



Mike Dryland

## B2B e-Business -- An Automotive Industry Overview

*B2B Business-to-business*

*B2C Business-to-customer*

*B2E Business-to-enterprise (or employee)*





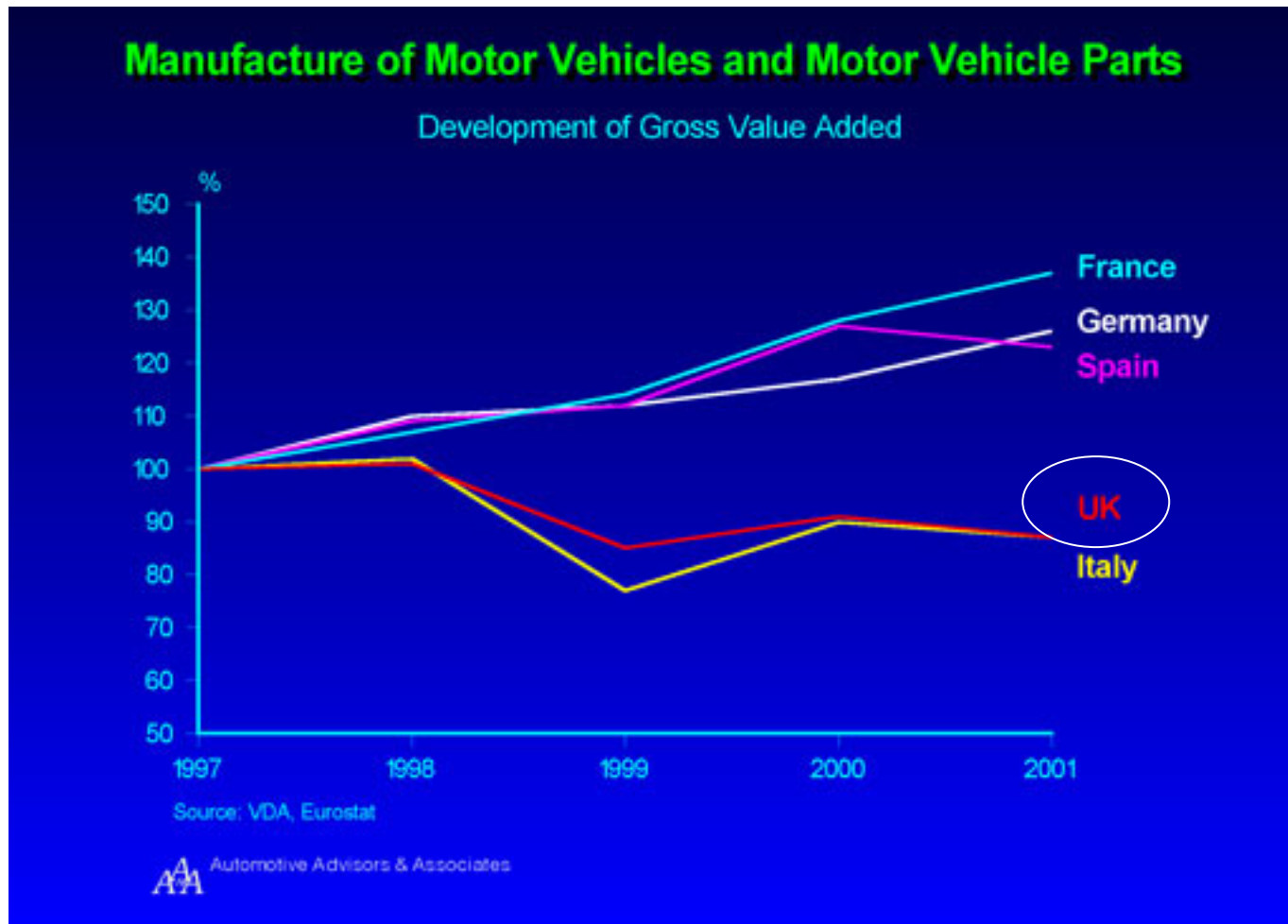
# B2B e-Business

## Agenda

- Background -- why e-Business?
- What's the problem?
- Scope – an e-Business structure model
- Issues
- Vision – what does success look like?
- Summary & Future Priorities



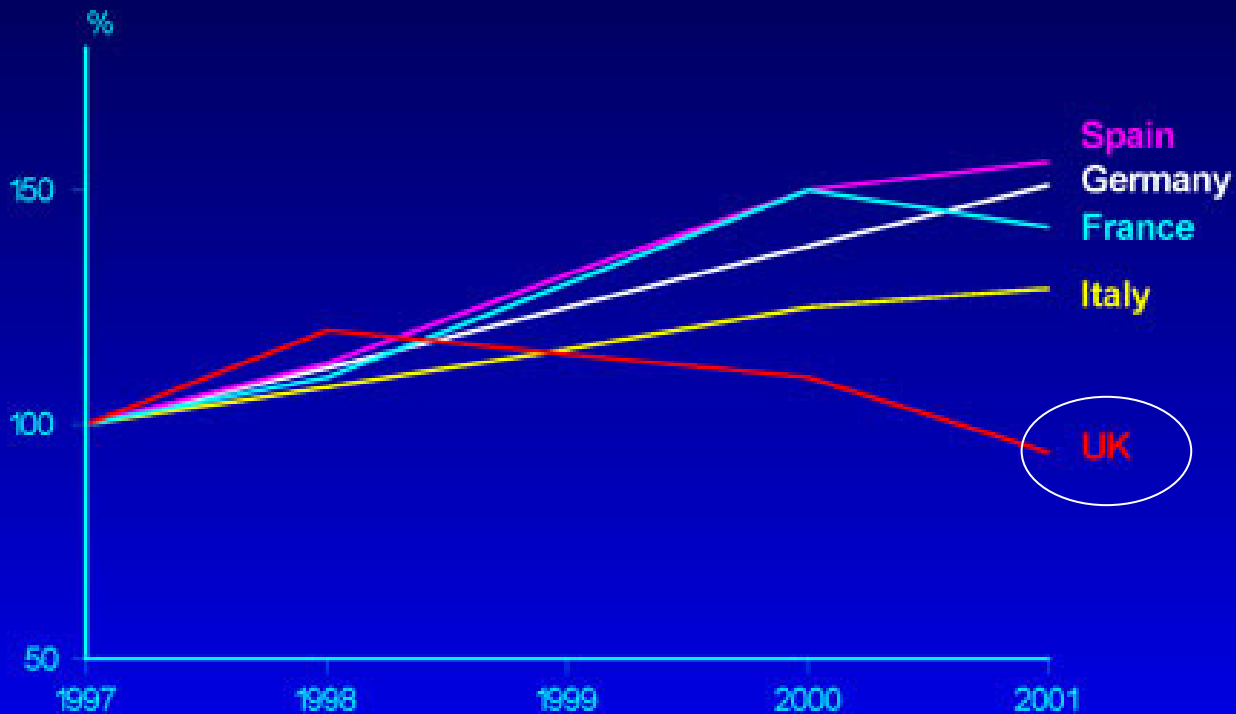
# Background -- Business Conditions



from SMMT/Automotive Advisors & Associates Survey (11/2002)  
available at [www.automotive-advisors.com/Briefings/SMMT-Survey/smmt-survey.html](http://www.automotive-advisors.com/Briefings/SMMT-Survey/smmt-survey.html)

## Exports of Parts and Accessories

Development in Euro per year



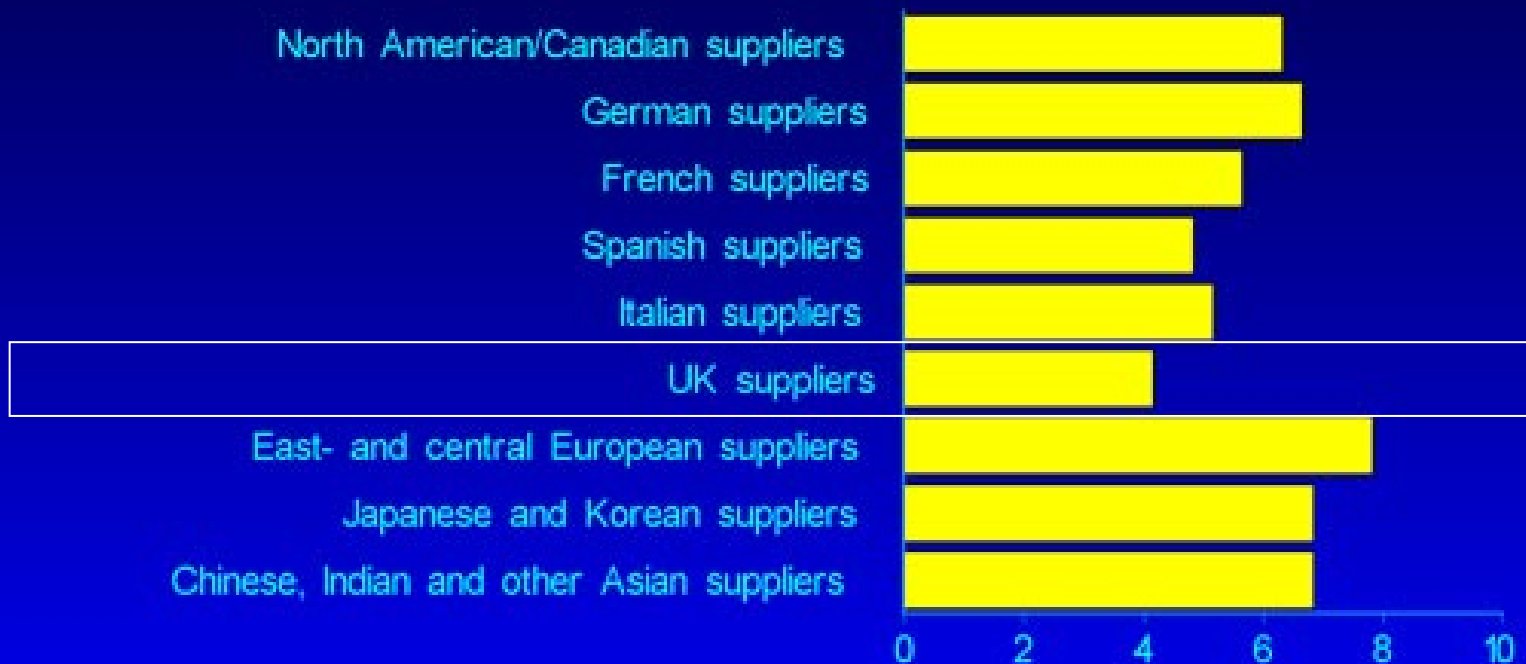
Source: VDA, Eurostat

Automotive Advisors & Associates

# Business Conditions

Which of these supplier groups are likely to gain more business?

- OEMs' and Suppliers' answers -





# Background – Why e-Business?

## Why struggle with e-Business?

(from “E-Business Prospects” BCS/Sheffield/LSE report 2/2003 published by E&SRC/dti available at [www.ukonlineforbusiness.gov.uk](http://www.ukonlineforbusiness.gov.uk))

- Fashion
- Fear
- Improved Competitiveness
  - Cost reduction
  - Increased reach
  - Revenue generation
  - Better relationships
  - Data sharing – single sources of data
- Establish a presence – learn by involvement





# Background – Why e-Business?

What do you want from B2B e-Business?

- Meet customer demands
- Protect existing business
- Win new business
- Find new customers
- Improve quality
- Reduce costs
- Reduce waste
- React more quickly
- Be more flexible





# Background -- Problem

What's the problem? Why is e-Business hard?  
What inhibits the deployment of e-Business tools and processes?

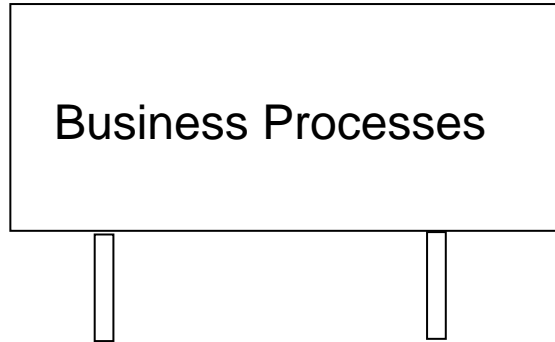
- Customer demands are conflicting & unclear
  - demand different IT approaches (network, messages)
  - demand different gateways/trade exchanges (eg Covisint)
  - demand different business procedures
- IT investment is risky
  - Complex, many choices
  - High cost, High risk
  - “back-end integration” issues
  - Long lead-time, unclear payback
- Not just an IT problem -- How to re-engineer the business to succeed? (Strategy; Senior Management commitment etc)





# How does e-Business fit together? – a structure model

## Layers



Business Processes

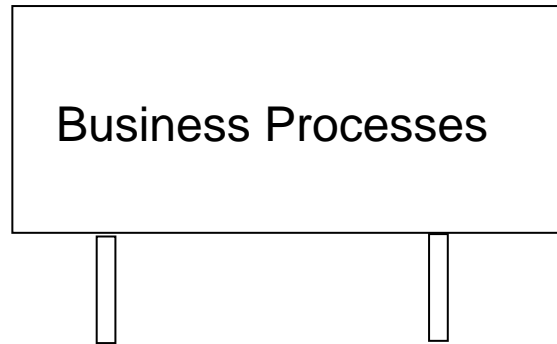
Business Operating Procedures: what people and computer applications should do



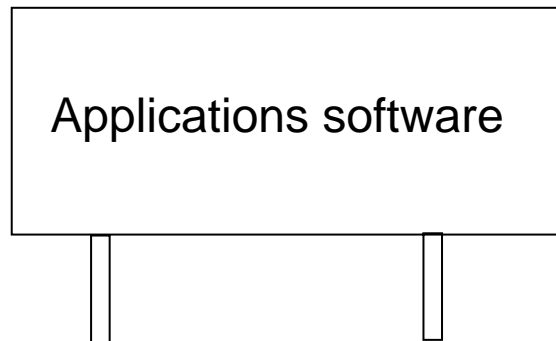


# How does e-Business fit together? – a structure model

## Layers



Business Operating Procedures: what people and computer applications should do



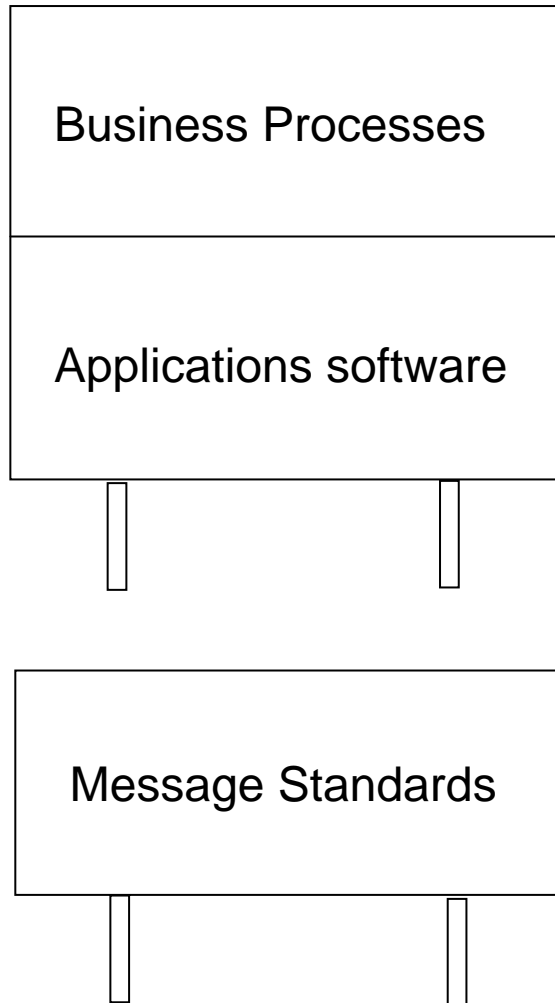
Applications layer – SAP, Oracle, QAD, CATIA, home-grown etc: process, store and display data





# How does e-Business fit together? – a structure model

## Layers



Business Operating Procedures: what people and computer applications should do

Applications layer – SAP, Oracle, QAD, CATIA, home-grown etc: process, store and display data

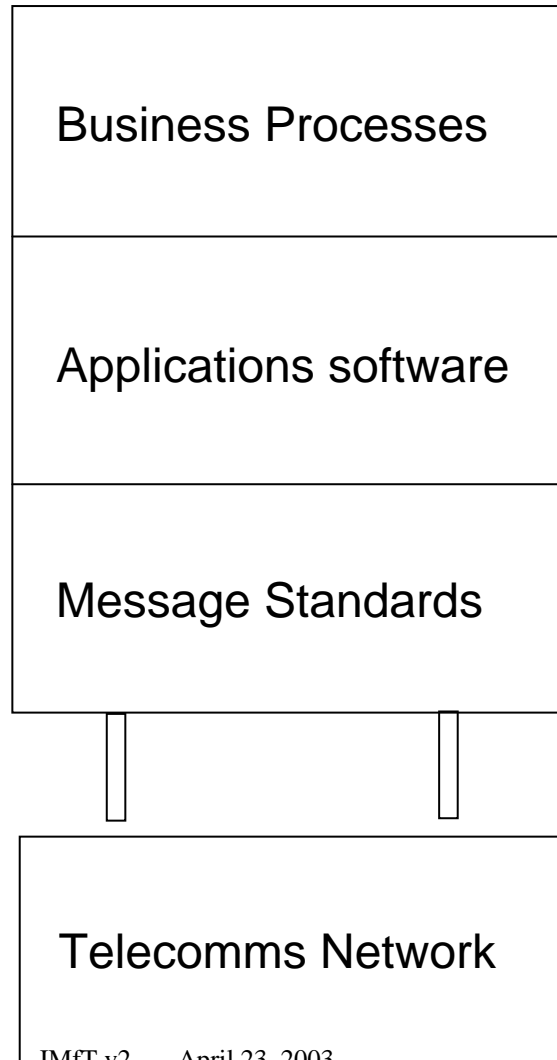
Message layer – Odette, VDA, EDIFACT: enables applications to understand data content





# How does e-Business fit together? – a structure model

## Layers



Business Operating Procedures: what people and computer applications should do

Applications layer – SAP, Oracle, QAD, CATIA, home-grown etc: process, store and display data

Message layer – Odette, VDA, EDIFACT: enables applications to understand data content

Technical transport layer – Internet, VPNs, ENX: enables computers to connect and exchange data





# How does e-Business fit together? – a structure model

## Layers

Business Processes
Applications software
Message Standards
Telecomms Network

Business Operating Procedures: what people and computer applications should do

Applications layer – SAP, Oracle, QAD, CATIA, home-grown etc: process, store and display data

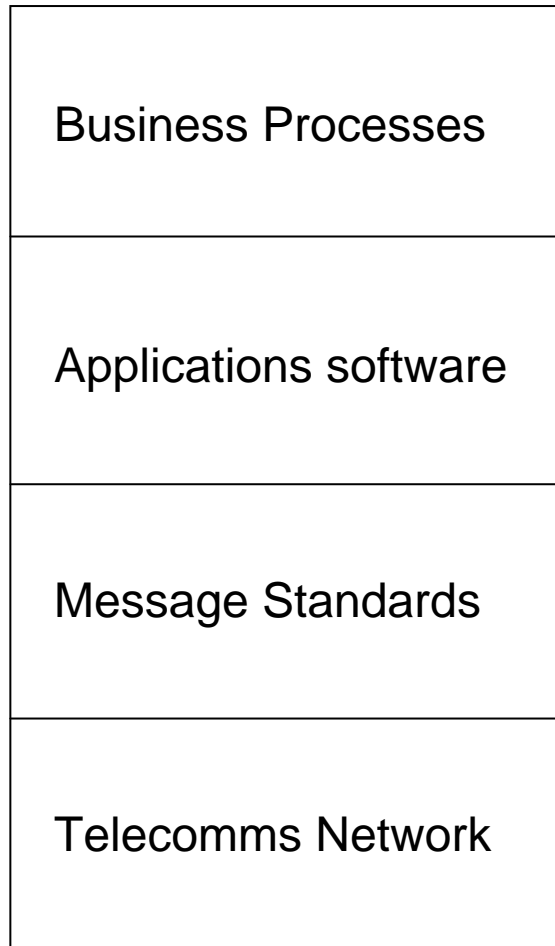
Message layer – Odette, VDA, EDIFACT: enables applications to understand data content

Technical transport layer – Internet, VPNs, ENX: enables computers to connect and exchange data





# Top Layer -- B2B Business Processes

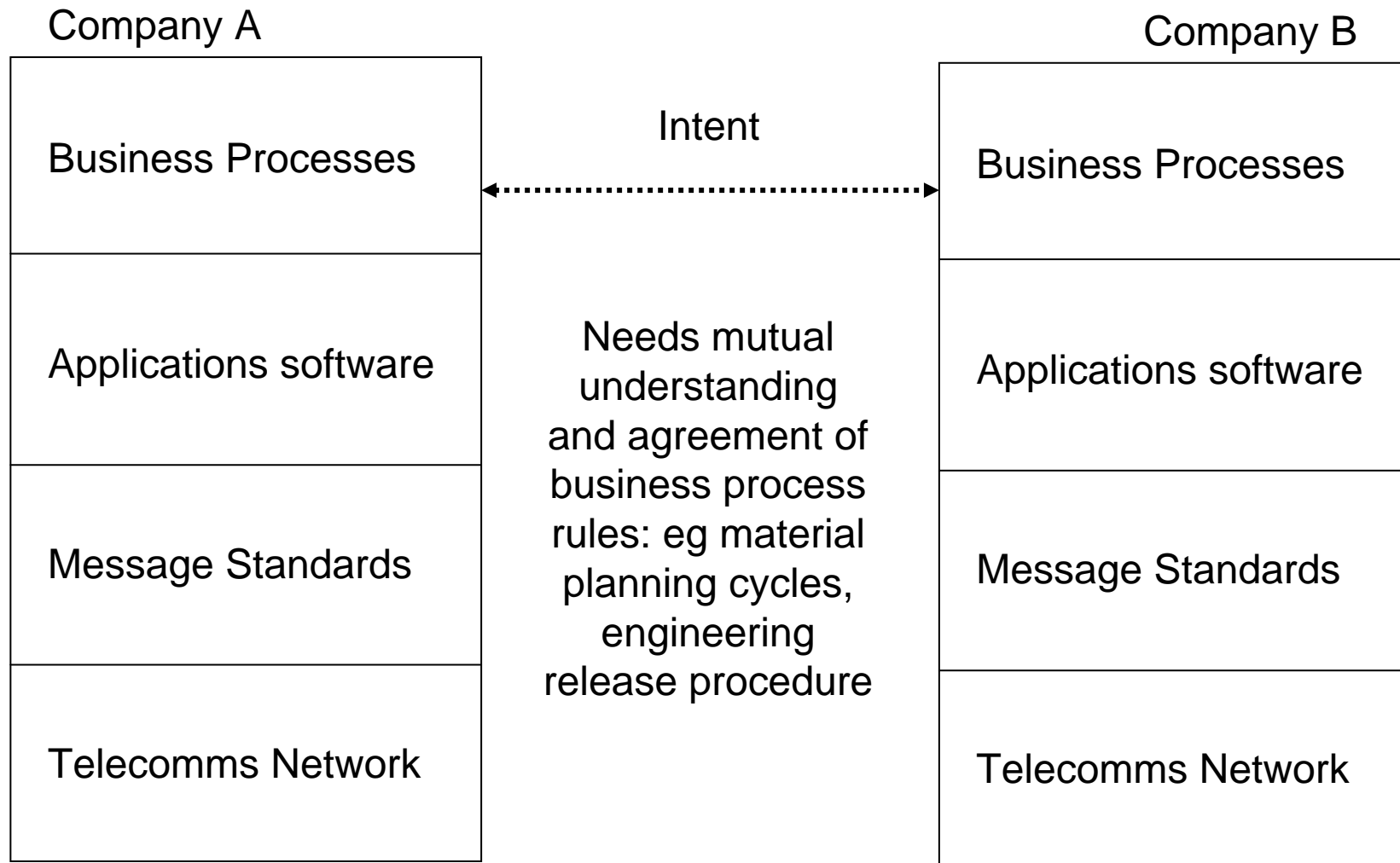


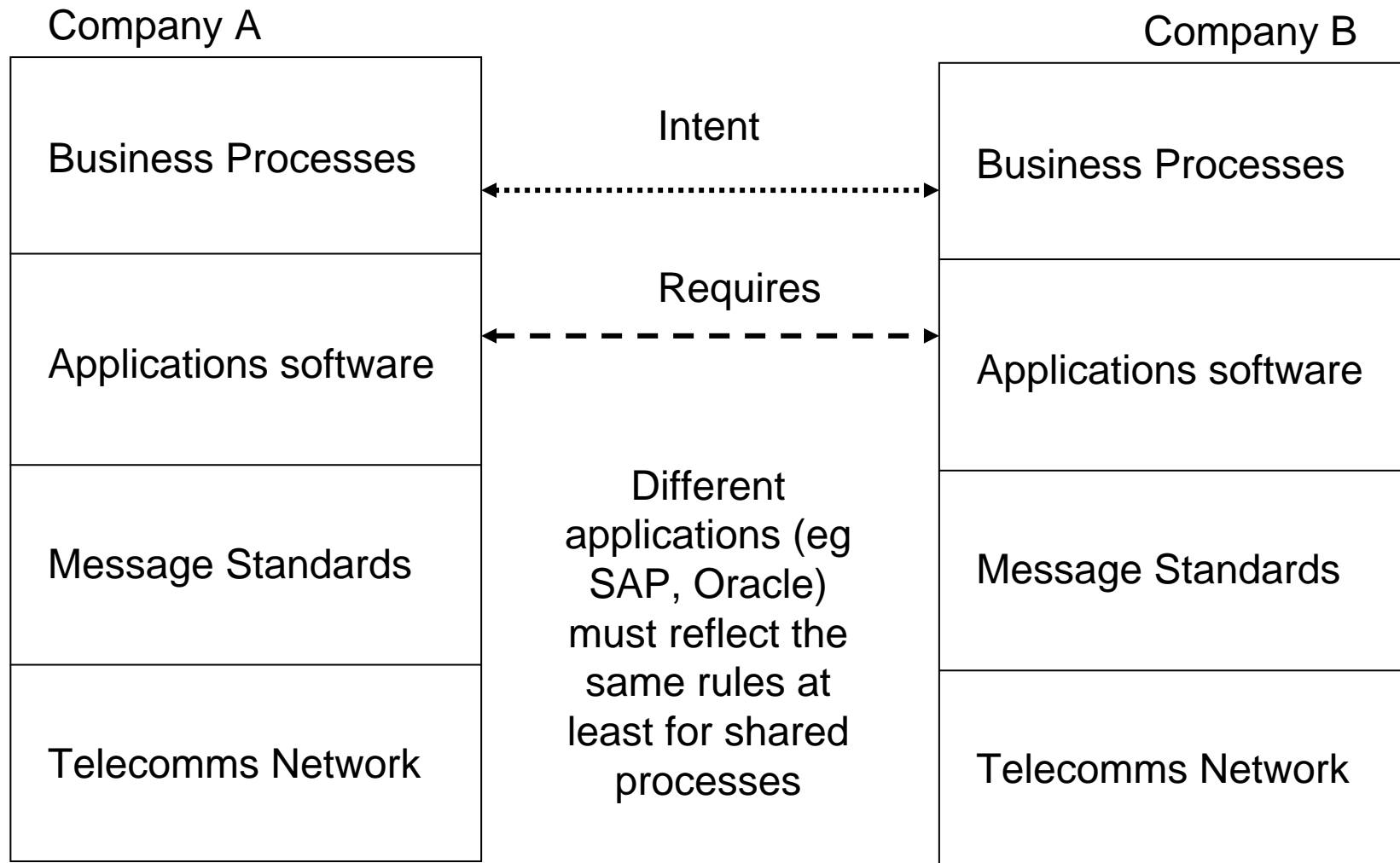
- Design & Engineering
- Sourcing / Procurement )
- Capacity Planning )
- Production Planning ) SCM
- Material Planning )
- Transport & Logistics )
- Billing & Accounting
- Payments
- Taxation
- B2B Marketing
- B2B Sales





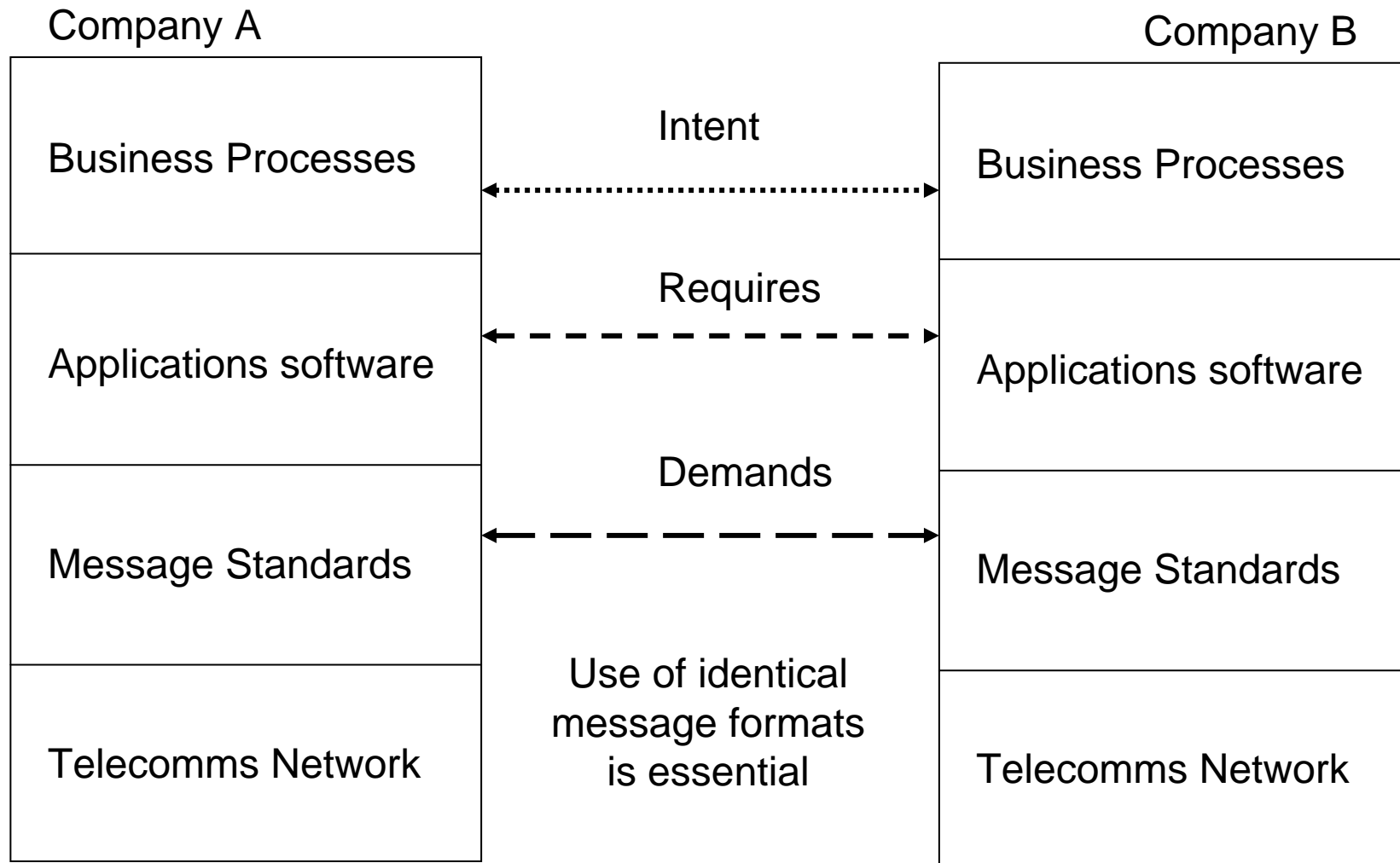
# B2B communication

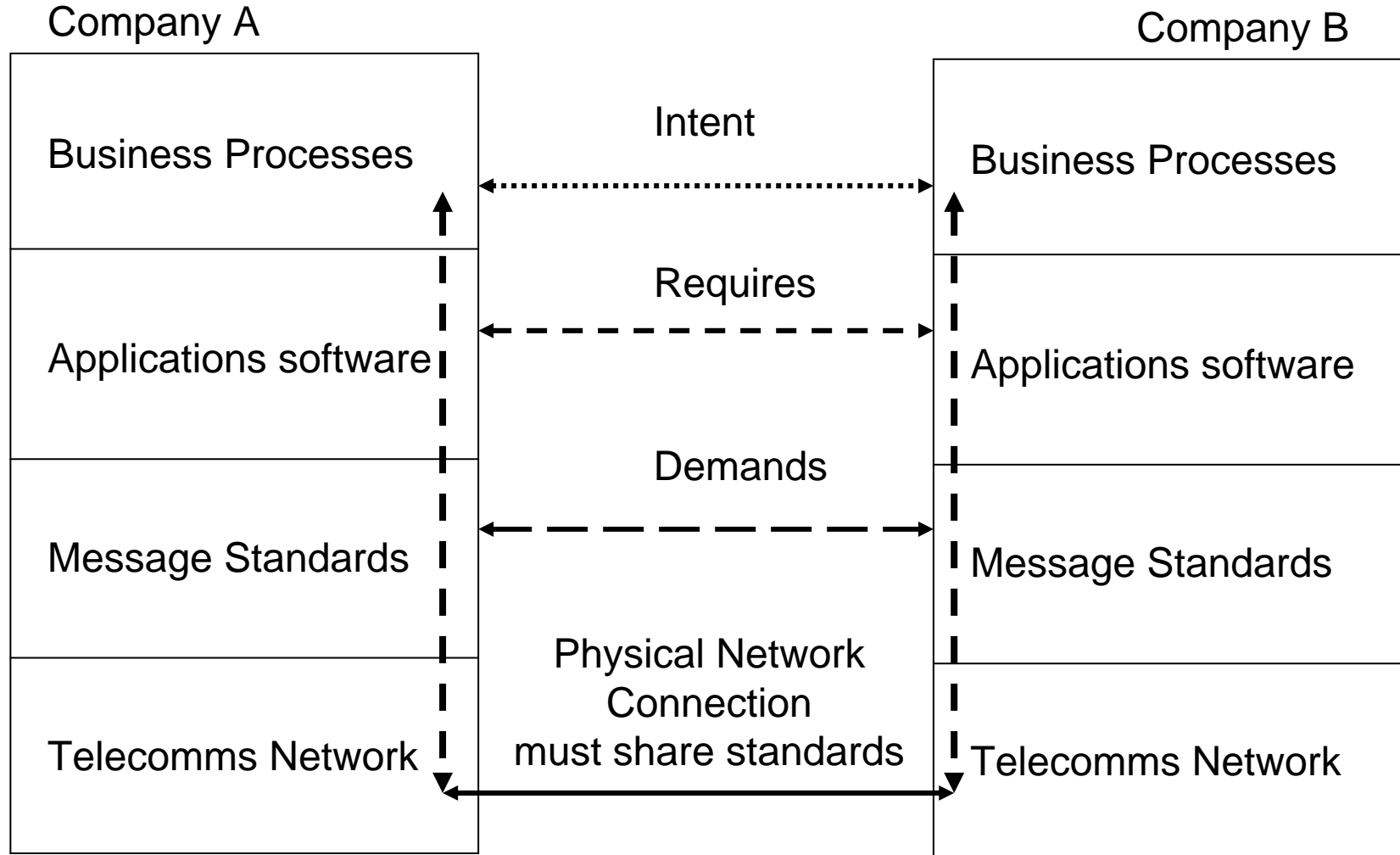






# B2B communication

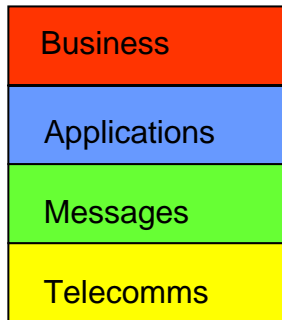




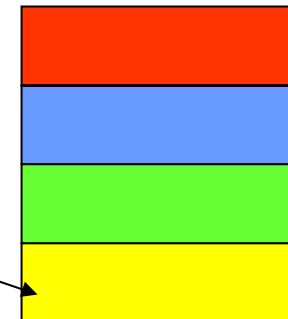


# B2B Network – Manufacturer View

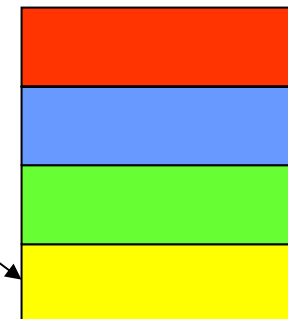
Customer A



Virtual Private Network  
(VPN) Model  
-- Manufacturer  
(Customer) View



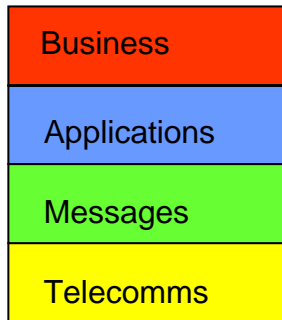
Supplier 1



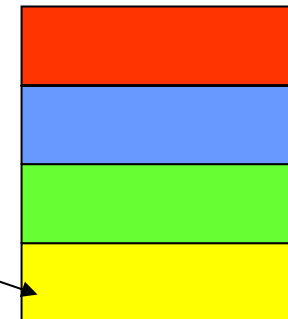
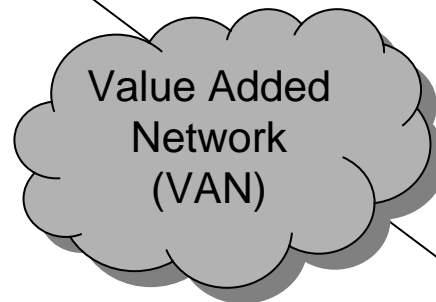
Supplier 2



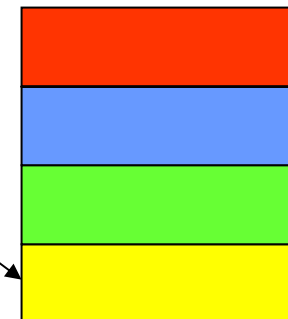
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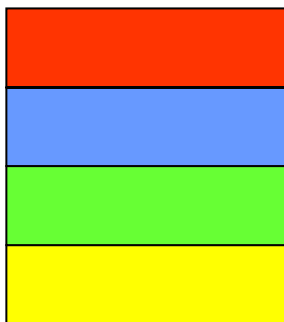


Supplier 1



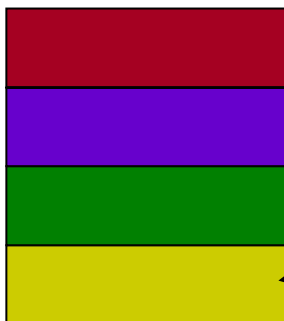
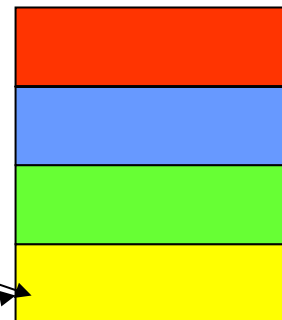
Supplier 2

Customer A

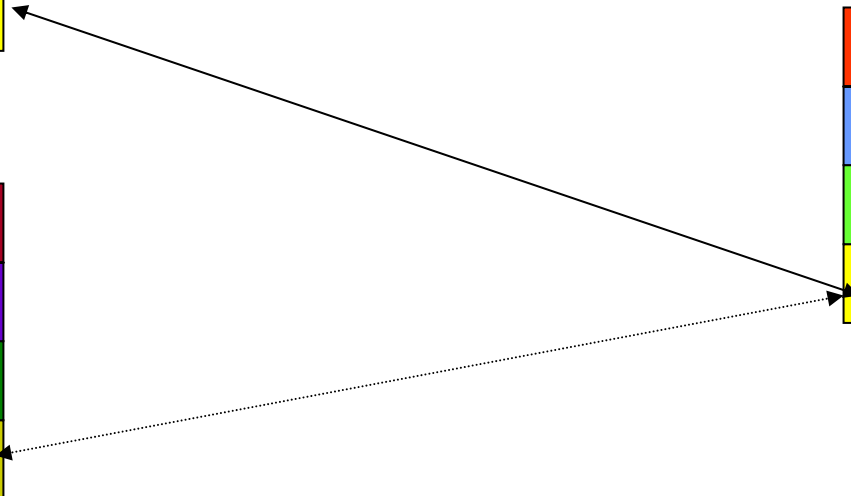


VPN Model  
-- Supplier View

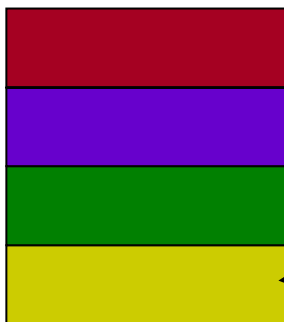
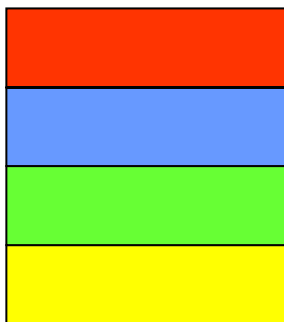
Supplier 1



Customer B



Customer A

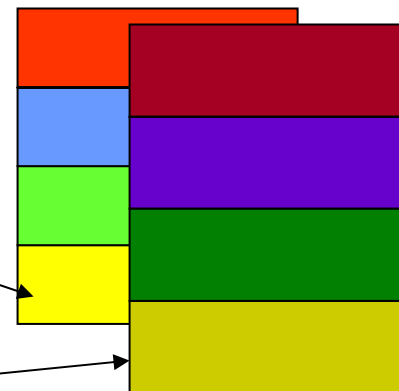


Customer B

VPN Model  
-- Supplier View

Different customers have different requirements  
-- sometimes leads to different 'business units'

Supplier 1



Business Units a and b

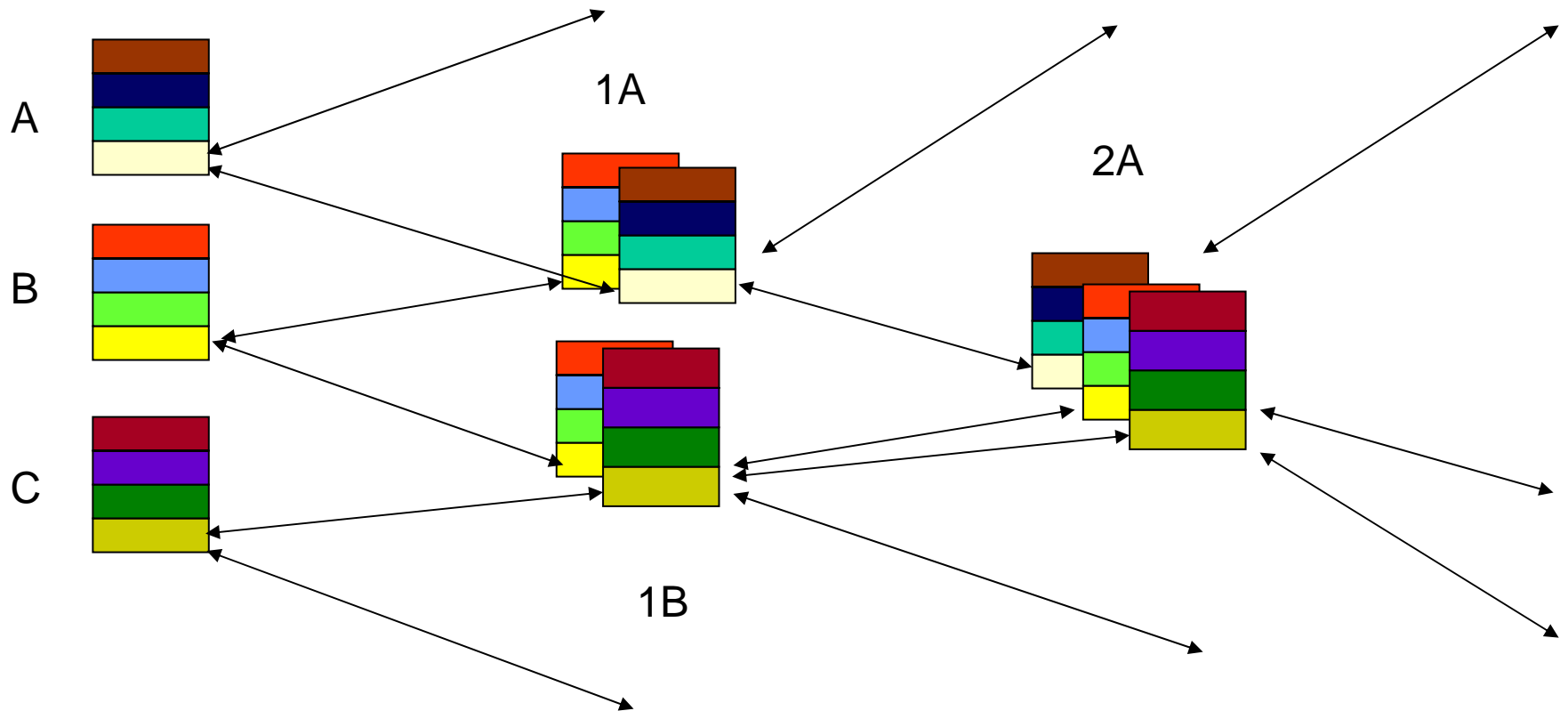
# B2B Network -- Hierarchy

Manufacturers

Tier 1 Suppliers

Tier 2 Suppliers

etc.



# B2B Network – EDI Deployment

> 80% Deployment

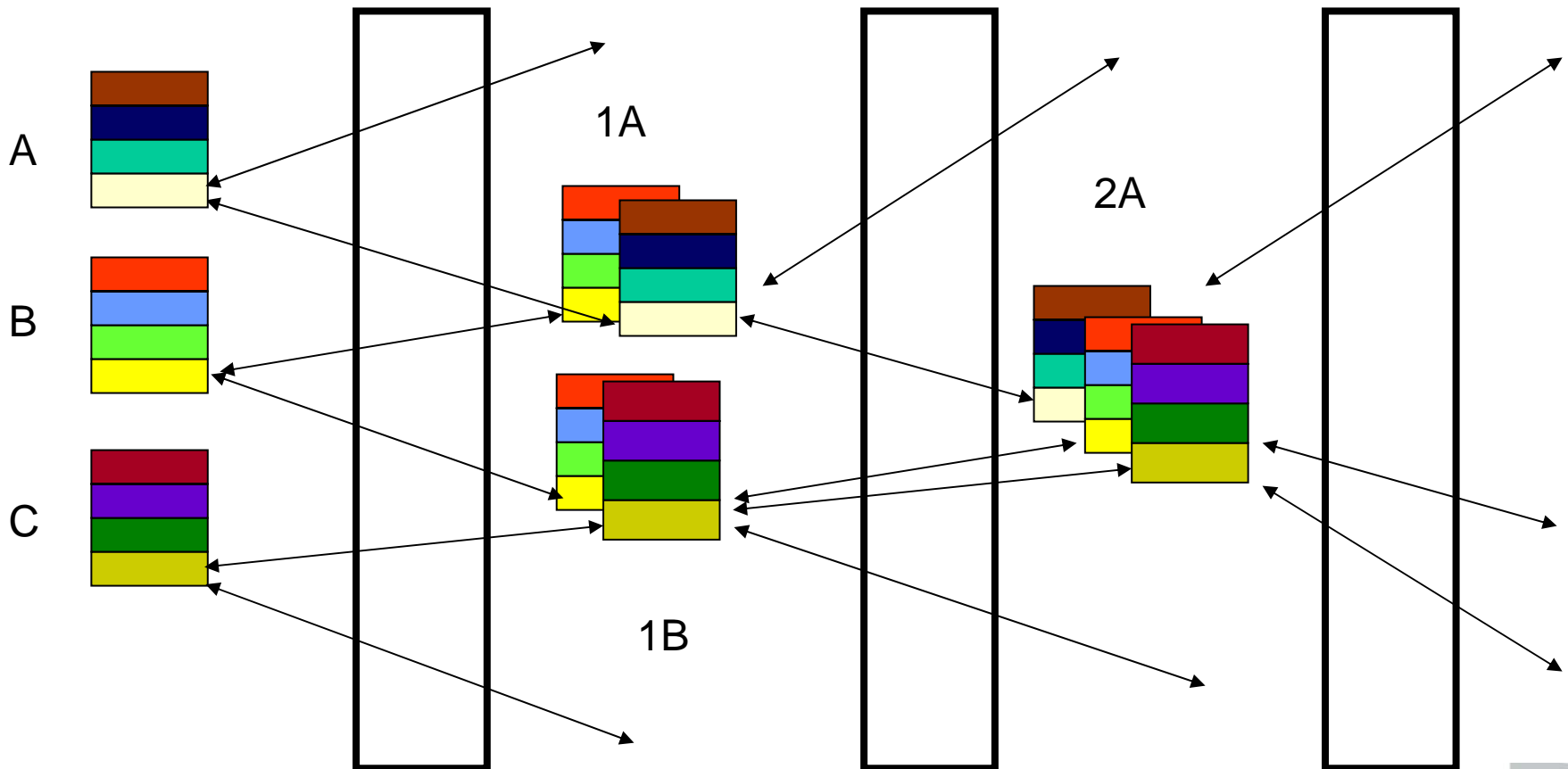
< 20% Deployment

Manufacturers

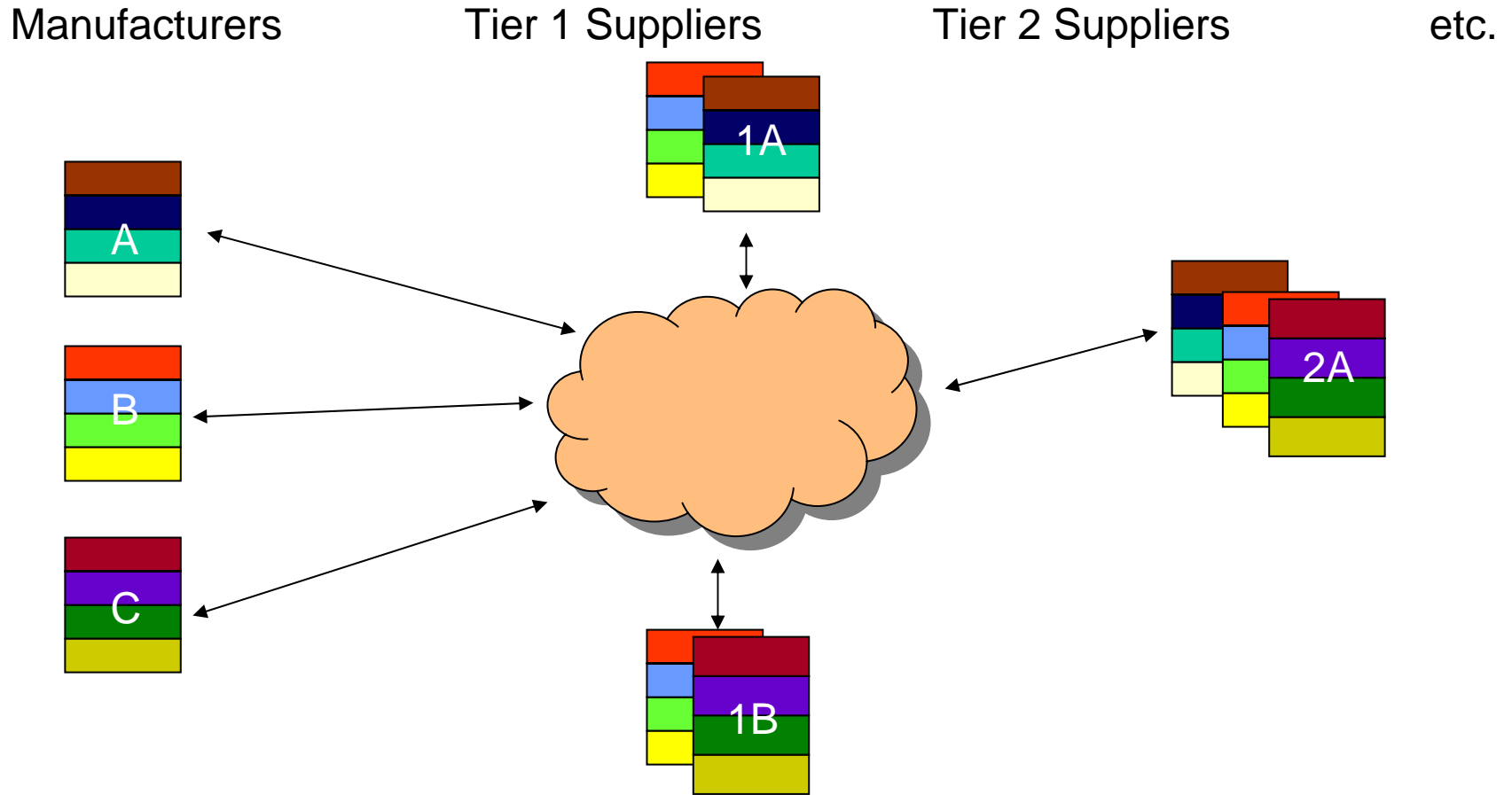
Tier 1 Suppliers

Tier 2 Suppliers

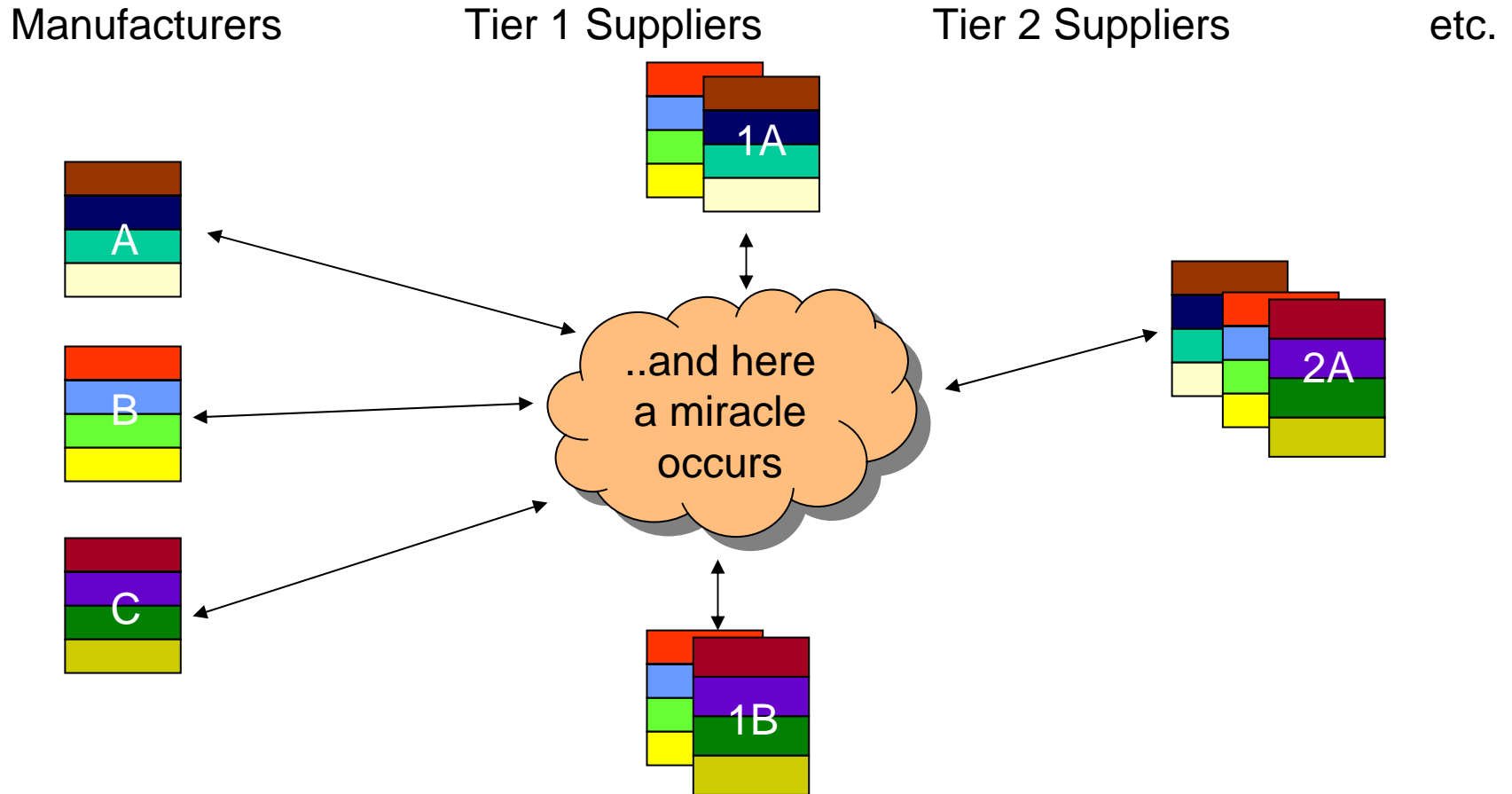
etc.



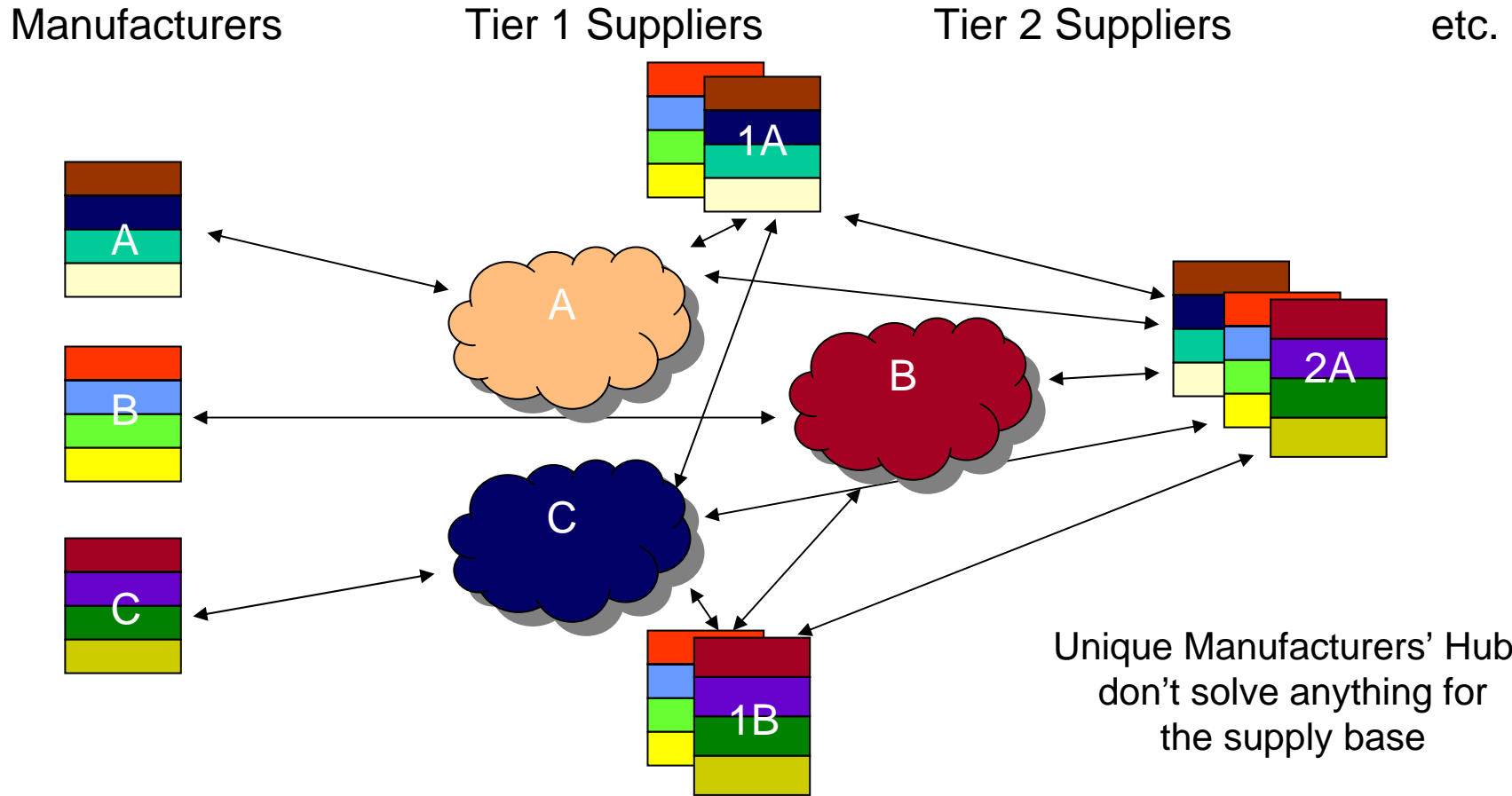
# Steps toward commonality -- B2B Network Hub



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# Manufacturers' Hubs – 'Gateways' or 'Portals'





# European Automotive Network Exchange 'ENX'

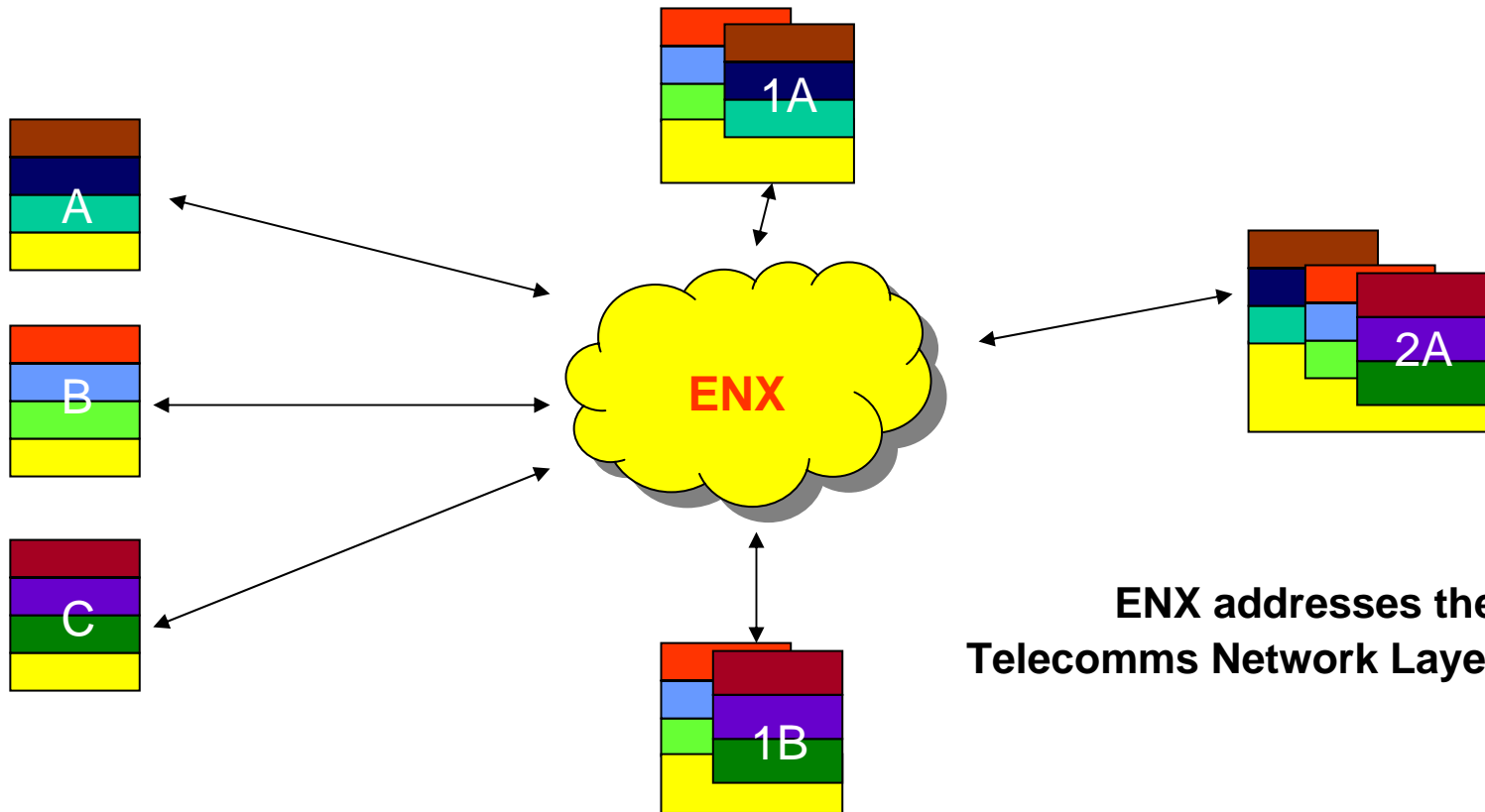
**ENX Organisation – Association of vehicle manufacturers, major suppliers, and national auto trade associations (e.g. SMMT, VDA) that defines and certifies ENX services**

Manufacturers

Tier 1 Suppliers

Tier 2 Suppliers

etc.



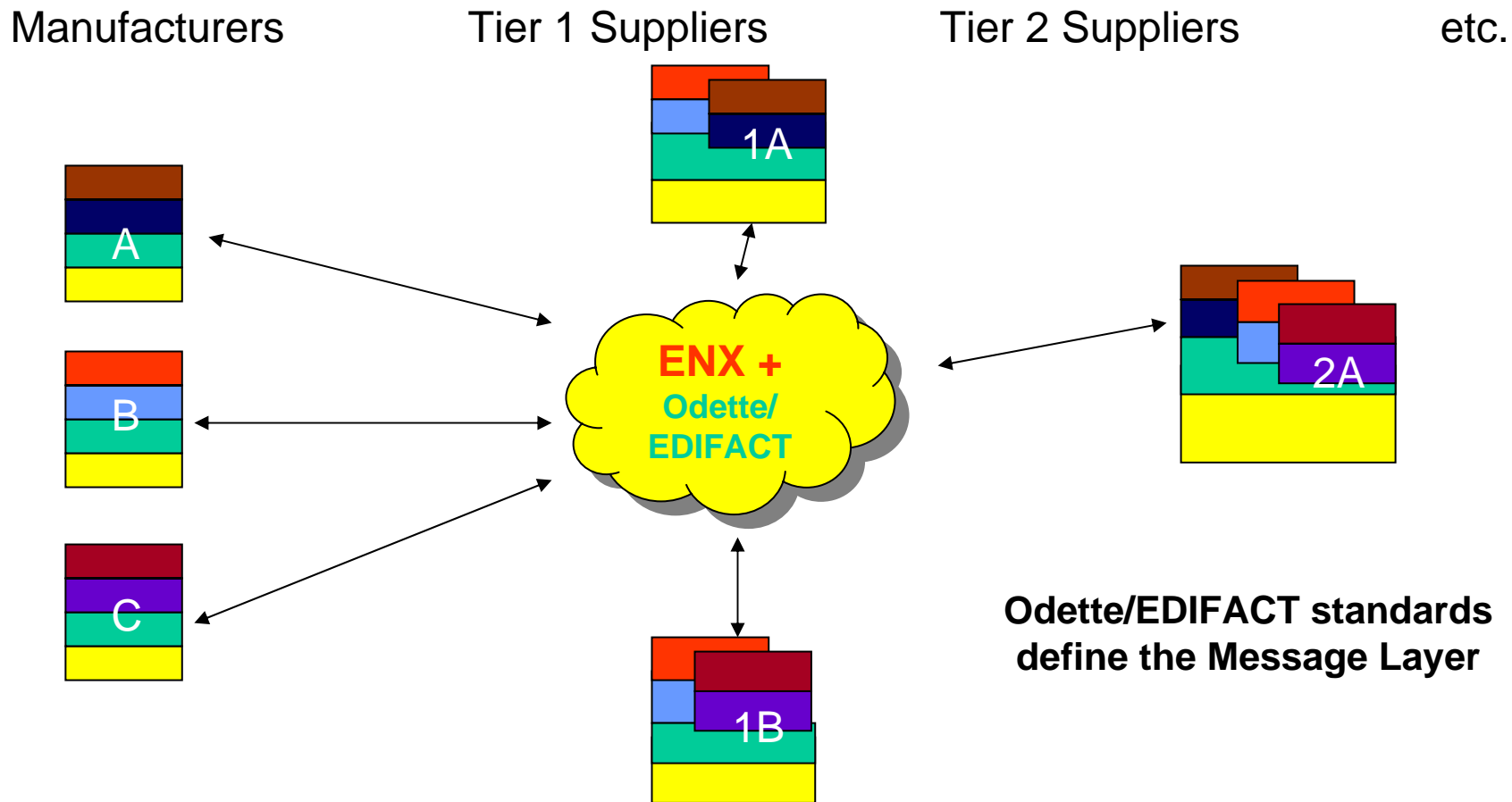
**NB: 'GNX' Global Network Exchange -- Planned interconnection of European (ENX), N.American (ANX), Japanese (JNX), and Australian (AANX) automotive networks**





# Odette/EDIFACT Messages

**Odette – Organisation for Data Exchange via Tele-Transmission in Europe composed of national auto trade associations (e.g. SMMT, VDA, GALIA, ANFAC)**

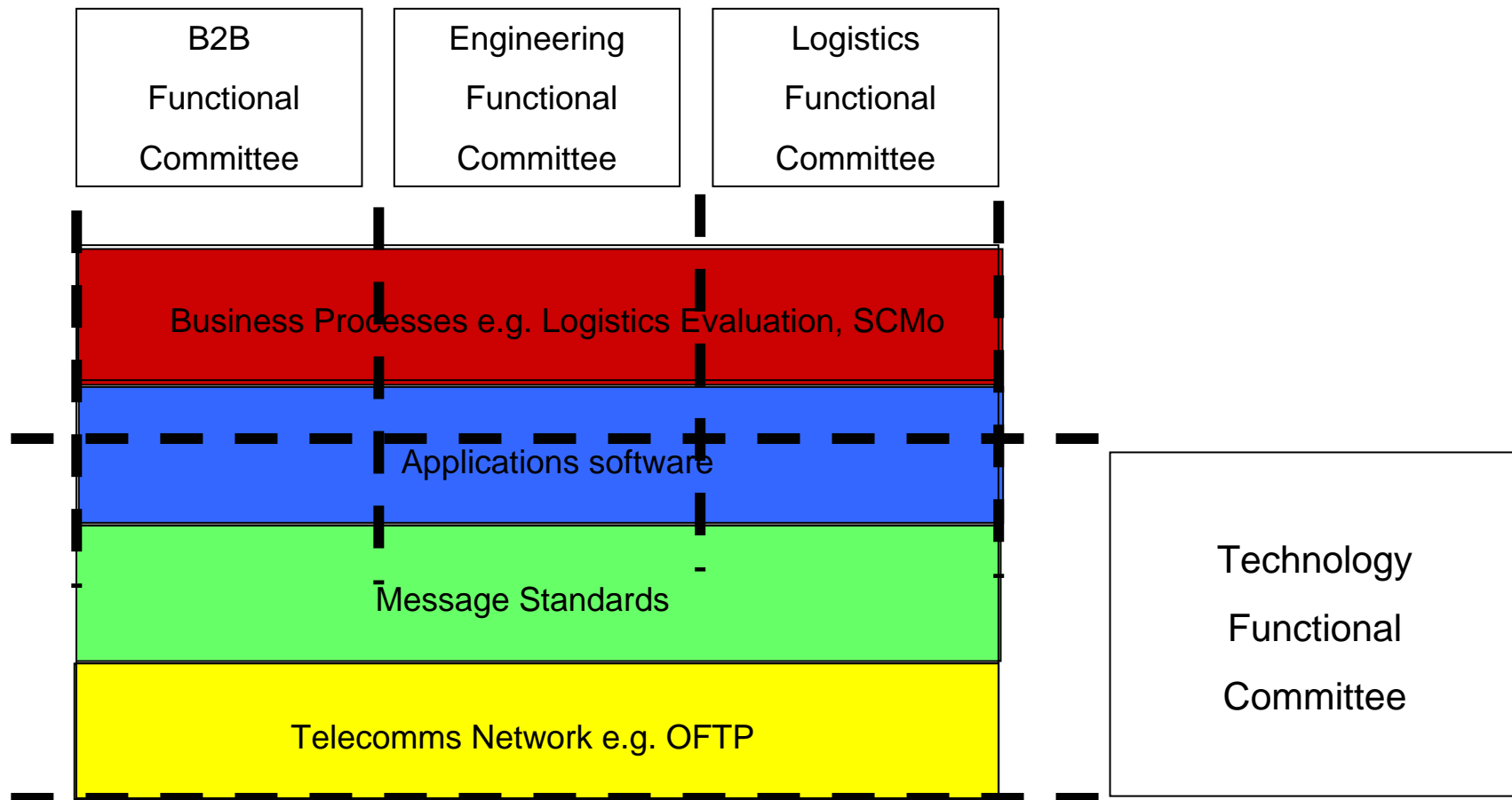


**NB: EDIFACT -- Electronic Data Interchange for Administration, Commerce, & Transport. Develops UN standards for EDI**



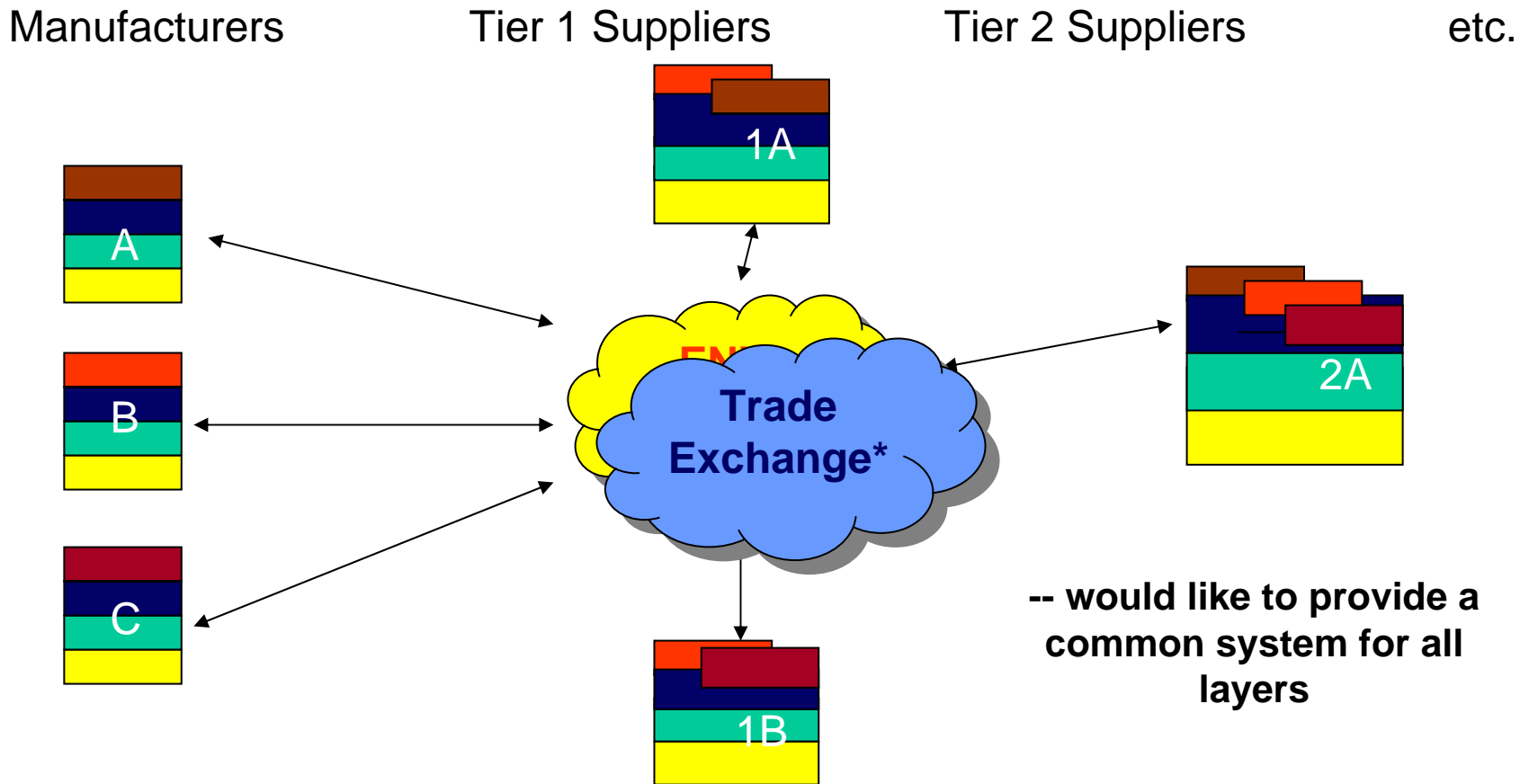


# Odette also does work on the other layers



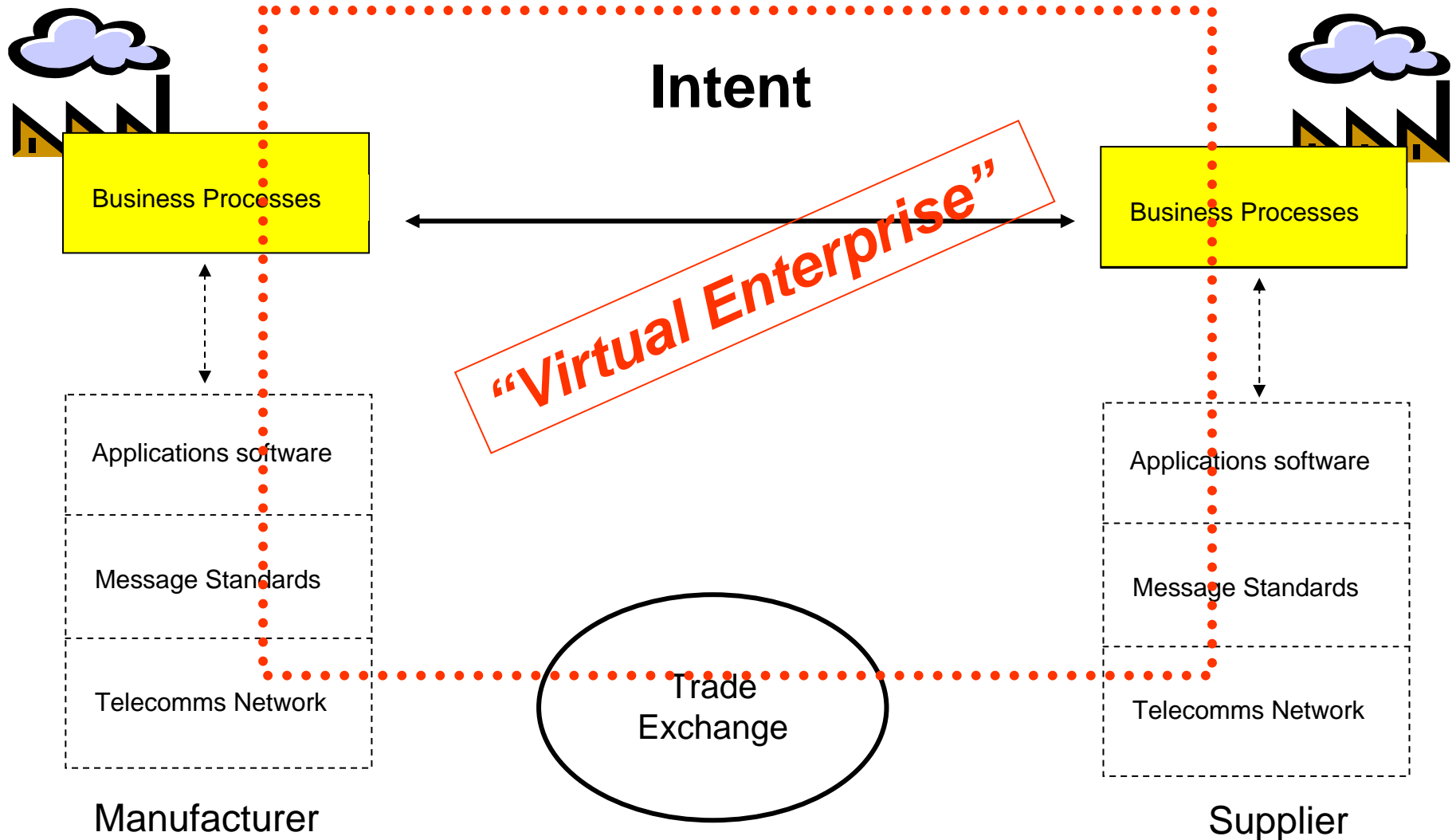
# Trade Exchange Vision

**Trade Exchanges, or 'electronic marketplaces' aim to provide a single point of connection and common processes for all participants, both buyers and sellers**



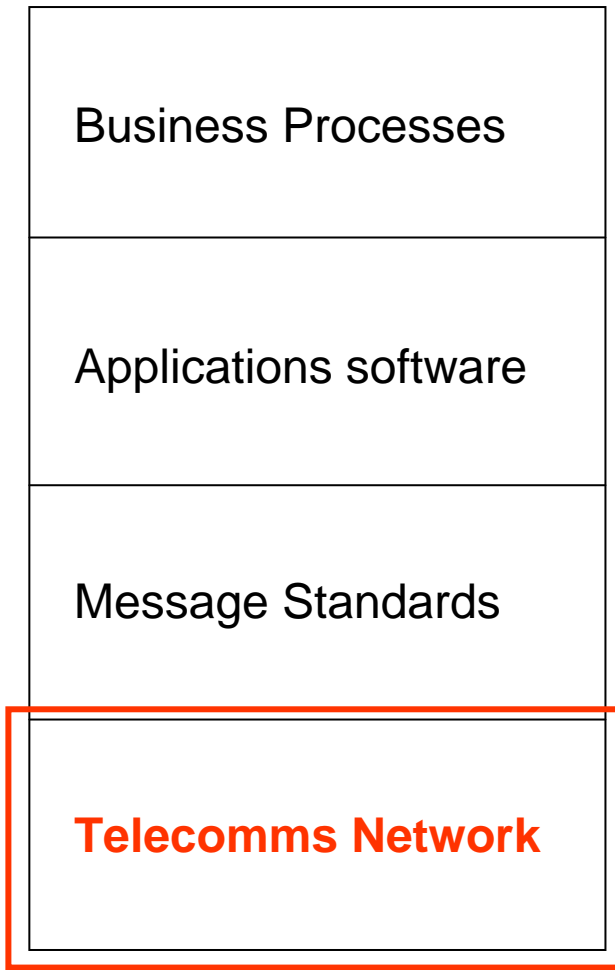
**Principal auto trade exchanges are Covisint (founded by vehicle manufacturers) and SupplyOn (founded by major suppliers)**

# What are the issues?





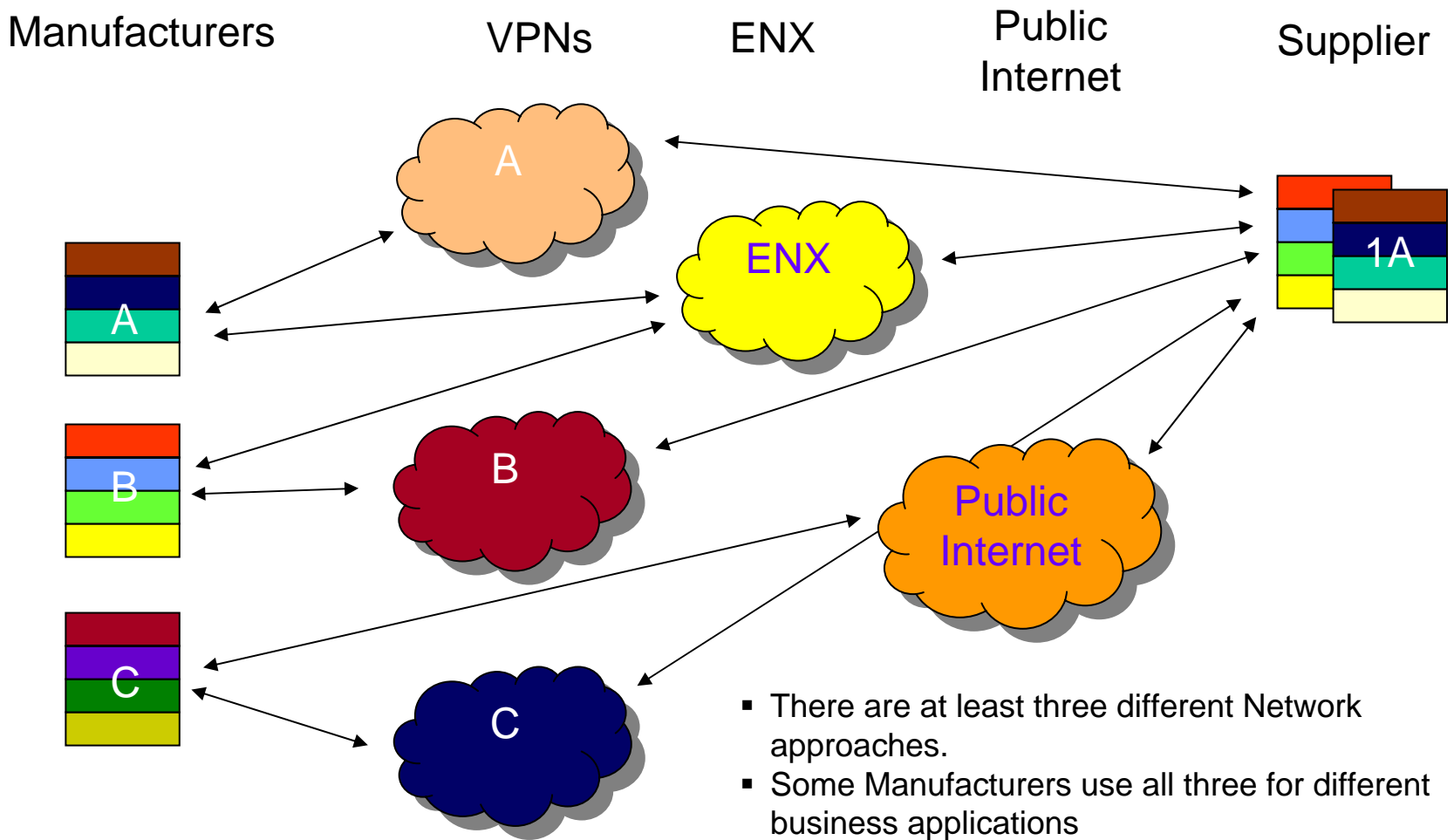
# Issues – Network Layer



- At least three different network approaches are in use – VPNs, ENX, and Public Internet.
- Some Manufacturers use all three for different business areas.
- Initially ENX is add-on (extra cost) rather than substitutional. ENX pays off when it replaces 2 to 3 existing connections.



# Issues – Network Layer



- There are at least three different Network approaches.
- Some Manufacturers use all three for different business applications
- Initially, ENX is add-on and not substitutinal

# Issues – Network Layer

Pretty good progress based on the Internet revolution – network links now affordable (broadband)

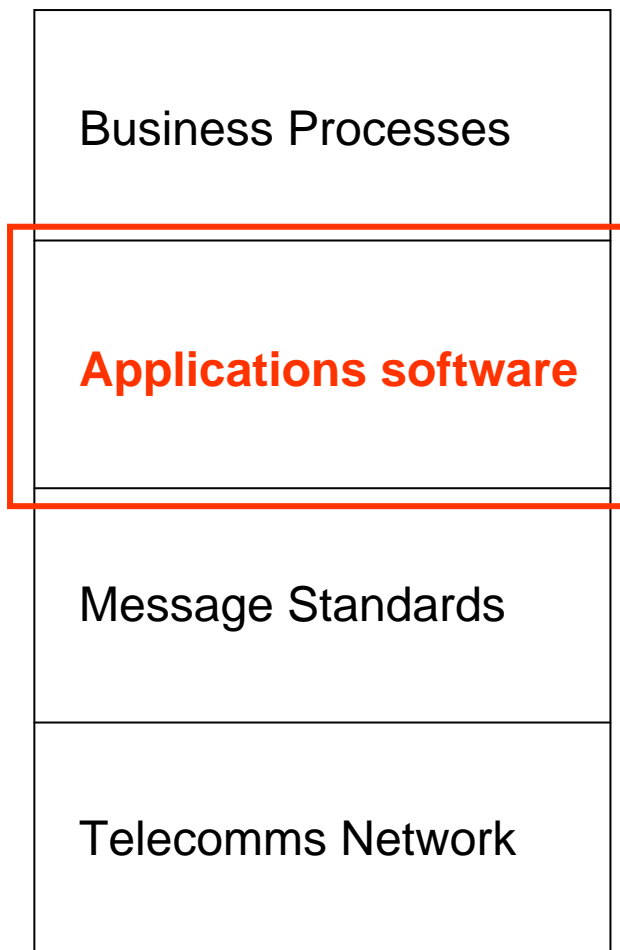


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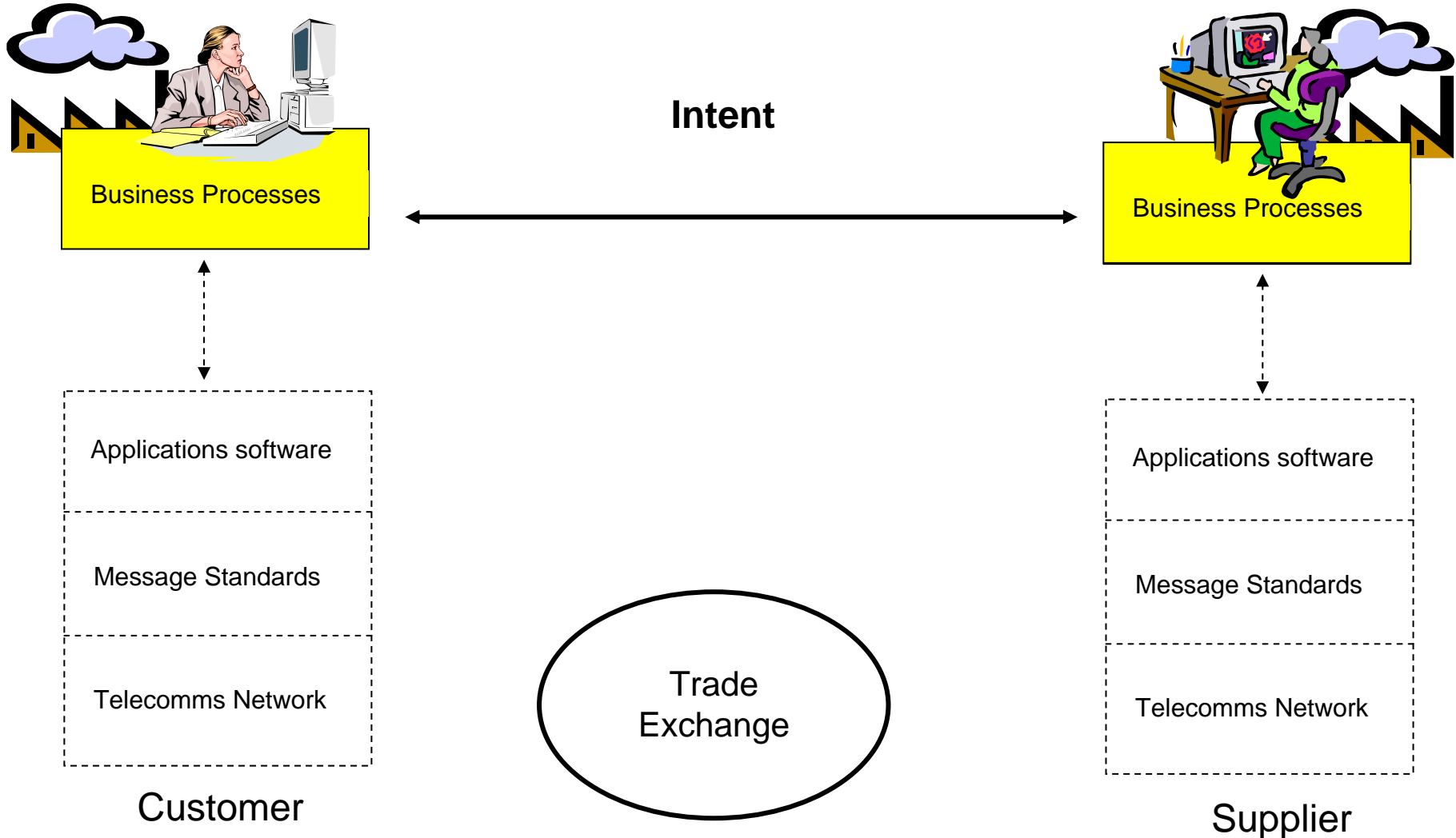
- Several Message transport standards continue in use worldwide – VDA, Odette, EDIFACT, ANSI. International efforts continue to seek commonality
- Different software systems support different message standards
- Software suppliers and trade exchanges want agreement of XML-based standards for new software services, but XML is not a priority for Auto Manufacturers except for new areas of B2B development (eg AQP)



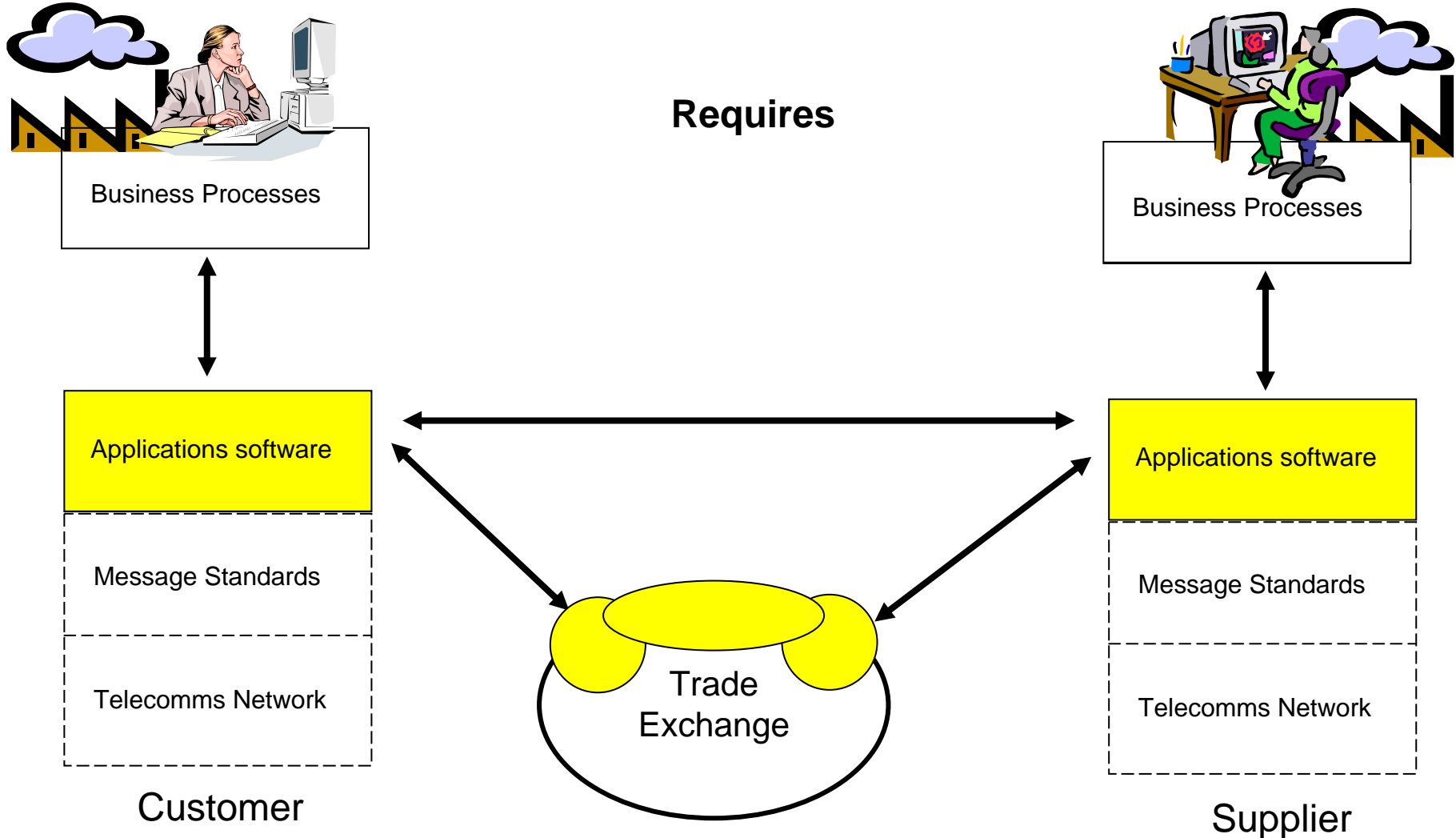
Business wants a choice of applications packages and providers, but...

- Different applications support different B2B message standards and not necessarily for the same set of messages/business processes
- Recent software development trends by auto manufacturers and trade exchanges have been towards browser interfaces rather than application-to-application interfaces
- “Back-end” integration is a major consideration including in the use of trade exchanges
- Common applications software does not necessarily mean common business practices

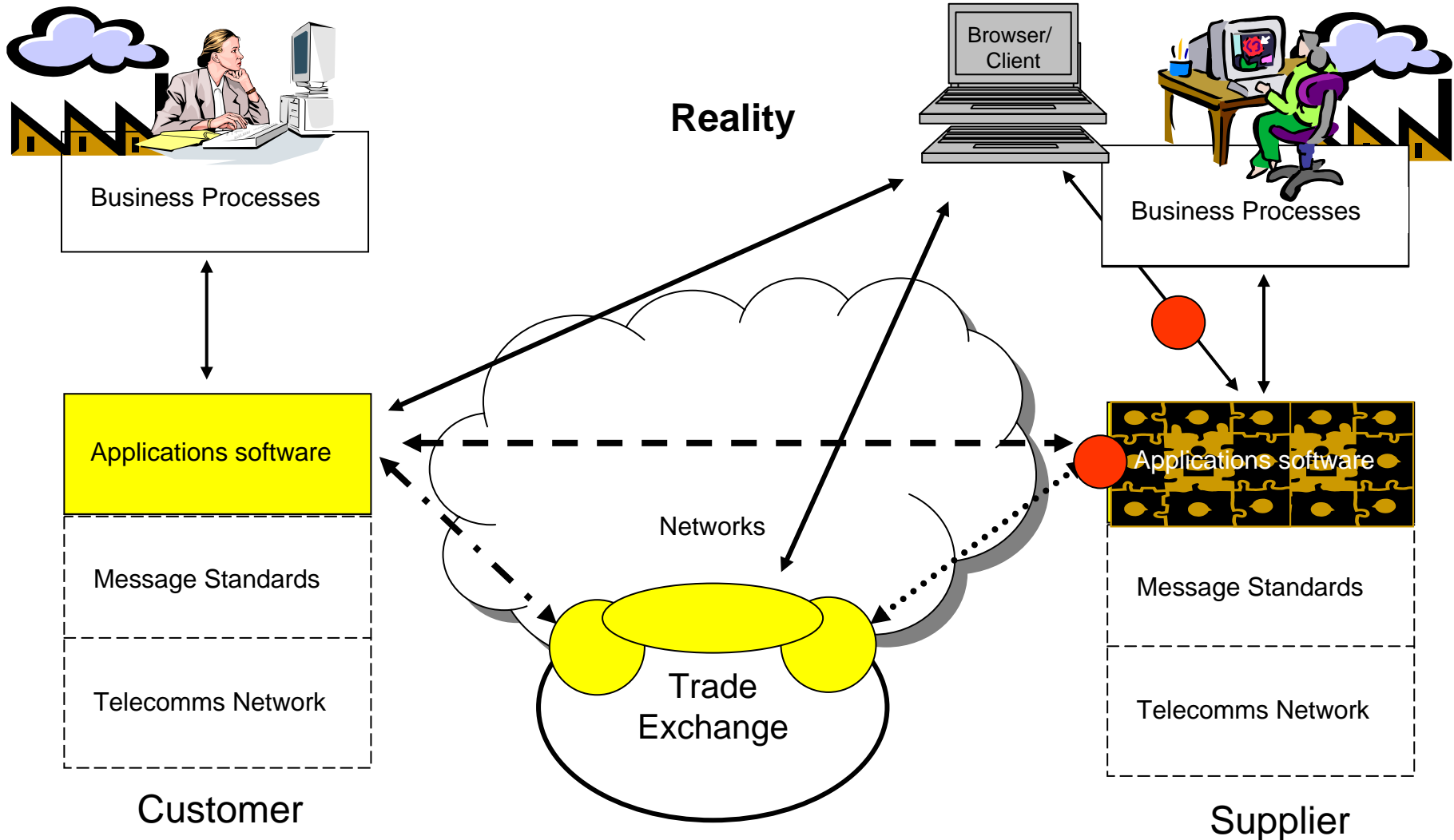
# Issues – Applications Layer



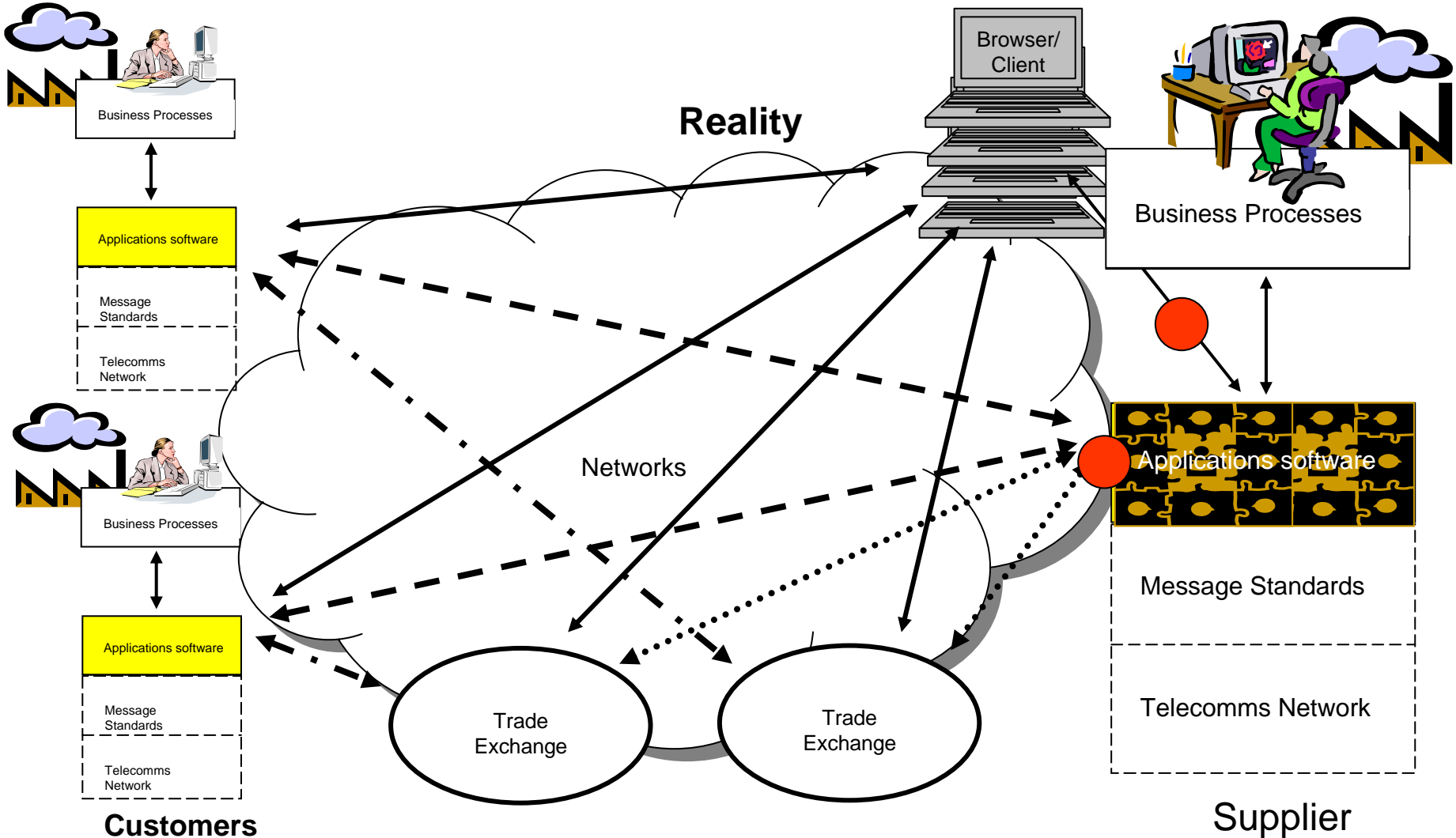
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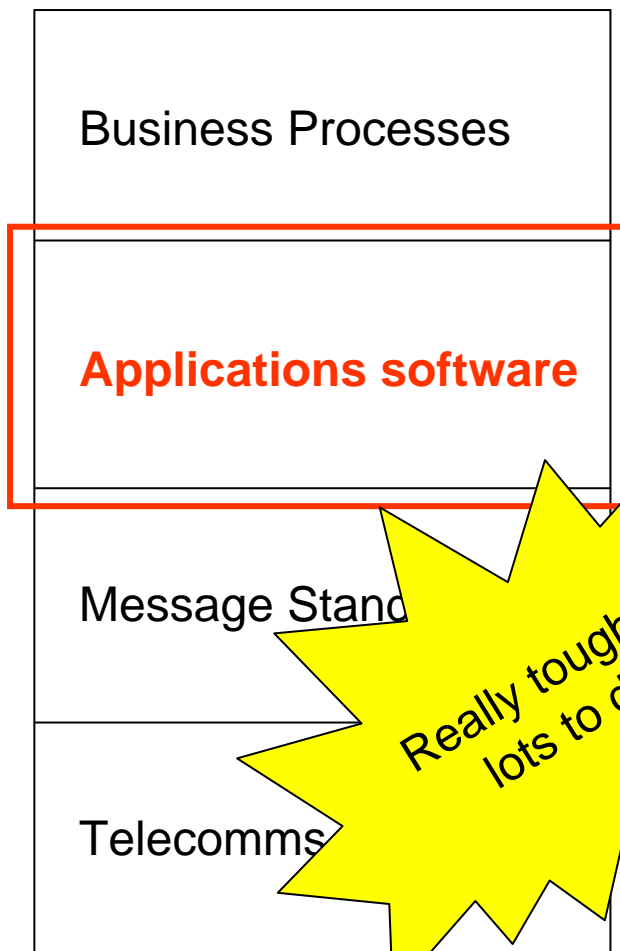
# Issues – Applications Layer



# Issues – Applications Layer



'Back-end integration'



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- “Back-end” integration is a major consideration including in the use of trade exchanges
- Common applications software does not necessarily mean common business practices

## Business Processes

Applications software

Message Standards

Telecomms Network

What common processes are needed?

What do each of your customers require you to do differently?

- Design & Engineering
- Sourcing / Procurement
- Capacity Planning
- Production Planning
- Material Planning
- Transport & Logistics
- Billing & Accounting
- Payments
- Taxation
- B2B Marketing
- B2B Sales

**Big challenge –  
but compare progress  
on Quality standards**

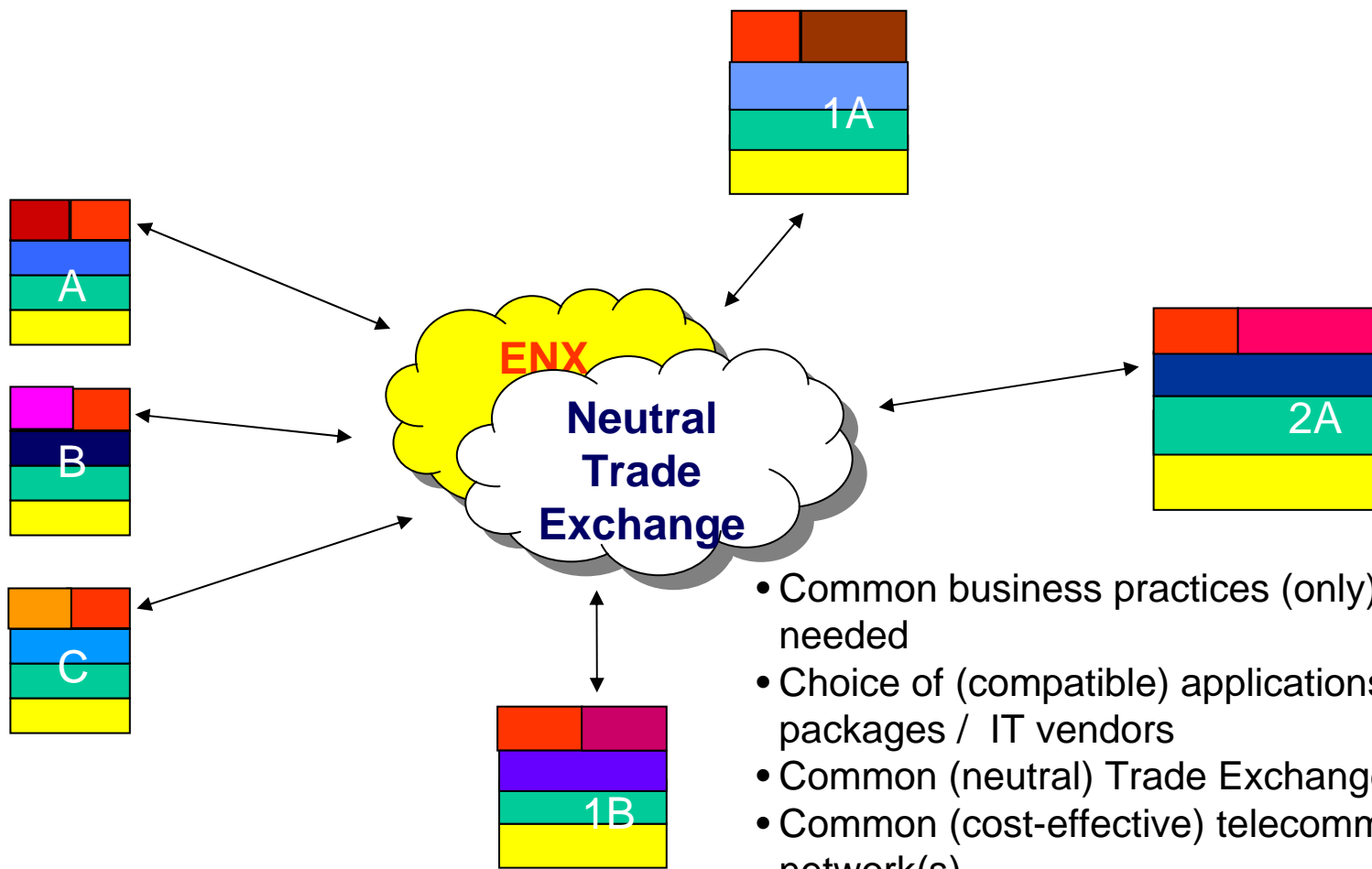
# B2B Network – Industry Vision?

Manufacturers

Tier 1 Suppliers

Tier 2 Suppliers

etc.



- Common business practices (only) where needed
- Choice of (compatible) applications packages / IT vendors
- Common (neutral) Trade Exchange(s)
- Common (cost-effective) telecomms network(s)

- Auto industry takes the e-supply chain, and its cost benefits, for granted
  - 20+ years of development
  - Industry EDI standards (Odette/EDIFACT etc)
  - Beginnings of industry network ENX/GNX
  - Choice of mature VANs and Trade Exchange services
- Internet revolution has made e-Business much more accessible, friendly, and affordable (and raised customer expectations)

- Dominant customers continue to demand unique approaches
  - Competitive pressures and drive to exploit new ITC technologies continue to inhibit standardisation
  - Supply base wants cost reduction opportunities
  - Realising Trade Exchange potential must deal with suspicions
- Not much deployment below tier-1s (80/20)
  - Inhibitors still strong? (Customer complexity - multiple cost risks)



# Future Priorities

- Foster deployment below tier-1s
  - Understand inhibitions better
  - Develop e-supply chain programs with Tier-1 champions
- Develop Trade Exchange potential
  - Need to deal with issues. Economic realities are forcing shifts
- Start to deal with applications standards
  - Latest developments tend to be browser-based. Back-end integration issues are multiplying again





# SMMT e-Business Group Mission

Promote the successful use of B2B e-Business processes and tools in the UK auto industry and foster collaboration for mutual benefit between members of the industry.

- Represent the views and needs of the supply base to manufacturers, service providers, and government
- Promote and facilitate e-Business deployment: identify priorities and champion initiatives
- Propose & review SMMT activities
- Coordinate representation of the UK industry





# Working together

- Champion collaborative programs between different tiers of the industry
- Participate in international initiatives -- Odette and ENX
- Provide education and training
- Provide practical advice & information on best practices
- Work with e-Business service providers (Software companies, Telcos, Trade Exchanges, etc)
- Provide / sponsor e-Business services (Health checks etc)
- Work with government



