



**BT** *Stay in touch*

Very  
Large  
Data  
Bases

[www.bt.com](http://www.bt.com)

*"In Cyberspace No One  
Can Hear You Scream"*

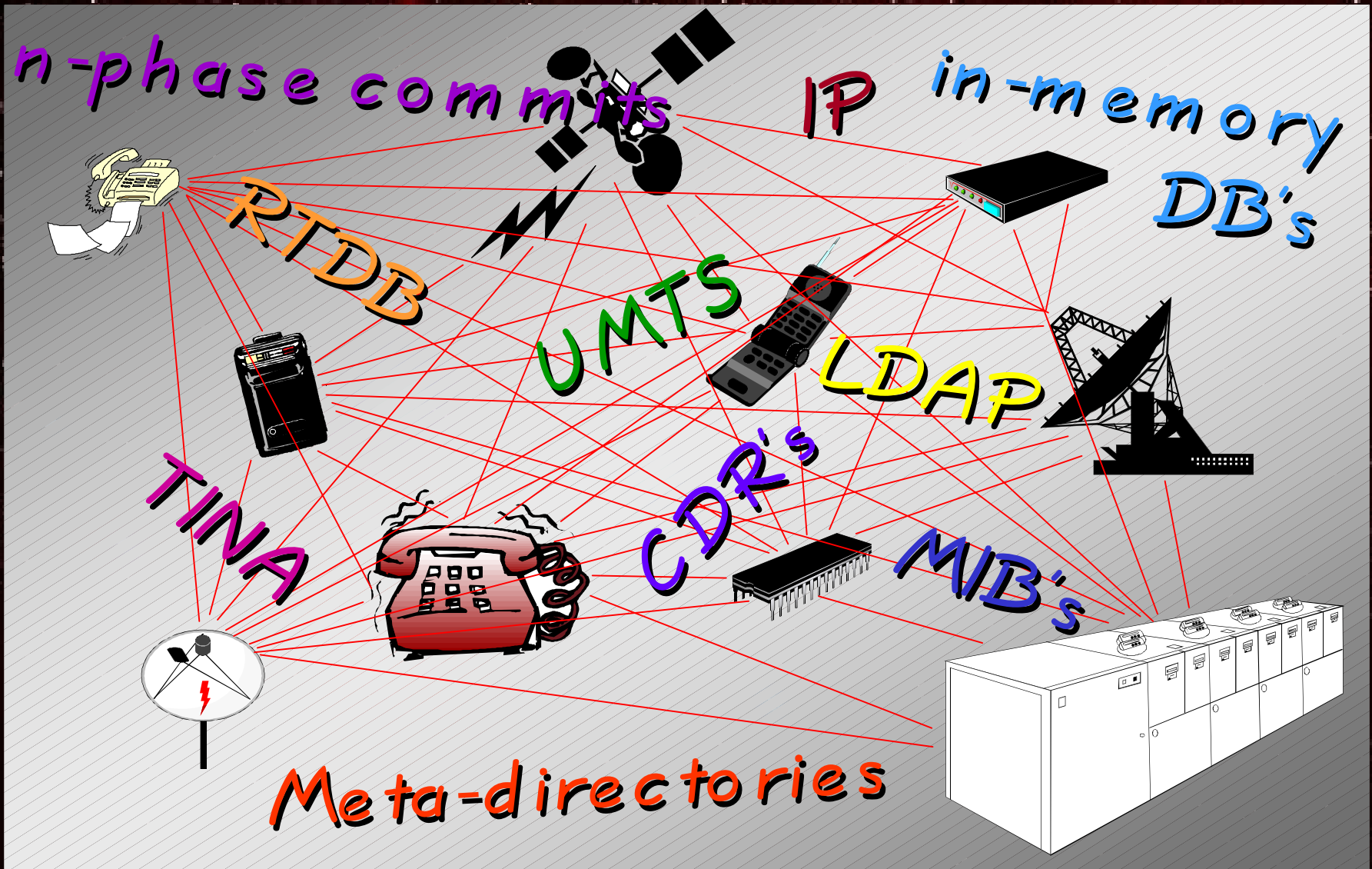
**Chris Pound**

***BTUK: Information & Knowledge Strategy  
British Telecommunications***



# What I'm NOT Going to Talk About

Very  
Large  
Data  
Bases





# ***BT in Context***

- *Launched 1981; Privatised 1984*
- *Operating profit £4.3 Billion (1998/9)*
- *Turnover £18.2 Billion (1998/9)*
- *>22m customers (27m exchange lines)*
- *110,000 employees world-wide*
- *Global Venture with AT&T*
- *25 joint ventures world-wide; 60+ partnerships*
- *UK now world's most competitive communications market - 250+ licensed operators*



# **BT Re-invents Itself**

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"To be at the heart of a society increasingly rich in communications and **in formation**, helping individuals, families, communities and organisations to interact, learn and flourish to the full"

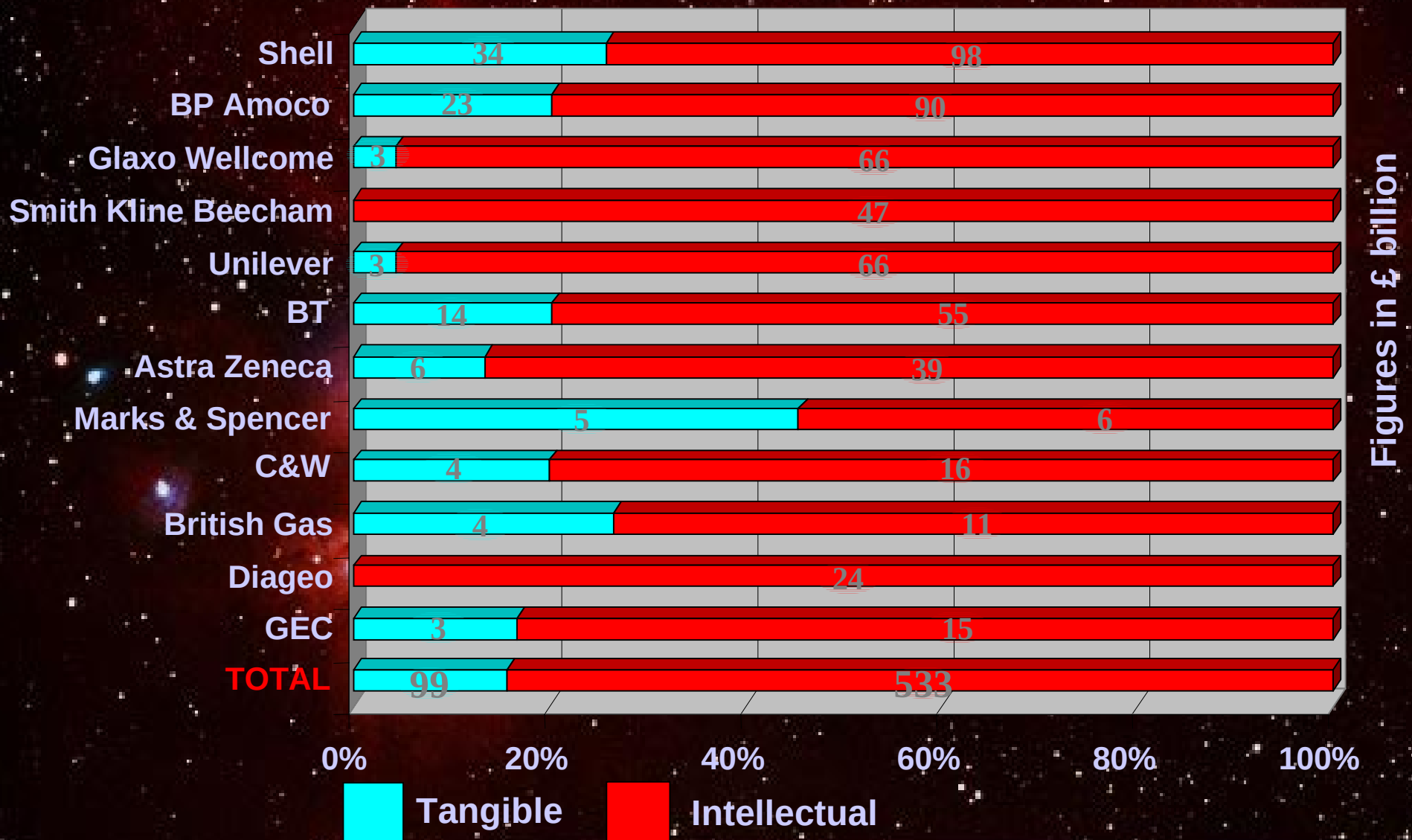




# Valuing Intellectual Capital

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Bases

Tangible and intellectual assets as % total market cap.





# ***‘Drowning in Data’***



- *BT currently holds:*
  - ✧ 60 terabytes of data on disk
  - ✧ 1.9 petabytes of data on tape



"In cyberspace no one can  
hear you scream."

Very  
Large  
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Bases





# ***“Information is the Killer App.”***

Very  
Large  
Data  
Bases

*“There’s a great deal of talk about information overload. We should be so lucky. There is certainly a great deal of data out there, but almost all of it is just that - data; irrelevant to our current needs and not worthy of our attention. For us, our existing systems are not so much information technology as data technology and they act as a pump not a filter. This is a shame because information is a new power source for business, and at the moment most of it is not being channelled to anywhere useful. For us, information is the killer application and the only way for organisations to grab and sustain competitive advantage.*

*From: ‘The E-business Advantage Concept Report’, Butler Group,*

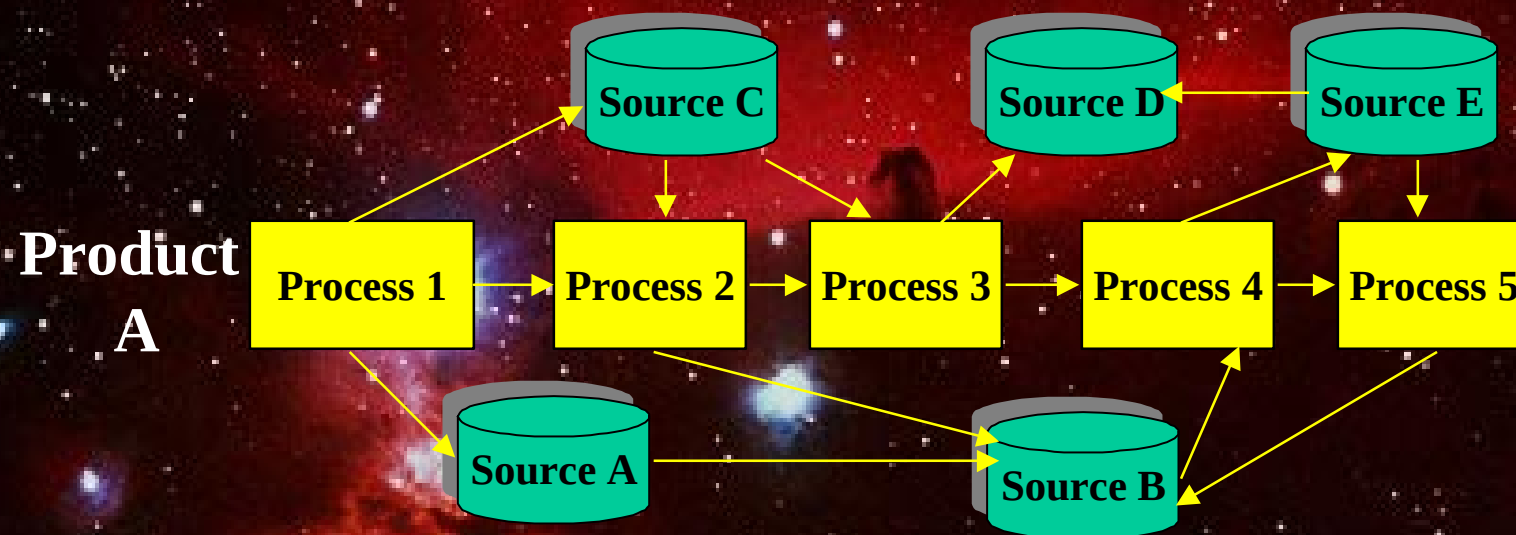
*Jan. ‘99*





# INDUSTRIAL AGE INFO. MANAGEMENT

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Data  
Bases

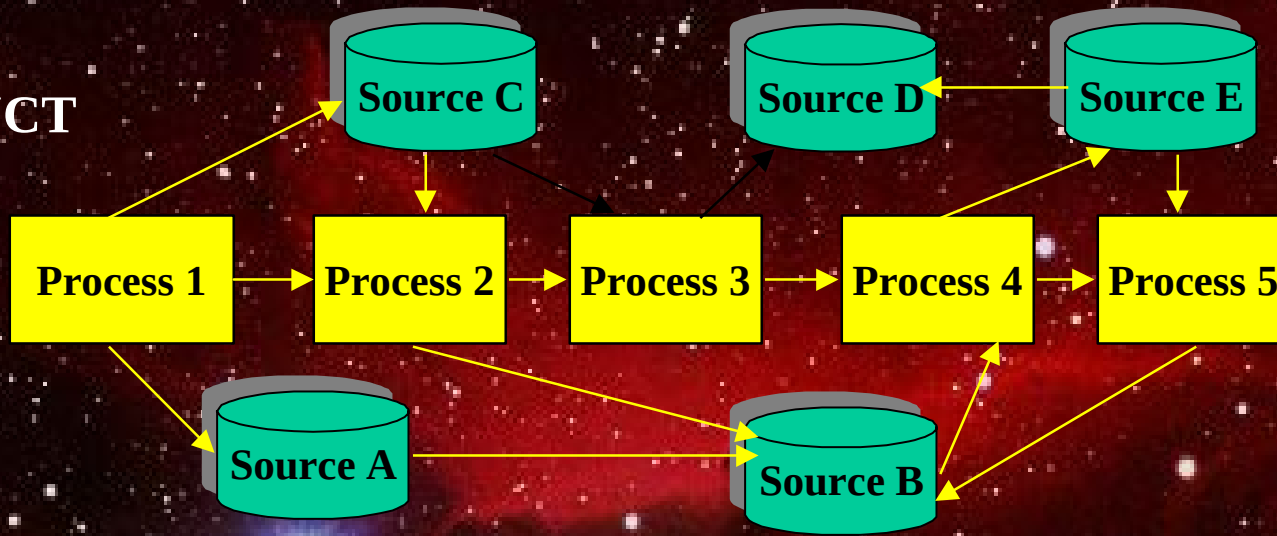




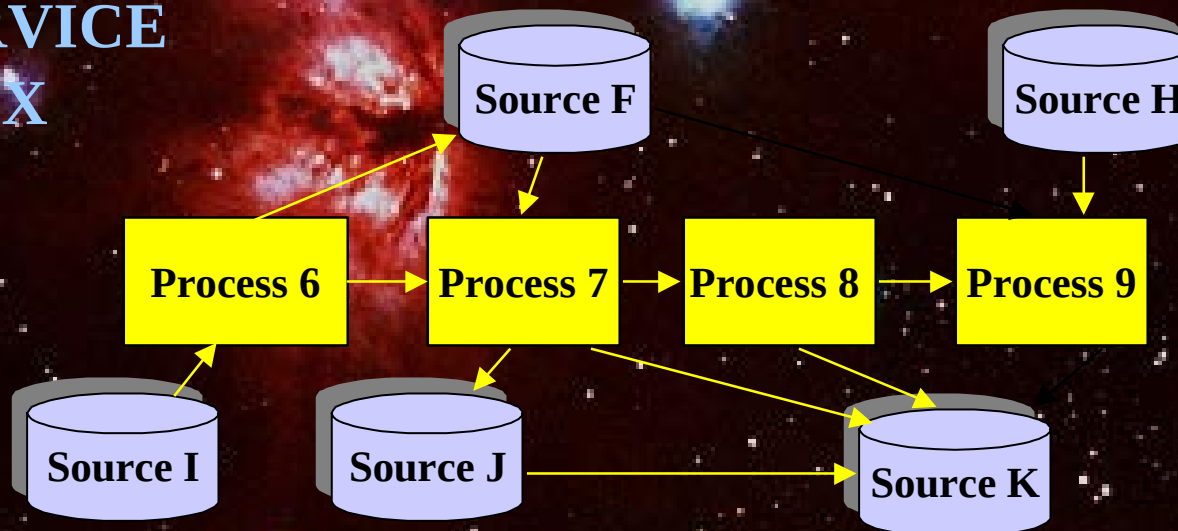
# INDUSTRIAL AGE INFO. MANAGEMENT

Very  
Large  
Data  
Bases

**PRODUCT**  
**A**



**SERVICE**  
**X**



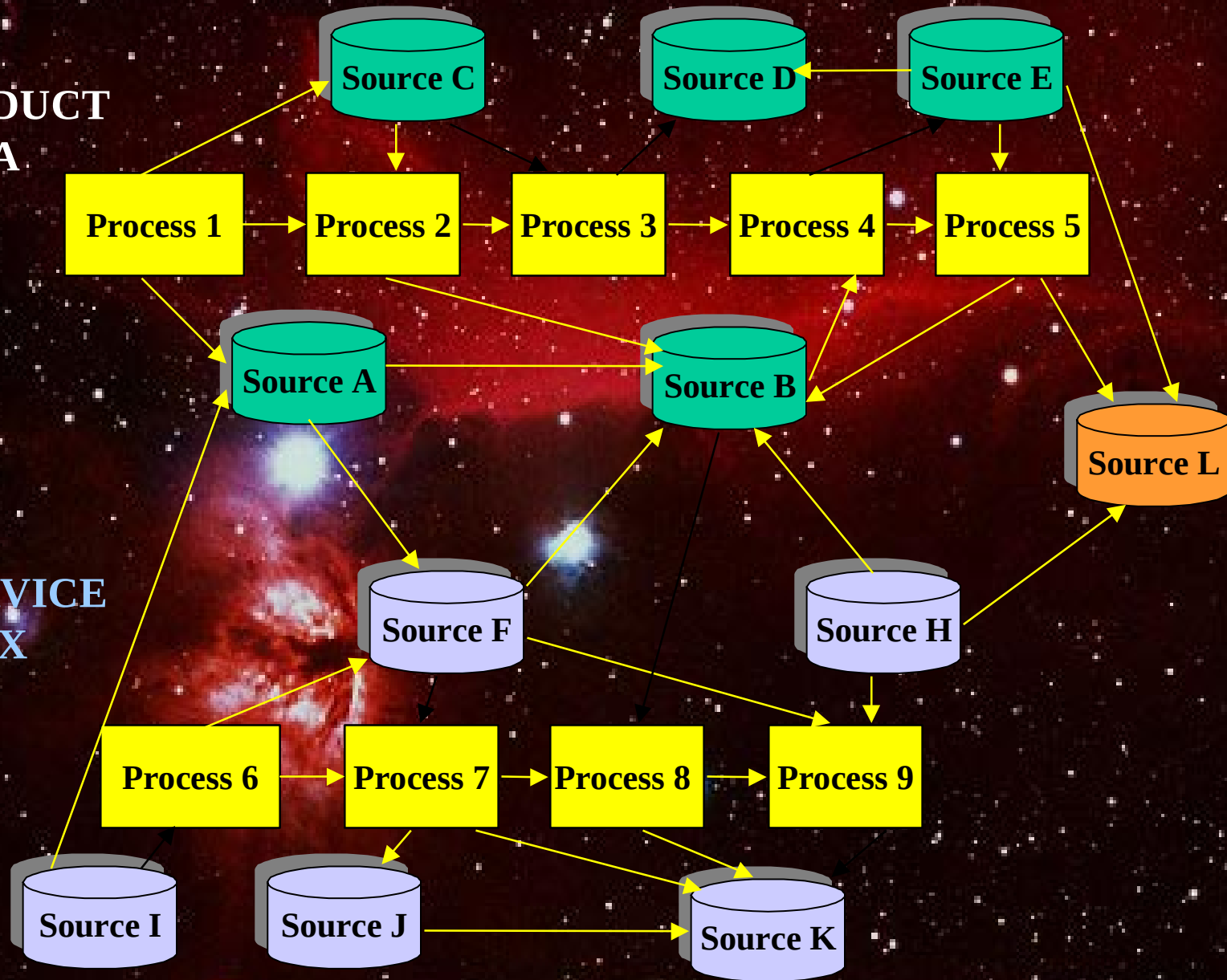


# INDUSTRIAL AGE INFO. MANAGEMENT

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X





# ***Implications of Industrial Age Approach***

Very  
Large  
Data  
Bases

- *IT costs of ownership & development spiral*
- *Skilled IT resource focused on interface management*
- *Time to launch new products and services adversely affected*
- *Lack of common information standards*
- *Uncontrolled duplication of information*
- *Information quality a MAJOR problem - especially when e-channels implemented - loyalty*
- *Information-centric architectures required*
  - ✧ *Database implications*



# Managing Information as an Asset



## ➤ Information:

- ✧ "data that have been organized and communicated" (Marc Porat, 1977)
- ✧ "data in context" (Barry Devlin, 1997)
- ✧ metadata becomes critical - see paper in Proceedings

## ➤ Most companies/organisations manage information as a by-product - survey

- ✧ Content vs. delivery channel paradox cf. Policy-based networking

## ➤ Information has value - use economic models to manage

- ✧ Classic economics → Complexity → Internet





# **Weird Properties of Information**

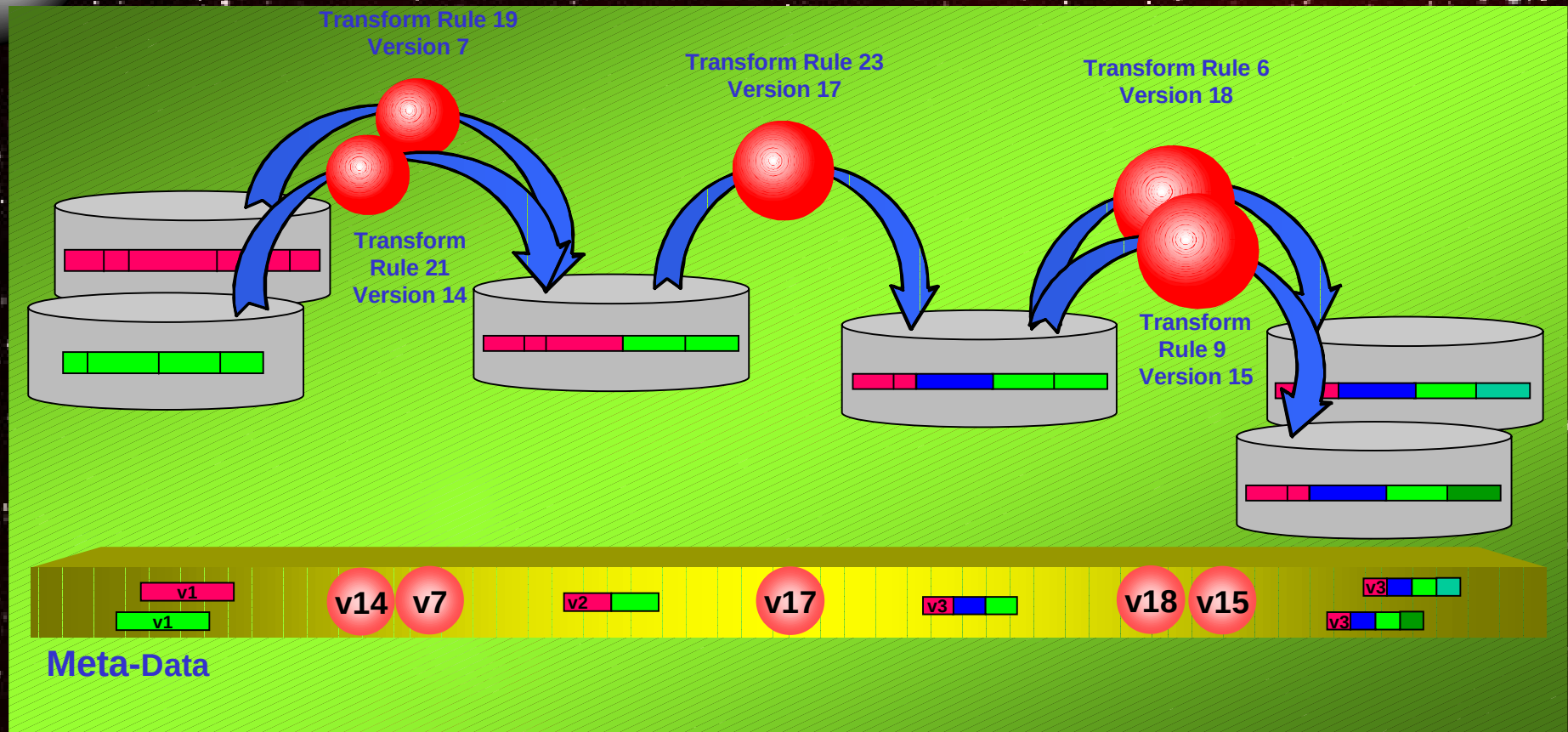


- Can be used without being consumed
- Production cost unaffected by number of consumers
- Exists independent of space (cake vs. recipe)
- Cannot be repossessed
- Extremely sensitive to time (betting tip)
- Production costs heavily front-loaded
- Suppliers and consumers collaborate
- ...



# Data Lineage/Genealogy

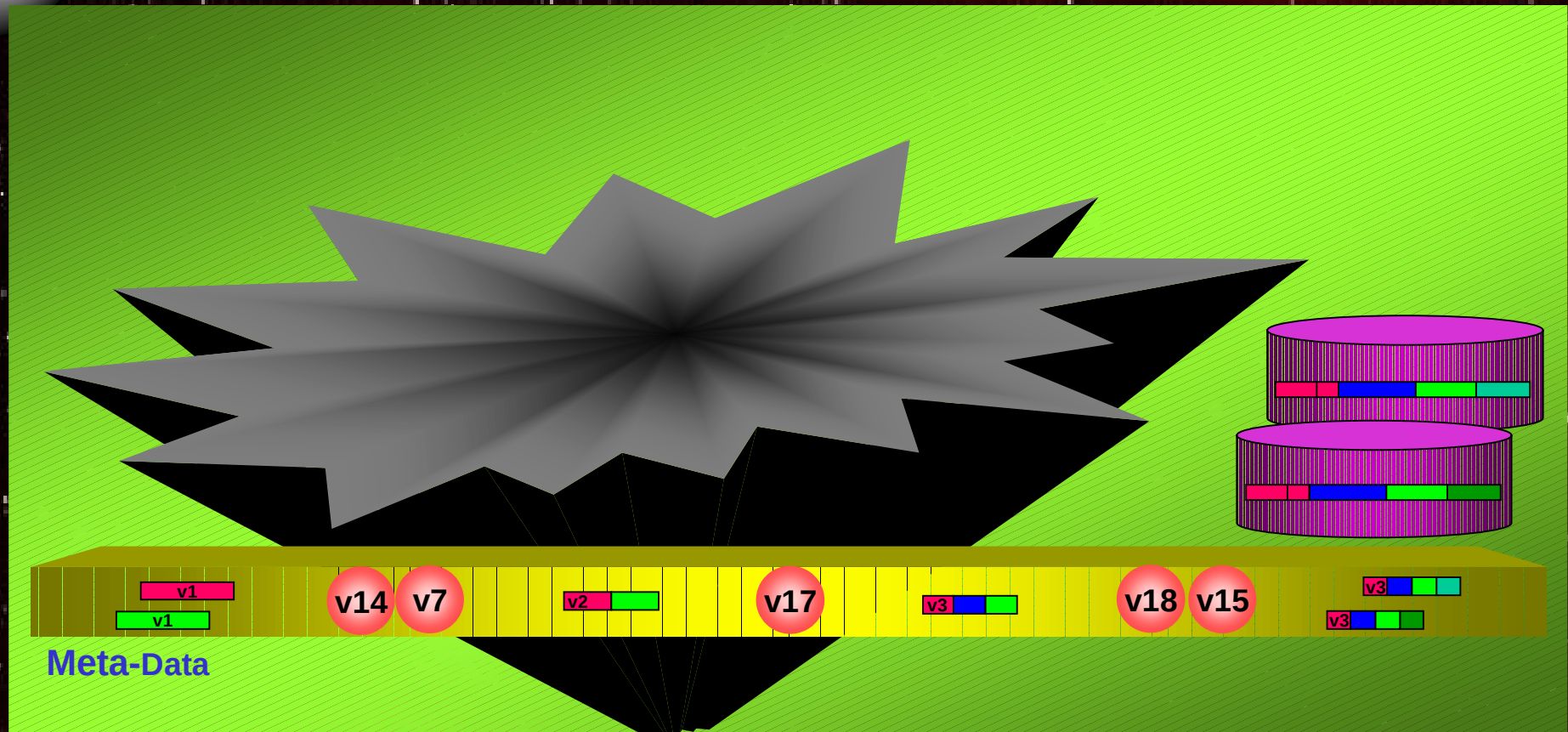
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# Data Lineage/Genealogy

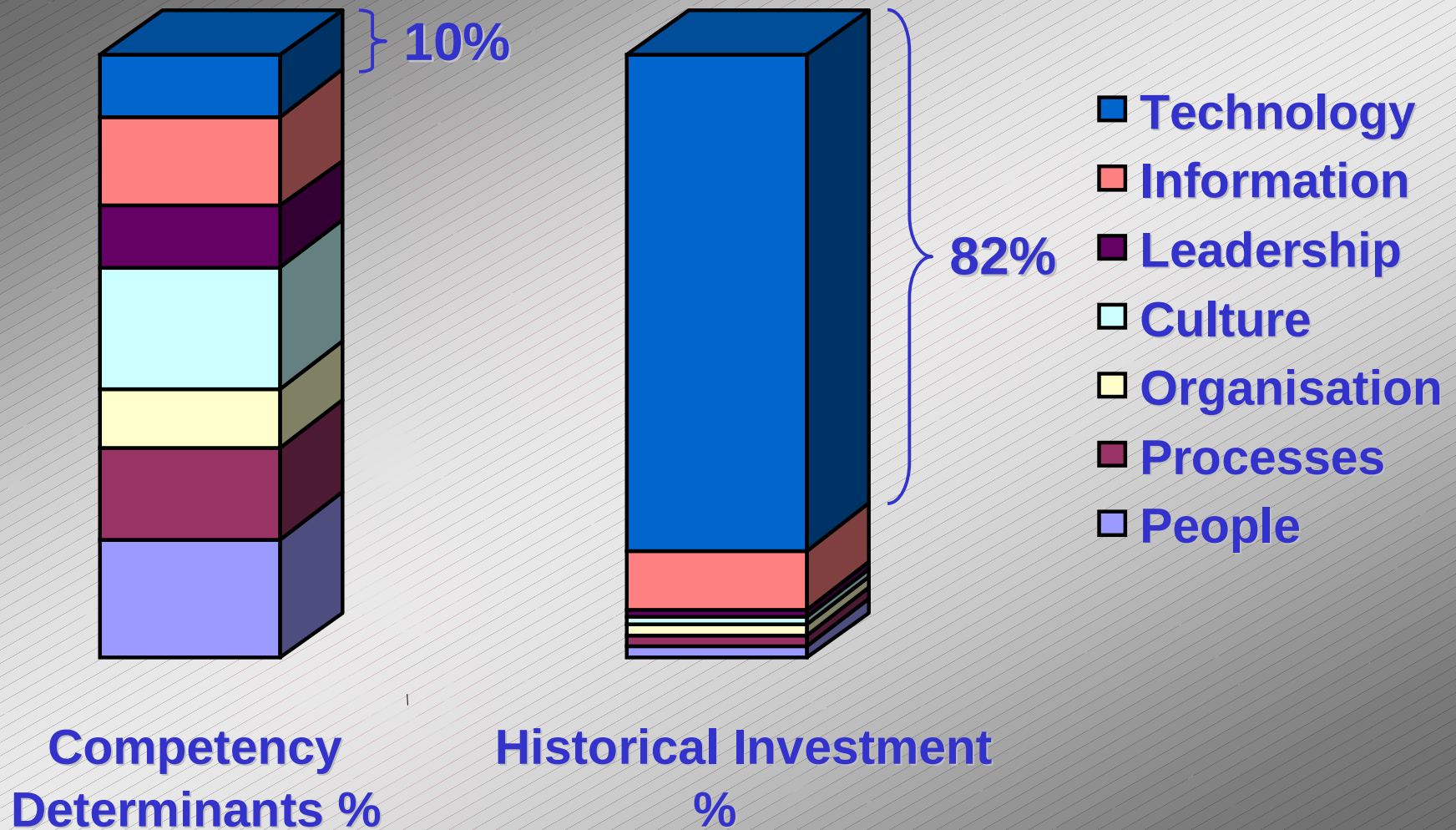
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- Reality: fragmentation is much more complex . . .
- The challenge: connecting data and meta-data
- IP & CDR's: Col's offer a way forward



# The McKean Paradox



*"The medium is the message" - Marshall McLuhan (1967)*  
• Have we taken this too far?





# Key Points & Challenges

- Are we really in the Information Age yet?
  - ✧ Data in context
  - ✧ Info. overload & privacy issues addressed
  - ✧ Information managed as an asset
    - Information supply chain (incl. lineage)
    - Information usage tracking
    - Charge for info - not delivery channel
    - High information quality - GIGO
  - ✧ Information Age: info-centric architectures





# ***‘The Third Man’***

*“In Italy for thirty years under the Borgias they had warfare, terror, murder, bloodshed - but they produced Michelangelo, Leonardo da Vinci and the Renaissance. In Switzerland they had brotherly love, 500 years of democracy and peace, and what did that produce? The cuckoo clock.”*

