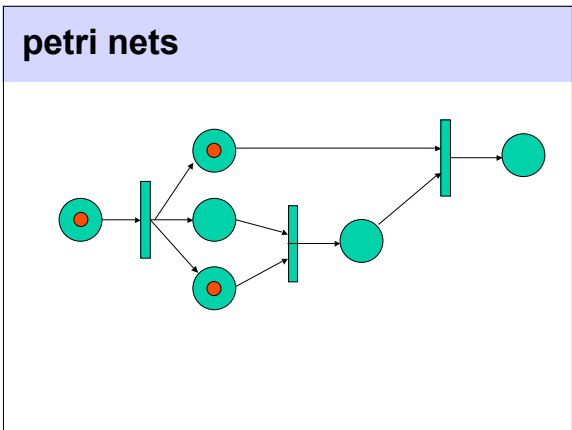
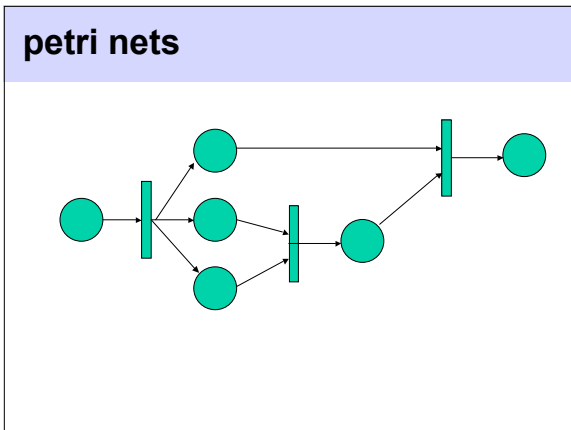
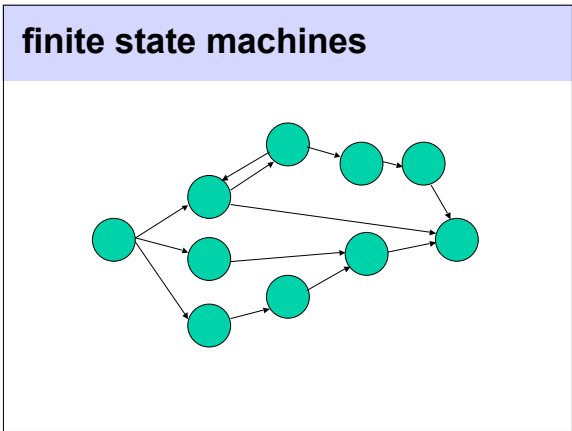


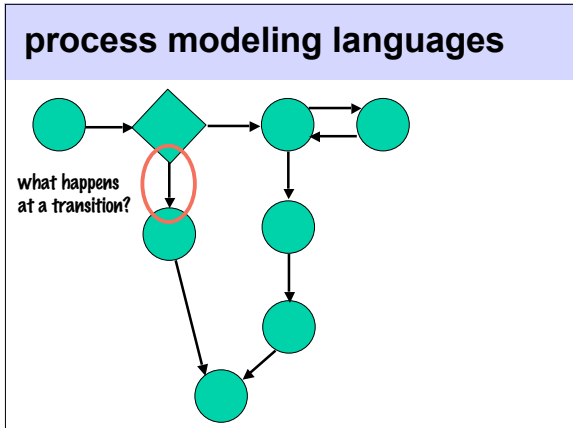
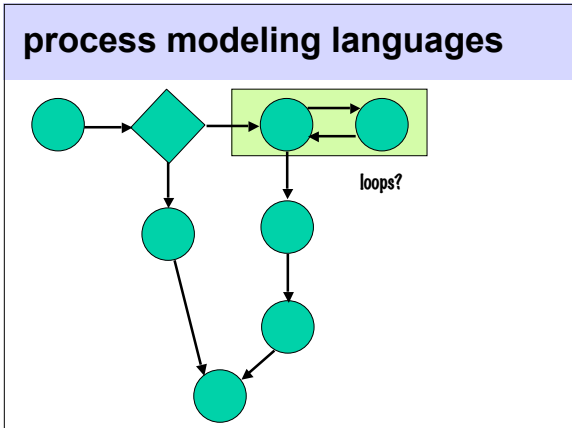
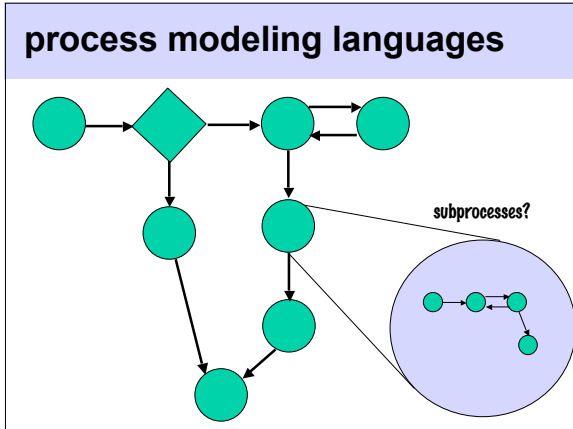
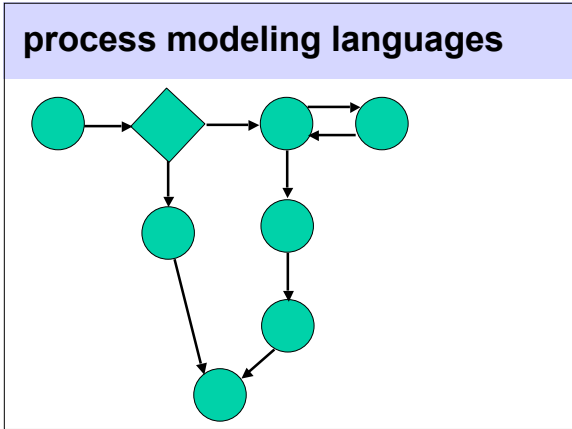
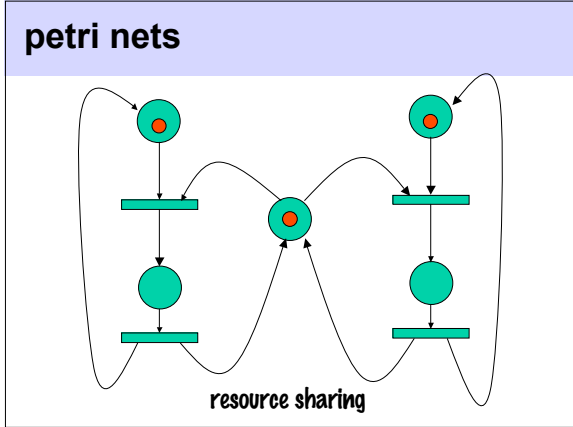
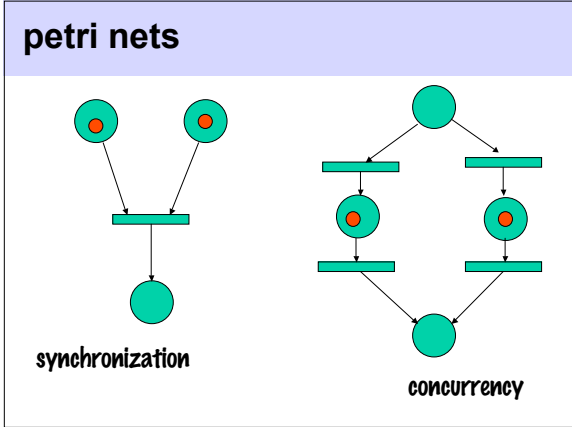
what happens...

- ... when you walk into Starbuck's?
- and why?

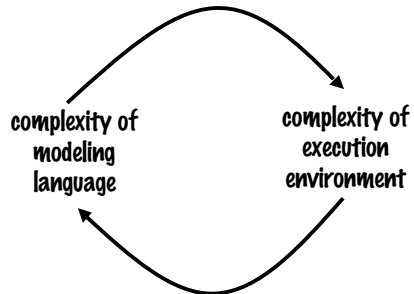
machines and processes

- the machine metaphor at work
 - standardization, measurement, repeatability
 - standardize outcome by standardizing process
- two key elements
 - a formal description of the process
 - so it can be analyzed, transformed, shared, exchanged
 - embodiment in software tools
 - tools are constrained to follow process
 - e.g. just as a wizard guides you through a step-by-step sequence of actions and prevents deviations





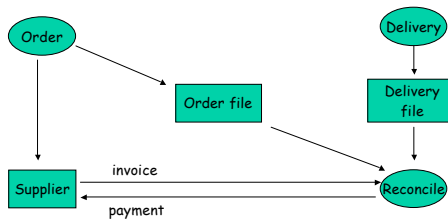
modeling trade-off



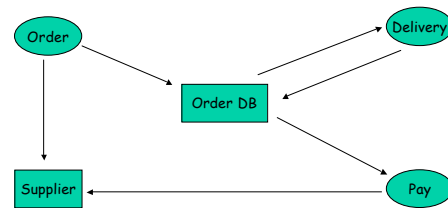
BPR

- Business Process Reengineering
 - late 1980s to mid 1990s
 - focus on information flow
 - identify redundant or unnecessary steps
 - ... and eliminate them
 - critical role for technology
 - once your process has been redesigned, you need to make sure it's followed
 - you want to retain centralised control of the processes that are put into effect
 - workflow technology can accomplish this

Ford : before



Ford: after

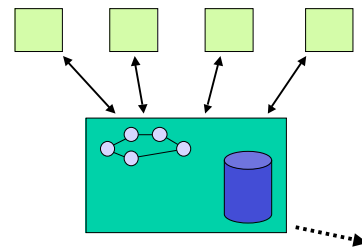


what does it take to achieve this?

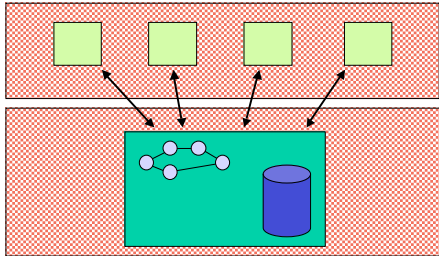
process optimization

- that's half the story
 - eliminating redundancy
 - reducing round-trips
 - notice too that this works by turning your problems into the other guy's...
- and the other half?
 - need to ensure that the new process is carried out
 - a matter of control

workflow architectures



workflow architectures



dominant issues: *control & change*

workflow technology

- technology for managing processes
 - embody an explicit representation of a process
- database of process *instances*
 - record details of each process
 - history, state, documents, etc
 - ensure the orderly execution of processes
 - turn process and tasks to to-do lists and action items
- some design questions
 - to what extent do people see the whole?
 - how can exceptions be managed?

a major problem

- the basis for all this is finite-state technology
 - but the world is not finite
- exception management
 - trade-off again -- modeling or execution?
 - exceptions aren't exceptional
 - exceptions are often *good*

a case study

- workflow in factory production printing
 - the work from the systems' perspective
 - the work from the users' perspective
 - creative exception management
 - jumping the gun
 - balancing the load over machines
 - doing each others' jobs
 - blocking out time
 - where does the "smooth flow of work" come from?

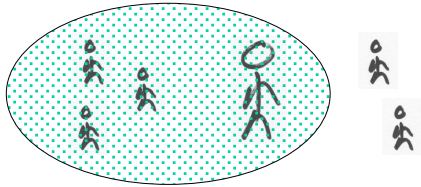
an alternative for workflow

- workflow as an integration technology
 - focus less on automating internal processes
 - instead, on coordinating interactions
 - amongst organizations, clients, customers, suppliers
 - alternative view of process languages
 - a lingua franca between different technologies

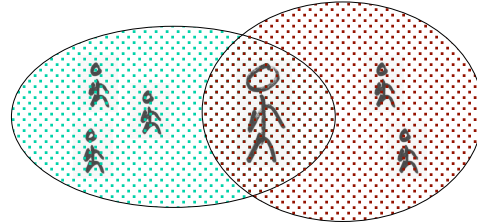
workflow and integration



workflow and integration



workflow and integration



however...

- degree of specification
 - balancing control with autonomy
 - different process languages vary
 - put the smarts in the language
 - put the smarts in the environment that executes it
- integration with existing practice
 - analysis of practice often focuses on what rather than why
 - we'll see this on Tuesday...

next time

- more on the machine metaphor
- machine management of data
 - database systems
 - ER modeling
 - normalization