



Standards for securities : is ISO 15022 the way forward ?

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Senior Business Manager



Is ISO 15022 the way forward ?

- ▶ What is the issue ?
- ▶ How do we/will we use standards ?
- ▶ How does ISO 15022 work ?
- ▶ Tips to make it happen

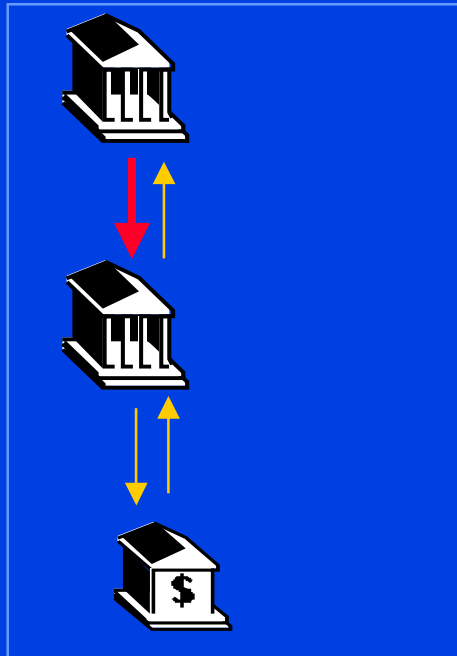


- Why isn't the business content more important than the format ?
- Why do I need new standards every time the business evolves ?
- Why do I need to change standards when I change network ?
- Can I use the same standard for batch processing and for interactive applications ?
- How can I keep and enhance my level of STP from the beginning ?
- How will XML change my environment ?



Standard environment today

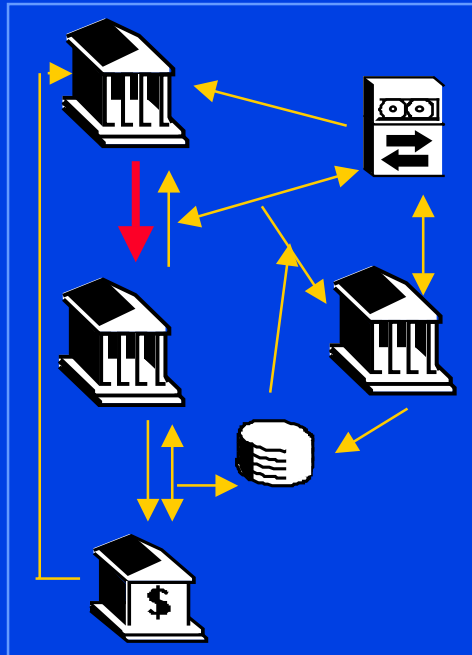
A transaction today



- A transaction is a chain
 - linear
 - chronological
- We think store & forward,
 - with more or less ‘ batching ’
- Output first
- Manual first
- The basis is ‘ the message ’



Standard environment for tomorrow



A transaction tomorrow

- A transaction becomes
 - Multi-directional
 - Multi-layers (TFMs, data bases..)
- Flows can be
 - Store & forward
 - Real-time /interactive
 - Downloads & file transfers
- Output is input
- Automated from the start
- The basis is each actual piece of data : ' the business element '

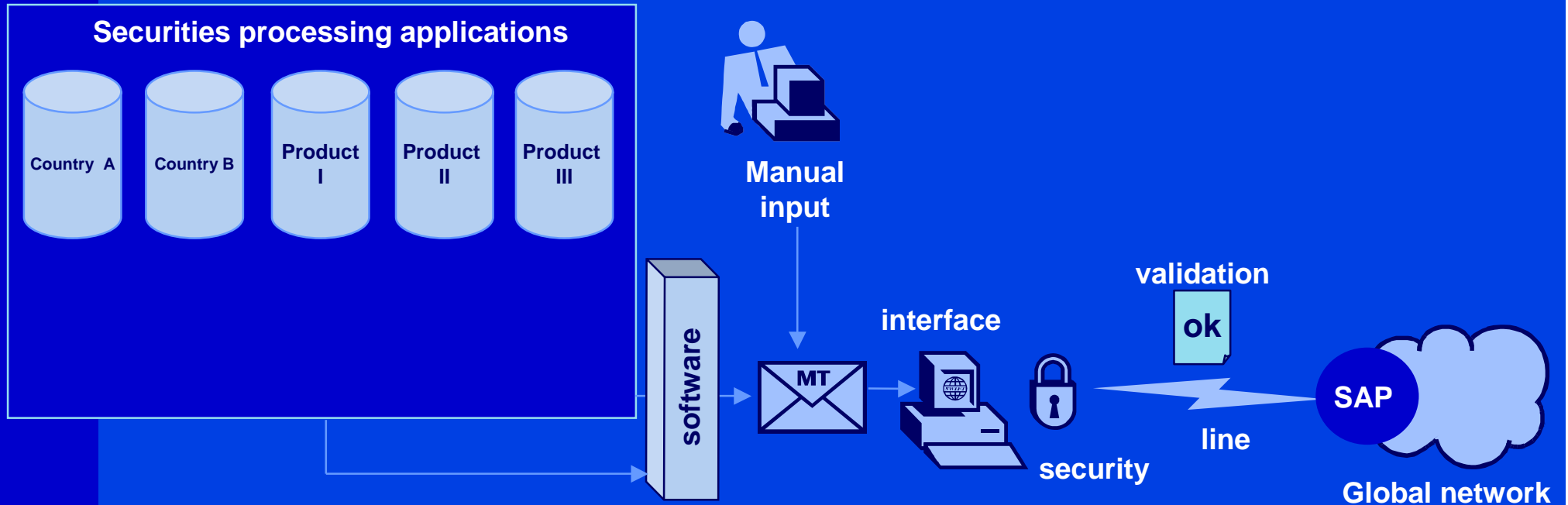


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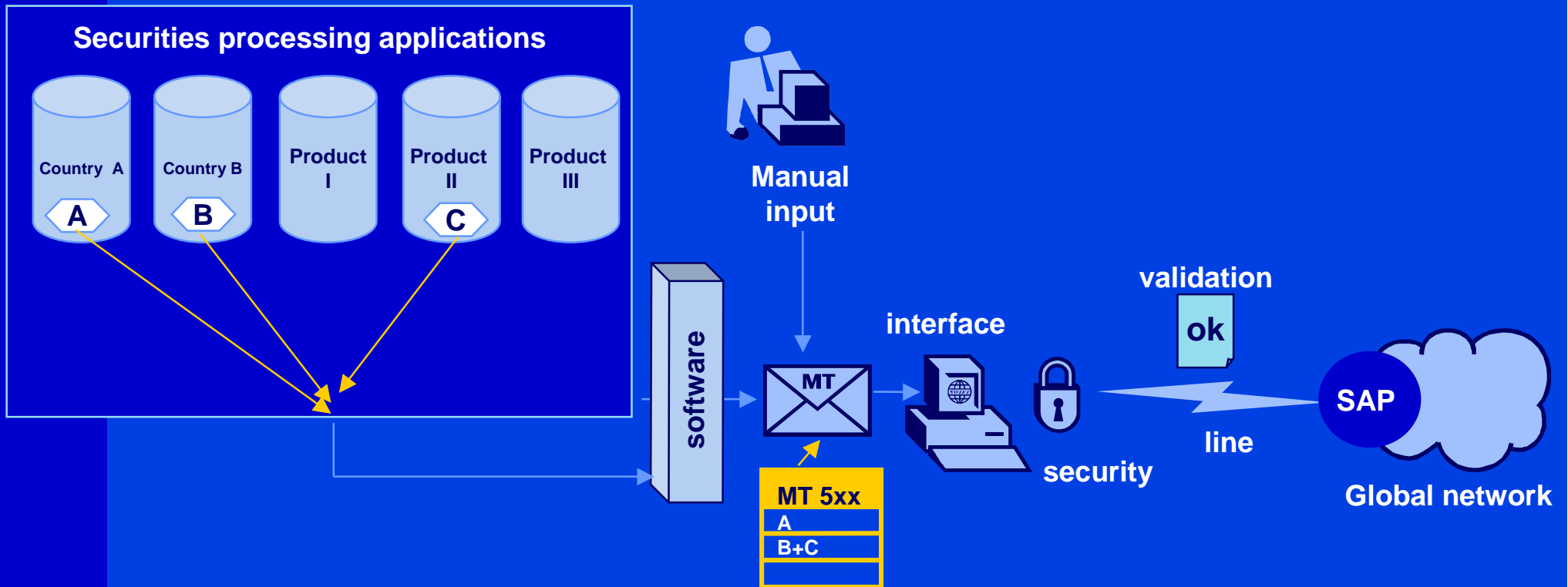
How are things done today ?



Due to historical reasons, securities processing systems and applications are organised in silos based on products and/or locations.



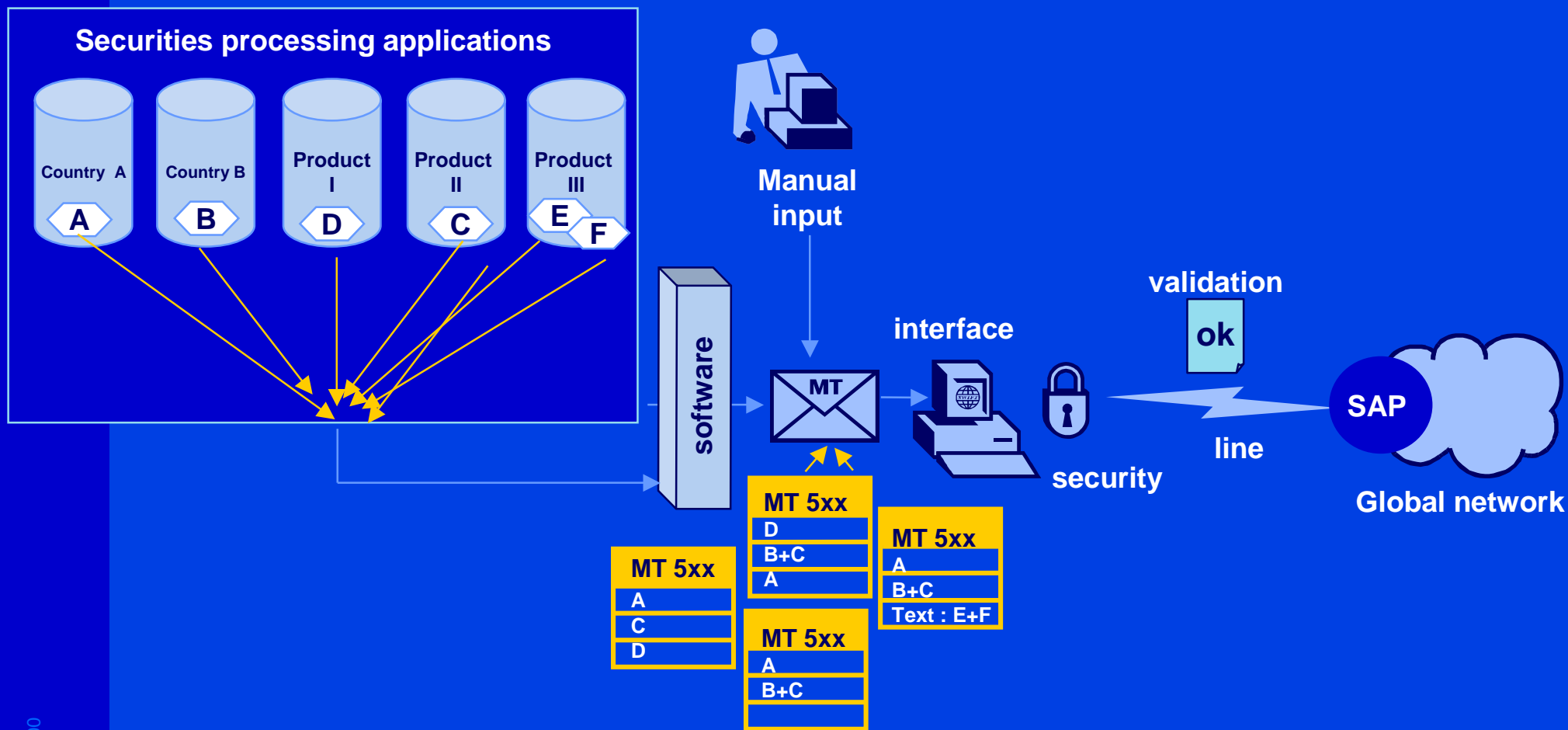
How are messages prepared today ?



To communicate with counterparties or customers, data is extracted from the various applications to 'fill messages'.



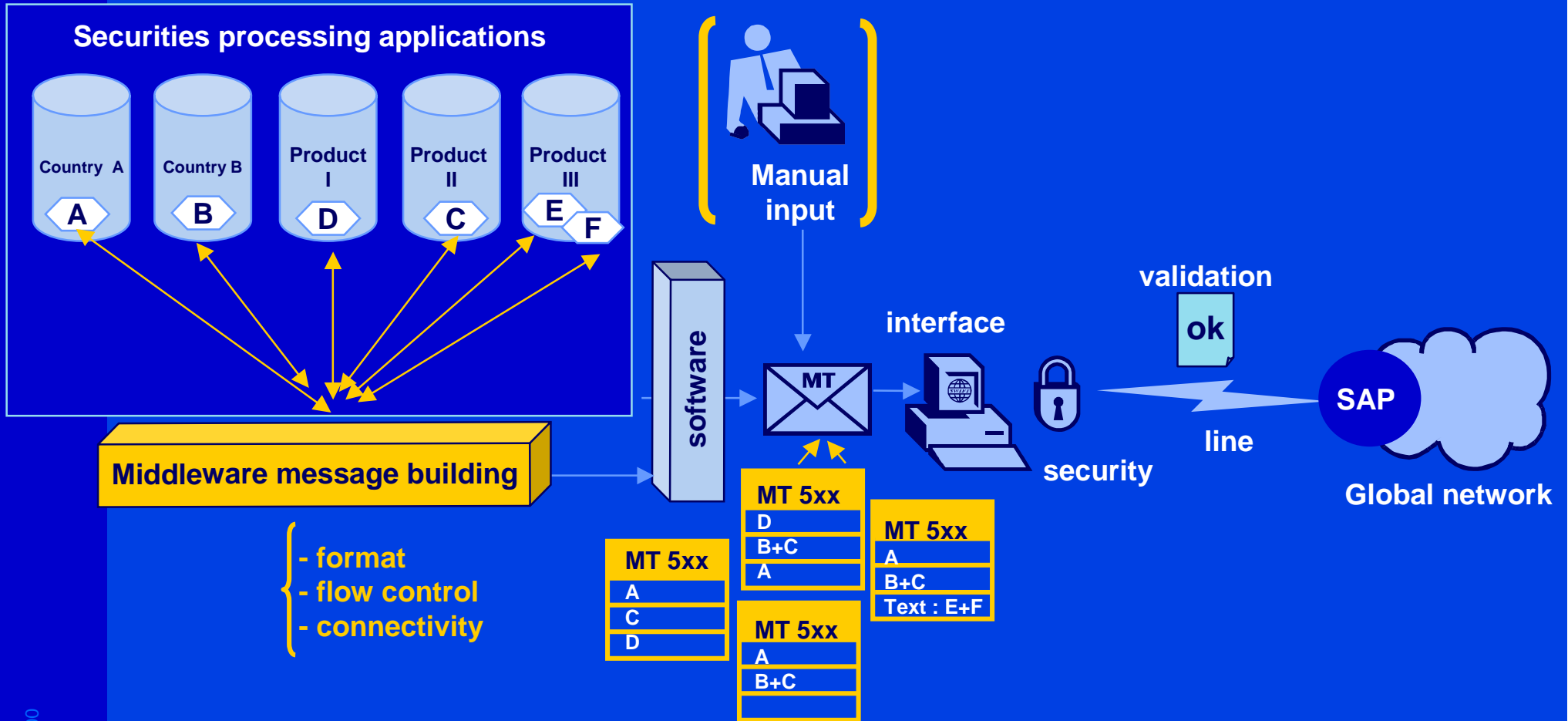
What happens when things become more complex ?



To 'fill' each message, data is still extracted on a one-by-one basis according to the message format.. For each new function or business, everything needs to be done again from the beginning to handle a new type of message. Data that do not find a place in a message are 'pushed' in narrative fields, or not communicated properly.



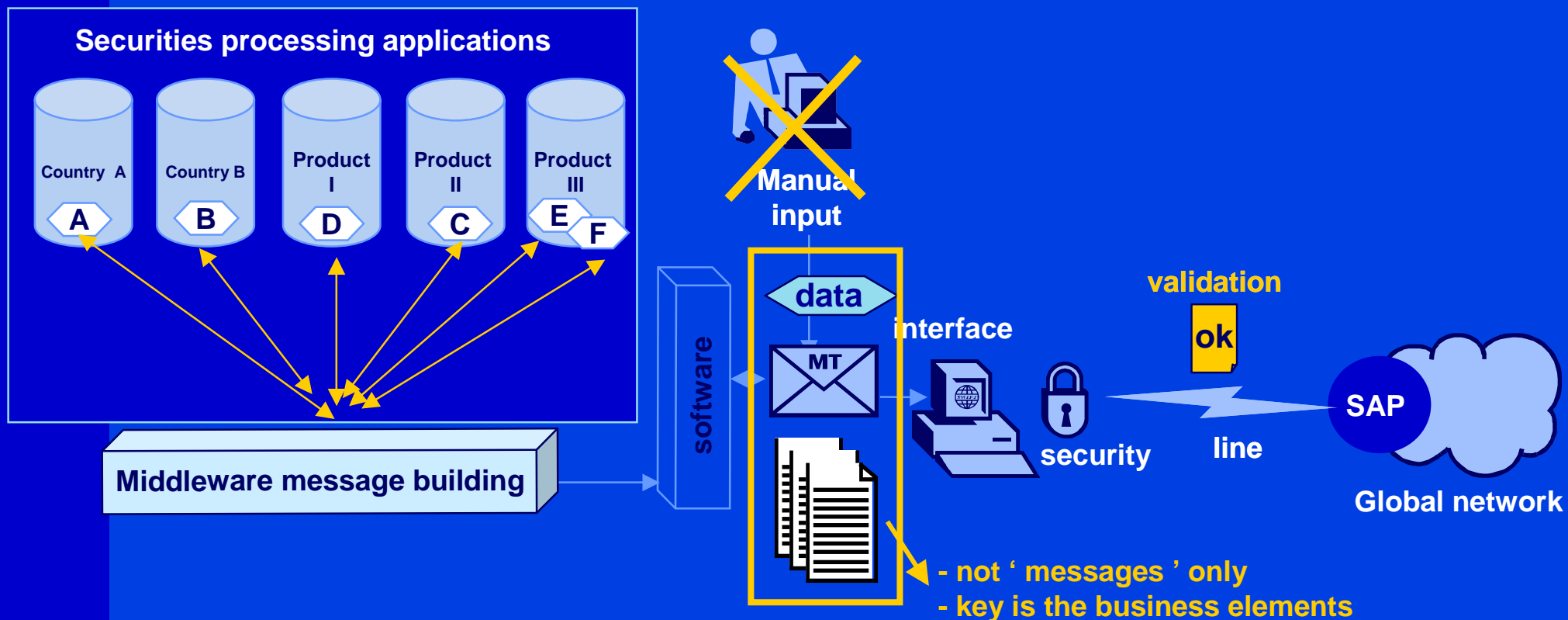
What value bring middleware?



Middleware enable the user to better manage his customers ' and counterparties ' profiles :
What info to send to who, at what time, on what interface ?
However, this does not solve the issue of new business or function items.
How to handle repos, pair-off 's, back-to-back, collateral management ?



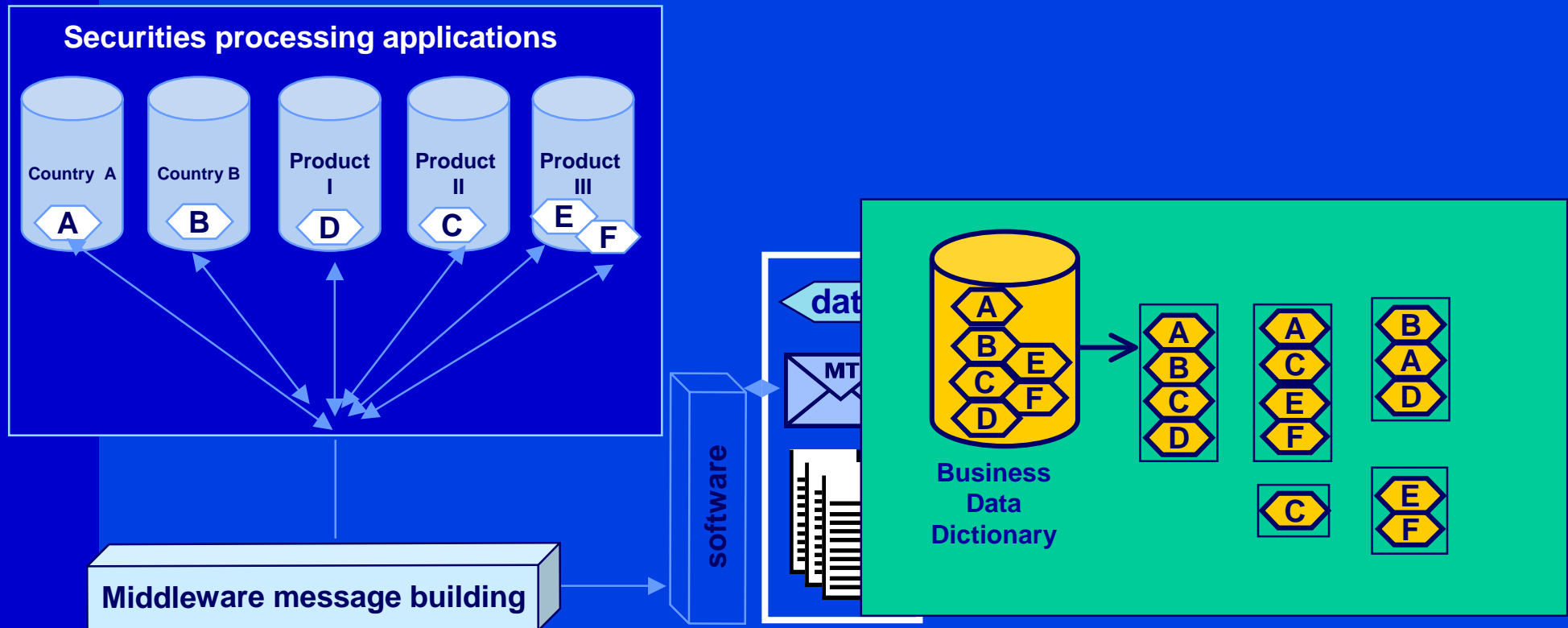
How will the need evolve in the future?



Straight-through processing replaces manual input.
We do not communicate store & forward messages, but also interact with data (to query, Interrogate a data base) or transfer and download entire files.
We need to handle more complex business every day.
The key can not be a 'message' anymore. The business elements are the key.



How does ISO 15022 respond to this need ?



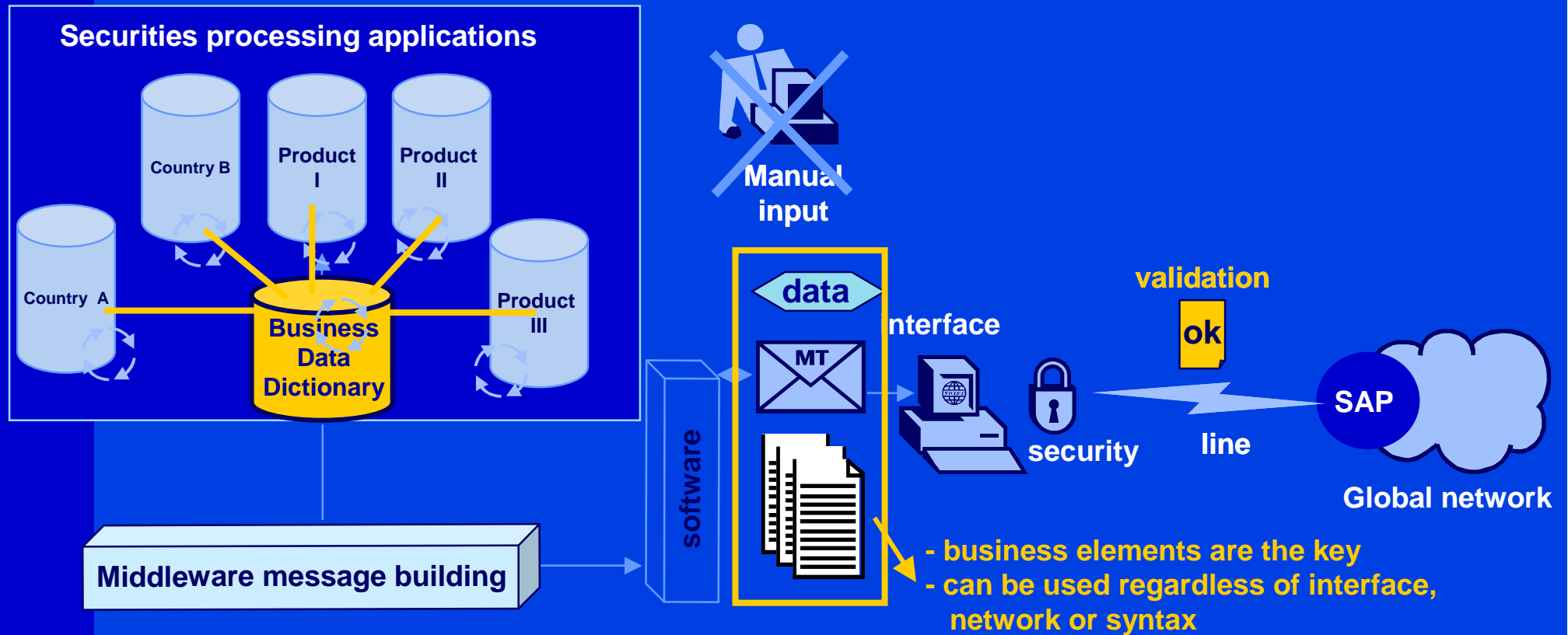
The Industry has defined the business elements needed to handle transactions, from simple to very complex. They are grouped in a ' data dictionary ' and are the basis for the new standards. They can be used alone, grouped in messages or files .

In messages (the first ISO 15022 application), they are grouped in a more logical and clean way (with no artificial or historical grouping). Order becomes irrelevant. Text and narrative become marginal.

When a new business emerges, the necessary business elements are grouped to form a new ' message '.



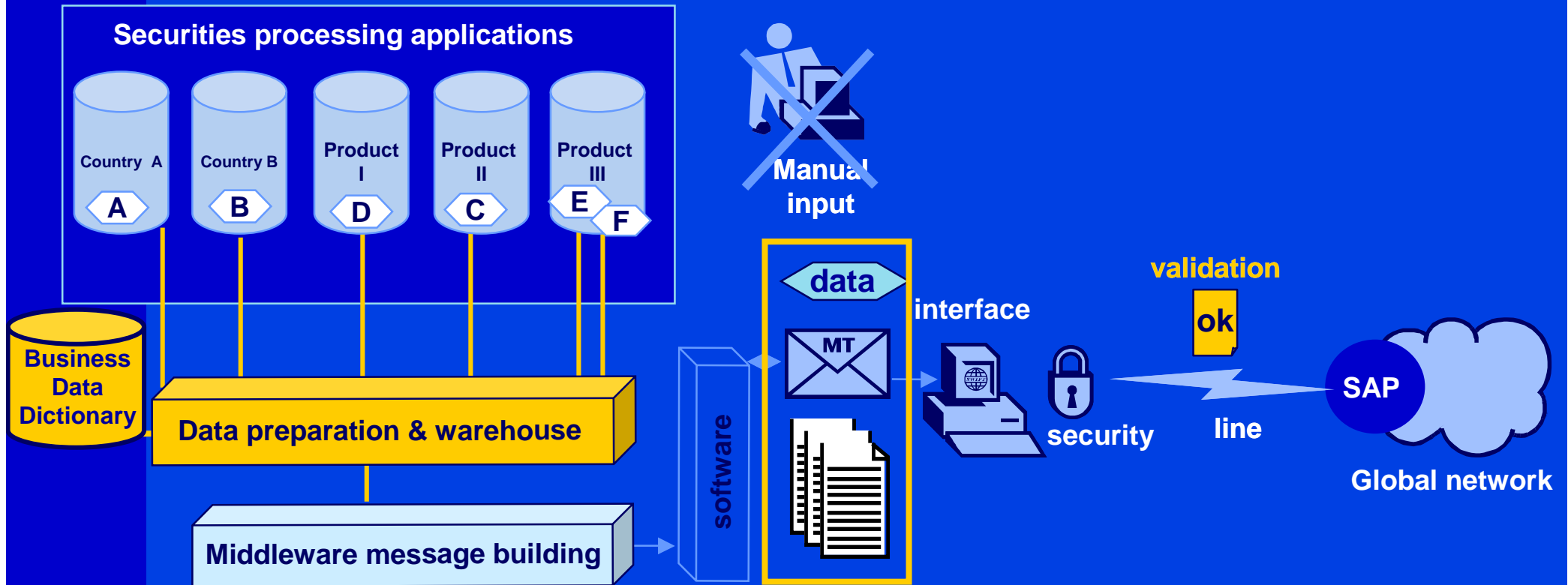
How can you implement ISO 15022 at core application level ?



The Business Elements contained in the Data Dictionary become the base for the securities applications. The disadvantage of this 'perfect world' option is that it means changing all applications and managing a very large and expensive project. However, it is the best option for new applications or applications being replaced.



How can you implement ISO 15022 ?



Another way of implementing the Data Dictionary is to identify its business elements into an additional layer of software . It identifies the business elements, their source for input and output as well as ensures their quality and relevance. It also defines business meaningfull links between elements.

This option protects the ' legacy ' applications while still ensuring new needs are met.

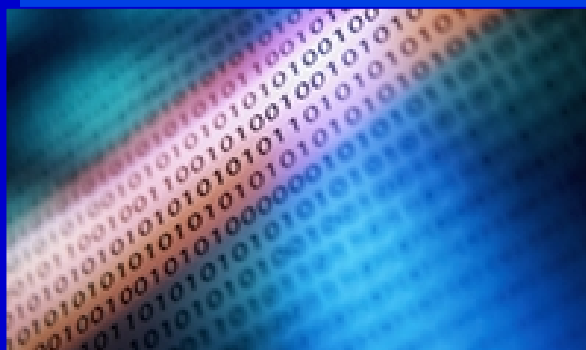


Is ISO 15022 the way forward ?

- ▶ What is the issue ?
- ▶ How does it work ? How will it work ?
- ▶ How is it designed ? .. and XML ?
- ▶ Tips to make it happen



Before, business, logical design and physical implementation were not separated when designing 'messages'



Example

Information flow

Validation rules

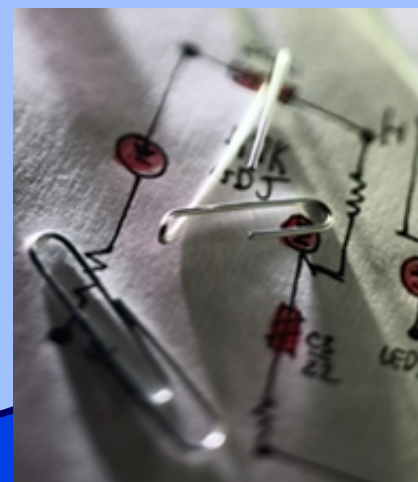
Format specs

Usage guidelines

Usage rules

Field specs

Scope





Business standards

Industry standards

- Who are the players ?
- What is the market ?
 - Defined by country, instrument...
- What are the rules ? The market conventions ?
 - T+1, DVP, use CSD, Immobilised /dematerialised ...

Business practice

- How does it work ?
 - How do transactions take place?
 - Market practice





Business standards

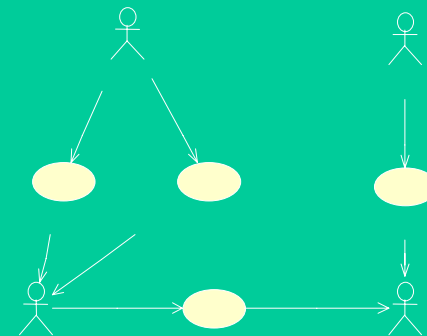
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Business practice

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Business model



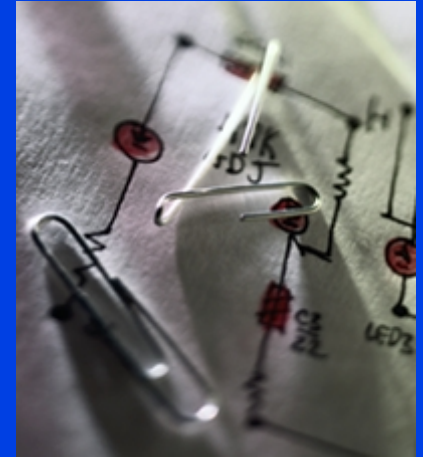
- business elements are defined
- business activities & rules
- business actors involved



Logical design

Design a solution

- Scenario based model
 - Defining one/all specific way(s) to go through a transaction
- Parameters
 - Transaction flow, cancels, queries, replace..
 - Communication flows
 - Linear, TFM...
 - Messages, files or interactions





Logical design

Design a solution

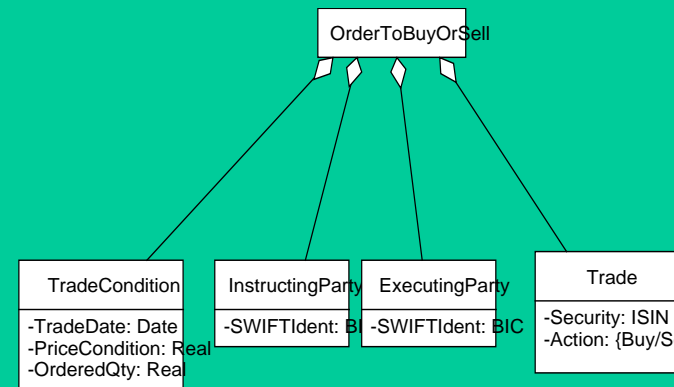
- Scenario based model

- Defining one/all specific way(s) to go through a transaction

- Parameters

- Transaction flow, o
- Communication flo
- Linear, TFM...
- Messages, files

Logical model



- UML models
- message content (elements)
- work and transaction flow



Physical implementation

Syntax

- As on S.W.I.F.T. today
- XML

Coding

- Software code for rules
- APIs

Medium

- Mode : interactive, store & forward
- Network & interface
- Functionalities : validation, security ...





Physical implementation

Syntax

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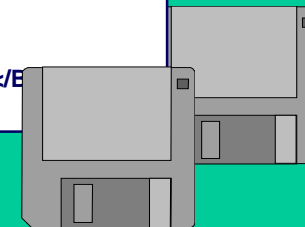
Medium

- Mode : interactive,
- Network & interface
- Functionalities : validation, security ...

Syntax & code

```
</CustomerPayment>  
  <PaymentAmount>  
    <Amount>450,25</Amount>  
    <Currency>EUR</Currency>  
  </PaymentAmount>  
  <Beneficiary>  
    <Name>Bank 1</Name>  
    <Address>XYZ  
  Street</Address>  
  </Beneficiary>  
  <Instructor>  
    <BIC>BNK2CTRR</B  
  </Instructor>
```

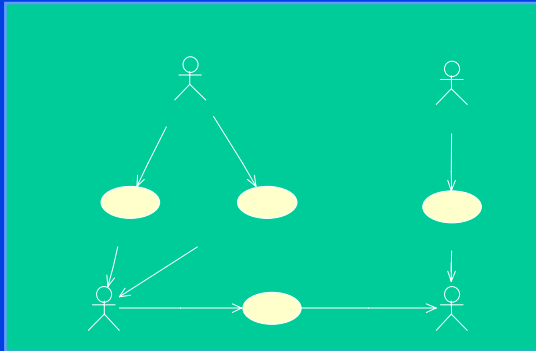
IOIIIOIOOOIIIOII



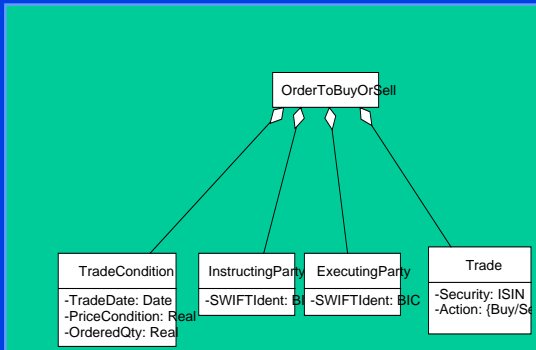
- message syntax representations
- software code & APIs



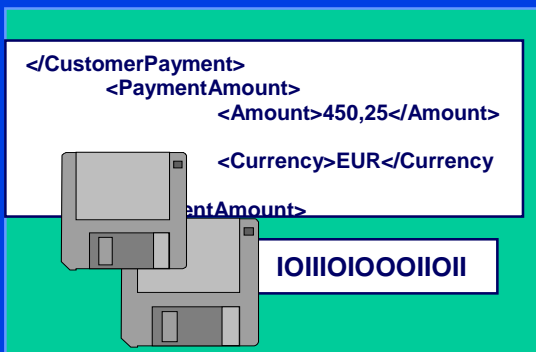
How does ISO 15022 do this ?



By putting back to each layer what should belong there.

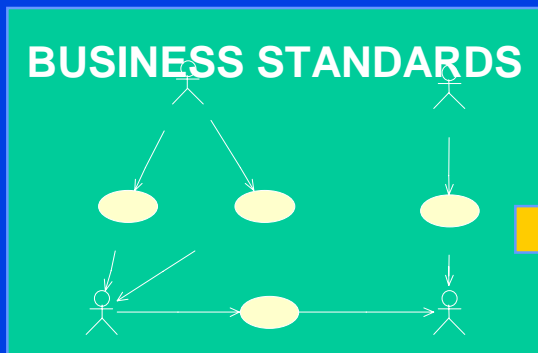


This enables each 'layer' to evolve and take advantage of new techniques without being a burden for the others.

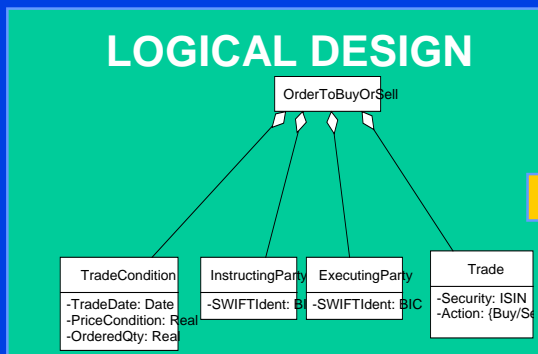




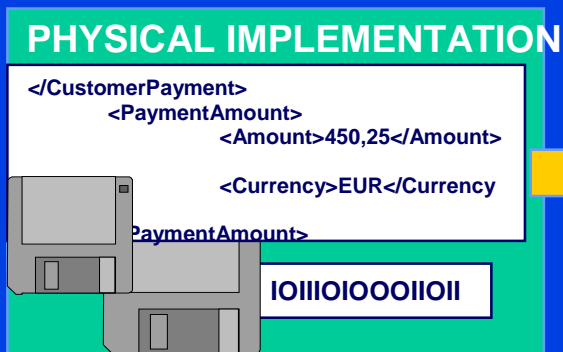
The key is the business elements



Which business elements ?
What do they mean ?



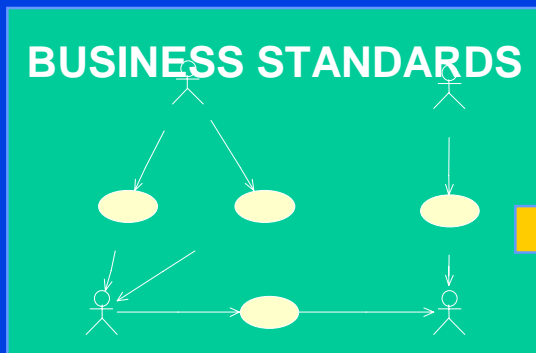
How to use them together?



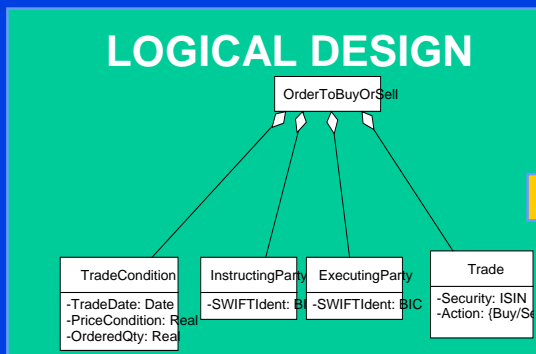
How to code them?
How to transmit them?



How does ISO 15022 use business elements ?

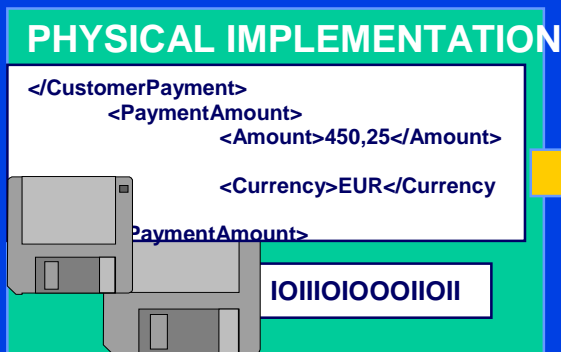


Which business elements ?
What do they mean ?



Data Field Dictionary

How to use them together?



Message Design rules

How to code them?

How to transmit them?

Language syntax, carrier



ISO 15022 : new standards for securities

- Primary key: Business element
- Messages built on logical blocks using those business elements
- Messages held by Registration Authority



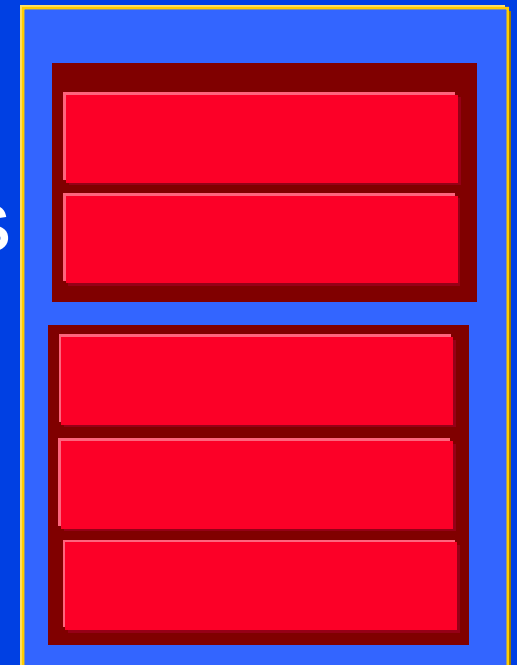
Using business elements as the base

Business element : YKWYGG

: 2!n 1!a : : 4!c / [8c] / data

Message: Blocks of elements

- Group elements in logical blocks
- Combine blocks for a message
- Order irrelevant
- Blocks are like objects





How does it work along a transaction chain ?

MT 502 Order to Buy or Sell

- A — General Information (M)
 - A1 Linkages
- B — Order Details (M)
 - B1 Price
 - B2 Trading parties
 - B3 Financial instruments attributes
- C — Settlement Details (O)
 - C1 Settlement parties
 - C2 Cash parties
 - C3 Amounts
- D — Other Parties (O)

MT 518 Market-Side Securities Trade Confirmation

- A — General Information (M)
 - A1 Linkages
- B — Confirmation Details (M)
 - B1 Confirmation Parties
 - B2 Financial instrument
- C — Settlement Details (O)
 - C1 Settlement parties
 - C2 Cash parties
 - C3 Amounts
- D — Other Parties (O)

MT 515 Client Confirmation of Purchase/Sale

- A — General Information (M)
 - A1 Linkages
- B — Partial Fill Details (O)
- C — Confirmation Details (M)
 - C1 Confirmation Parties
 - C2 Financial instrument attributes

Details (O)

- D1 Settlement parties
- D2 Cash parties
- D3 Amounts
- Other Parties (O)

MT 528 ETC Client-Side Settlement Instruction

- A — General Information (M)
 - A1 Linkages
- B — Confirmation Details (M)
 - B1 Confirmation parties
 - B2 Financial instruments attributes
- C — Settlement Details (M)
 - C1 Settlement parties
 - C2 Cash parties
 - C3 Amounts
- D — Other Parties (O)



XML - eXtensible Markup Language

What is it ?

- XML is a meta-language which describes the way data is formatted and communicated between customers and servers on IP networks

```
<CustomerPayment>
  <PaymentAmount>
    <Amount>450,25</Amount>
    <Currency>EUR</Currency>
  </PaymentAmount>
  <Beneficiary>
    <Name>Bank 1</Name>
    <Address>XYZ
  Street</Address>
  </Beneficiary>
  <Instructor>
    <BIC>BNK2CTRR</BIC>
  </Instructor>
</CustomerPayment>
```

- XML is not
 - Business rules and practice
 - Content definition (semantics)
 - Data behaviour (logical links)
- It is a pencil ..not a word, a grammar, a letter !



Is ISO 15022 the way forward ?

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- ▶ How does it work ? How will it work ?
- ▶ How is it designed ? .. and XML ?
- ▶ **Tips to make it happen**

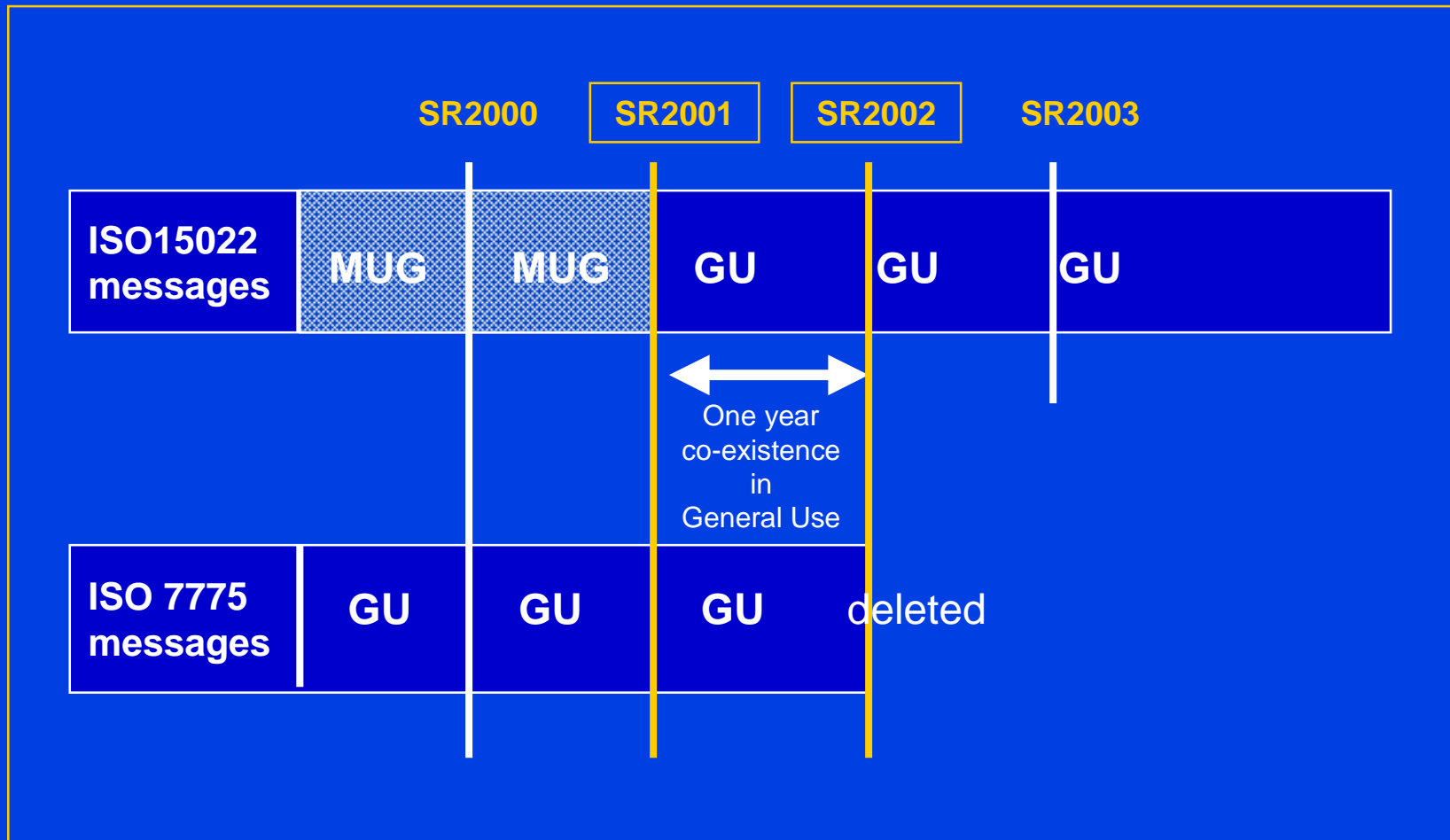


Who uses 15022 today ?

- On S.W.I.F.T., mainly trade confirmation
- For settlement and custody : all major players programming and testing
 - Majority ready by end 2000
- Endorsed and implementation planned :
 - GSTPA
 - ECSDA
 - All major infrastructures : EOC, Clearstream..



What is the timeframe ?



SR : Standards Release
GU : General Use
MUG : Message User Group



Recommendations for implementation

- Focus on implementing business elements 'view' from the Data Dictionary
- Avoid a big bang, work by functional scenario
 - Custody with customers
 - Settlement with sub-custodians
- Work one relation at a time - no mismatch !
- Implement market practice conventions



Specific for defined customer scenarios

- Settlement between global & sub-custodians
- Settlement between (global) custodians and investment managers
- Clearing between broker-dealers and clearers
- Custody between custodians and customers
- Post-trade & pre-settlement for retail transactions
- Clearing & settlement with market infrastructures
- Post-trade & pre-settlement for institutional transactions (inclGSTPA)

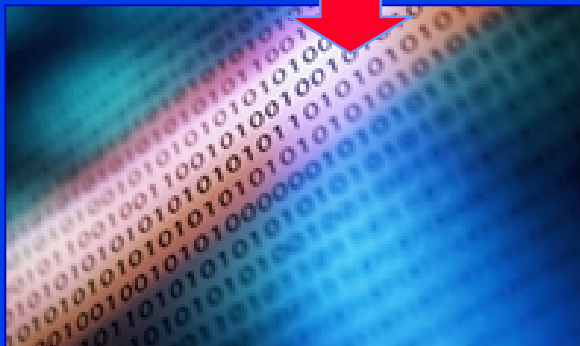
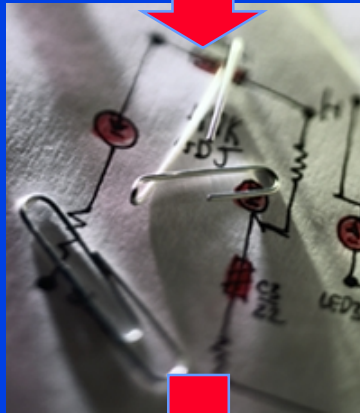


And tomorrow ?

- You will use the same business elements
 - For different businesses
 - Through different networks
 - Using different specification languages
 - FIN, XML...
- Where should you start ?
 - Build a correct data architecture
 - Implement the Data Fields Dictionary and rules
 - From there, build the messages as required



Implementing well ISO 15022 is the first major step in the right direction



You will be able to benefit today from their value-added, their potential for more business functionalities, improve STP both in terms of quality and quantity and be ready to use new market infrastructures and new systems.

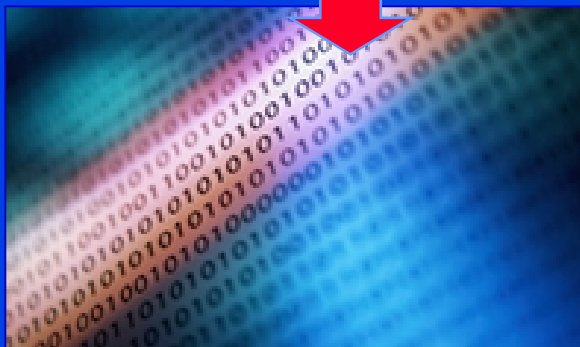
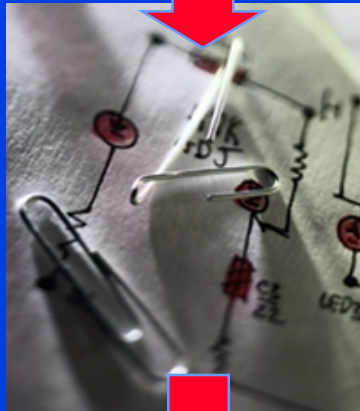


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*Thank you for your attention.
Looking forward to hearing from you .*

Nadine



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