (Stufe 3)
- 43-17-22-05 → Waren (Stufe 4)
- 43-17-22-05-02 → Geschäftsbeziehung (Stufe 5)

Die ersten vier Stufen charakterisieren die vollständige Güterklassifikation

Anhang einer weiteren ein- oder zweistelligen Nummer (optional bzw. wahlweise)

www.unspsc.org

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eCl@ss

Nummernsystem Benennung und Ordnungsmerkmale

24 Kommunikationstechnik, Bürotechnik Sachgebiet (Stufe 1)

24-01 Hardware (Informationstechnik) Hauptgruppe (Stufe 2)

24-01-03 Personalcomputer (Hardware) Gruppe (Stufe 3)

24-01-03-05 Computer-Mäuse Untergruppe (Stufe 4)

Die ersten vier Stufen charakterisieren die Güterklassifikation, weitere Merkmale können optional hinzugefügt werden.

Kennung Merkmale

| | |
|--------|--------------------------|
| AAA001 | Hersteller |
| AAA002 | Produkt Typ |
| AAA003 | Hersteller-Artikelnummer |
| DDA018 | Farbe |
| AAA171 | Lieferant |
| DA004 | Stauraum |
| CBB018 | Gewicht |
| CBA100 | Außendimensionen/Kennmaß |
| CBA102 | Produktbezeichnung |
| AAA889 | EAN Code |

usw.

Standard-Merkmaliste

www.eclass.de

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ECCMA Open Technical Dictionary (eOTD)

EGIS (Güterklassen-Lexikon) n Klasse / Merkmal m EGAS (Merkmallexikon)

EGII 054891 Computer Data Service: Compact Disc Read-only Memory Mastering

EGIC 100.00140.00001 Definition: (optional)

EGII Klassenspezifischer (hierarchisch)

EGAI Merkmalspezifischer (hierarchisch)

EGAI 002931 Disk Diameter

EGAC 18.02067 Definition: (optional) Datentyp

EGAC (hierarchisch)

www.eotd.org

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openTRANS

- BMEcat-compatible set of business documents
- www.opentrans.de

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Thank you!

The slides will be available on the internet at <http://www.heppnetz.de/teaching/bis>

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