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Legacy Modernization: JBoss Enterprise SOA Platform in the Financial Industry

Shane K Johnson
Architect, Red Hat
May 4, 2001

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Agenda

- Mainframe Architecture
- Migrate vs Replace & Integrate
- Modern Architecture
- Build & Deployment Infrastructure
- Challenges

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Mainframe Architecture

- Data
 - IMS / DB2 / VSAM
- Input
 - Terminal
 - File
- Processes
 - Batch (Schedule)

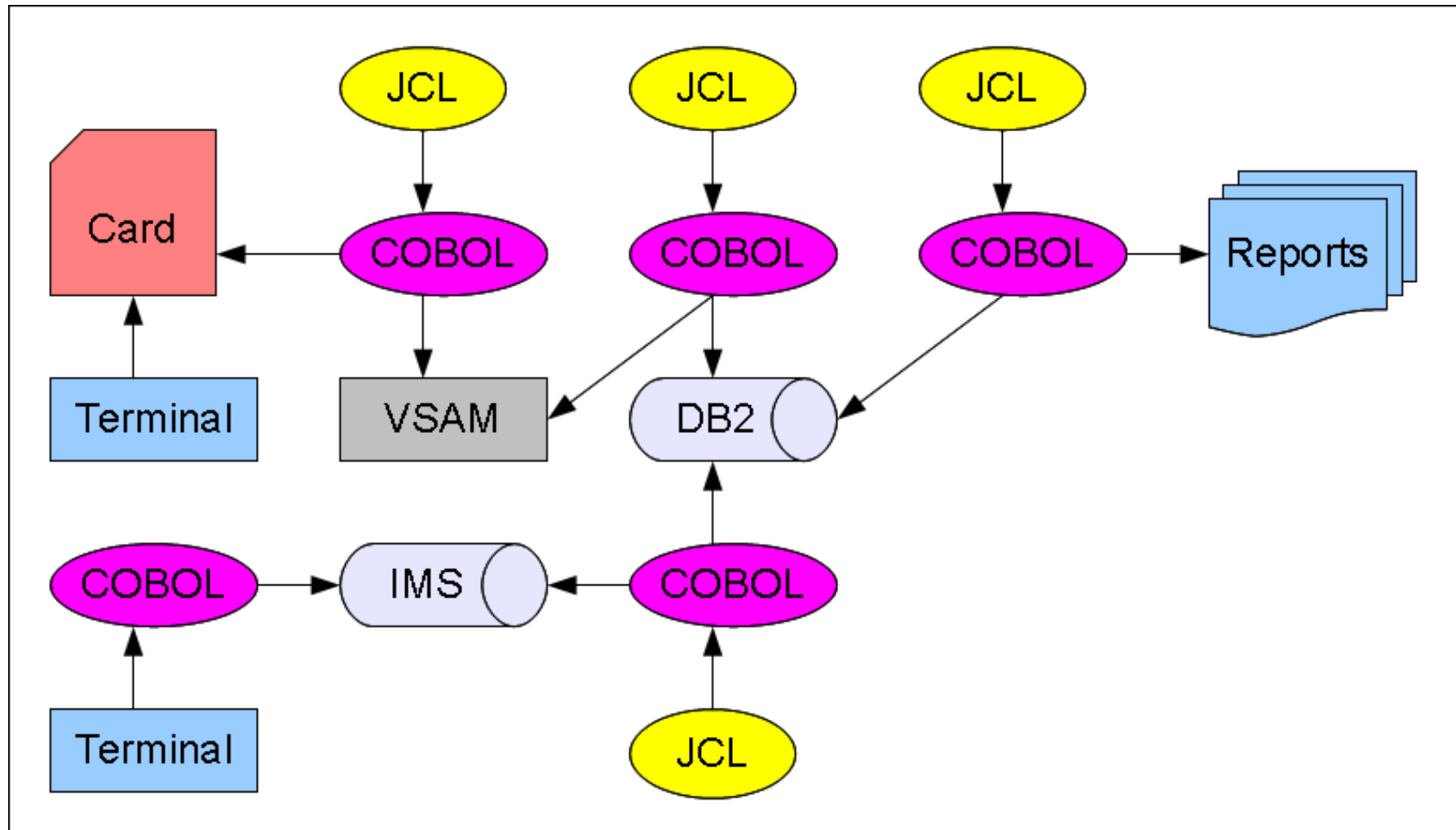
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Mainframe Architecture



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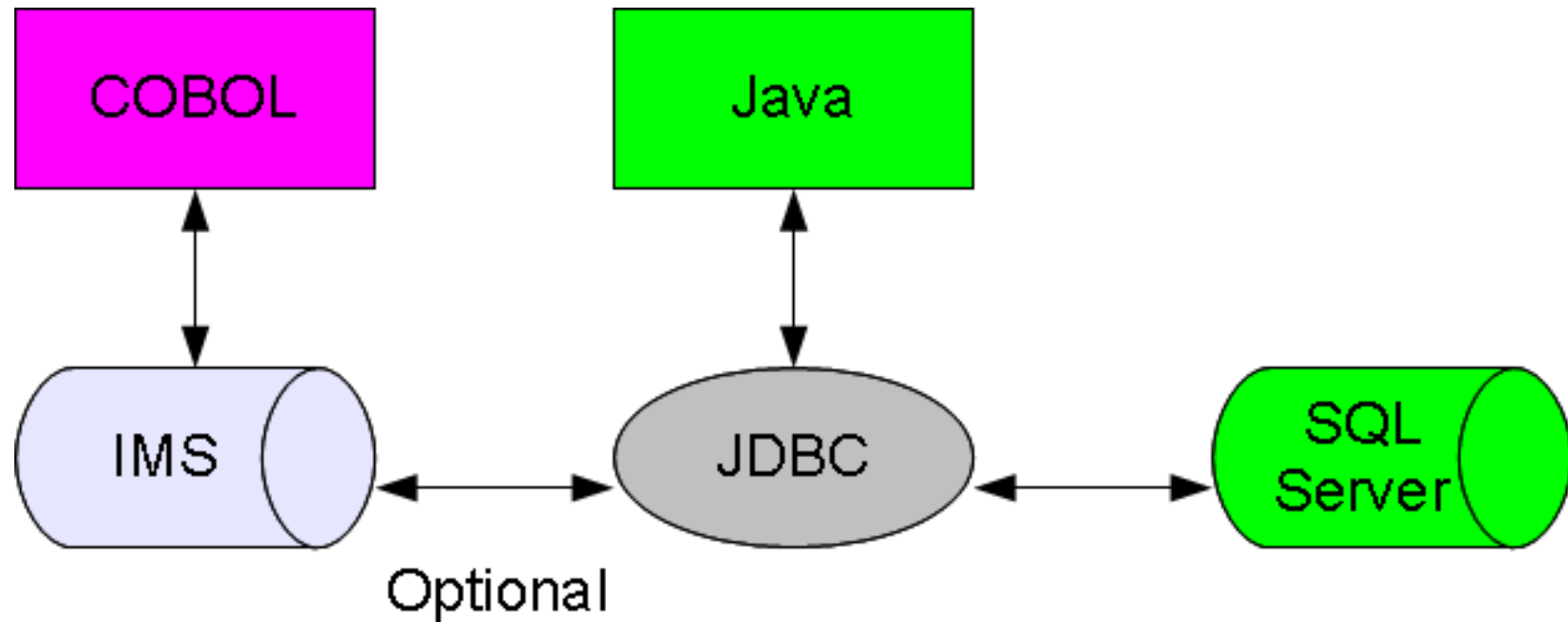


Migration Strategy – Approaches

- Replace
 - Turn On New System / Turn Off Old System
- Migrate
 - Inside / Out – Data First
 - Outside / In – Process First



Migration Strategy – Replace



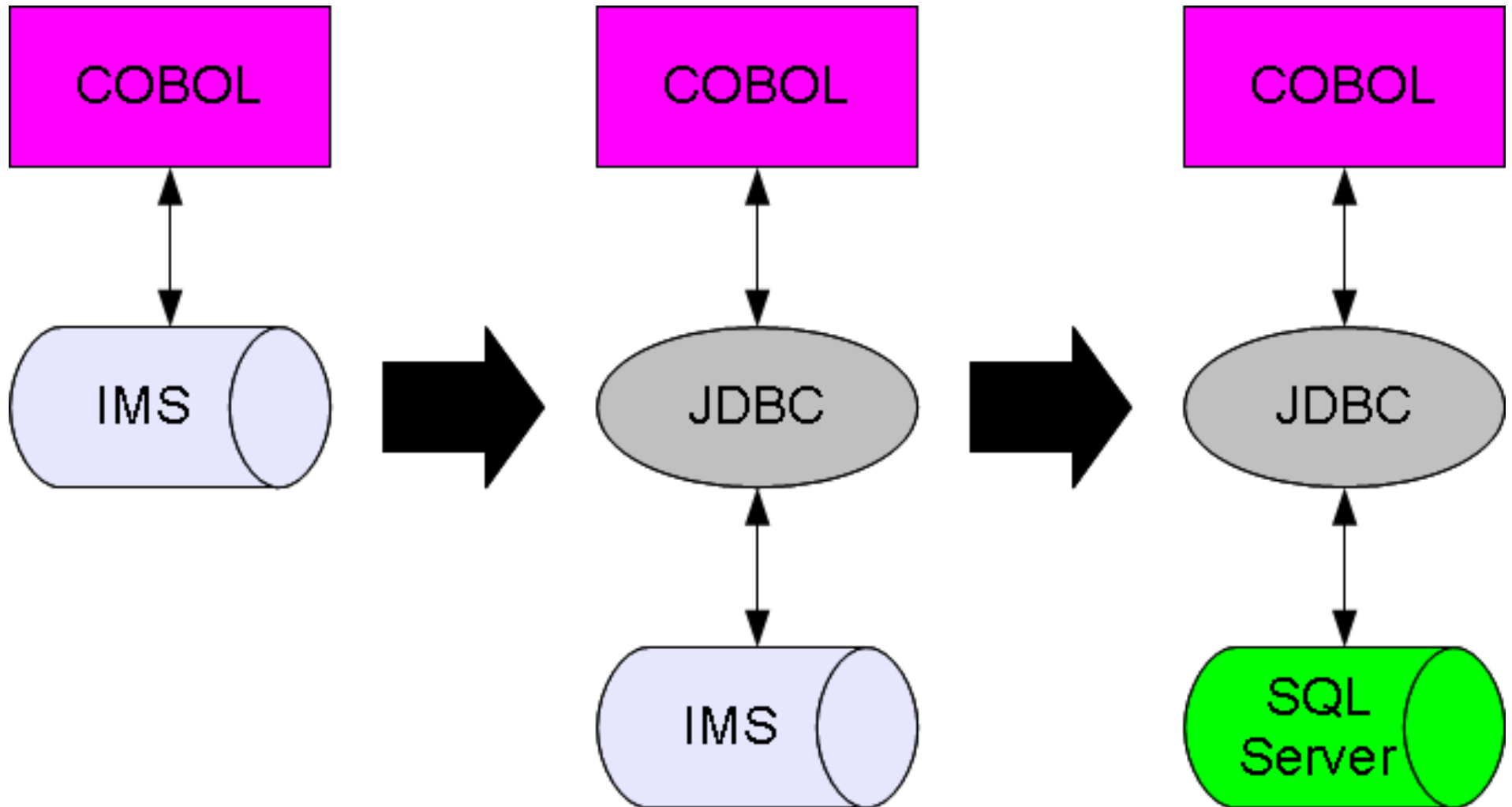
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Migration Strategy – Inside / Out (Linear)



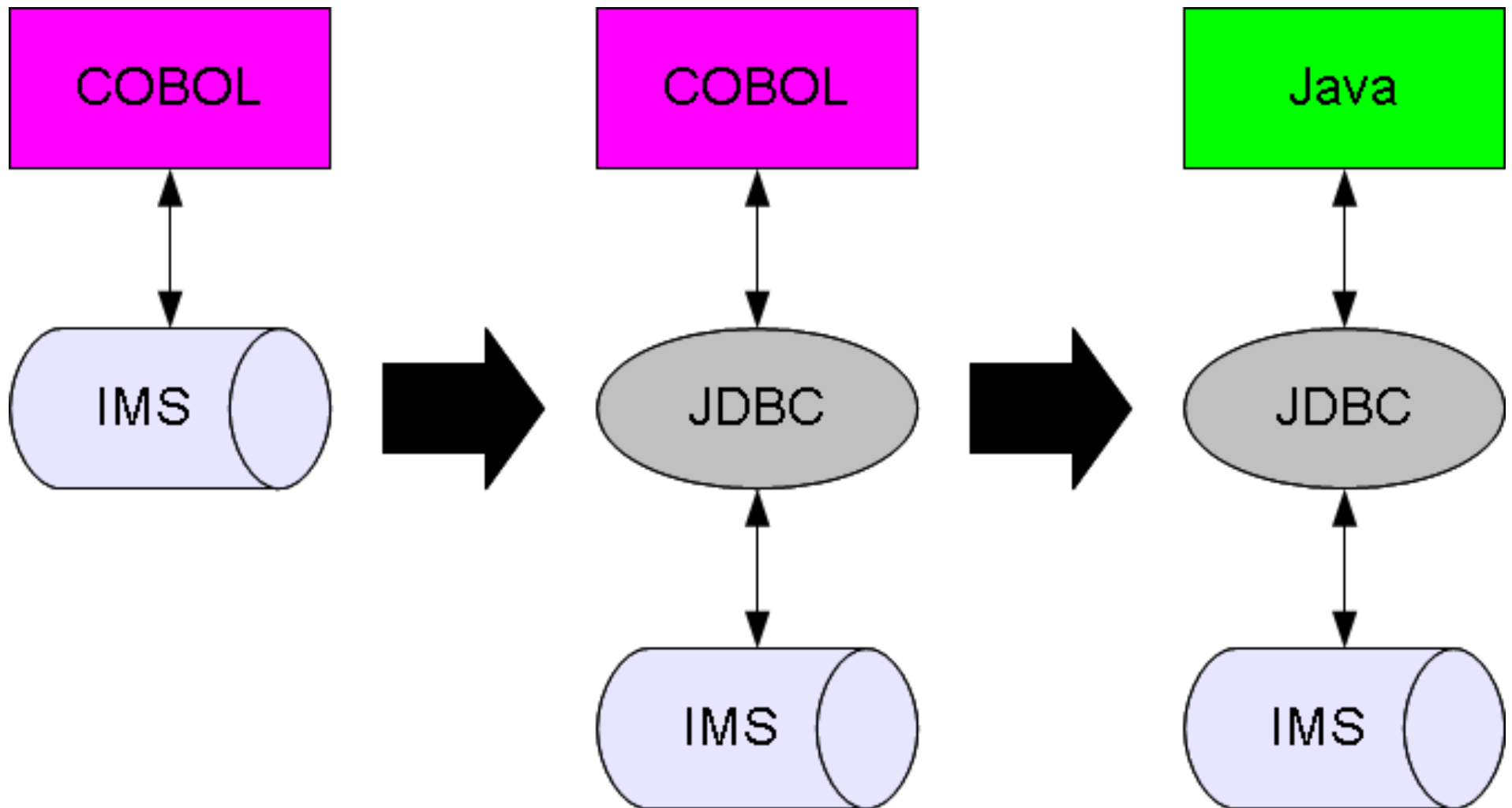
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Migration Strategy – Outside / In (Linear)



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Modern Architecture

- Modular – Maven
- Service Oriented
 - SOA Platform – JBoss ESB & jBPM
- Asynchronous – Services & Workflows
- Relational – SQL Server

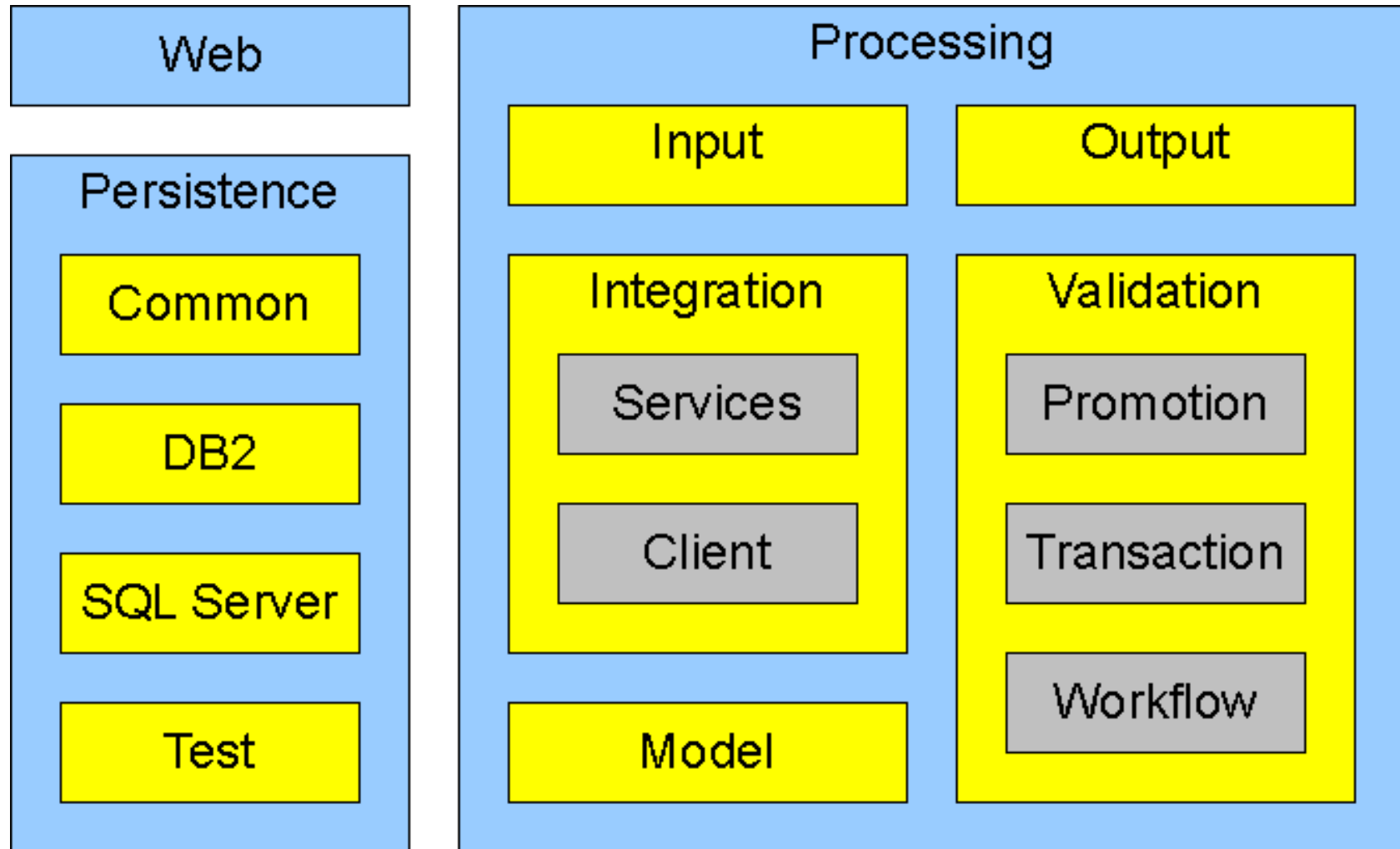
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Modern Architecture – Modular



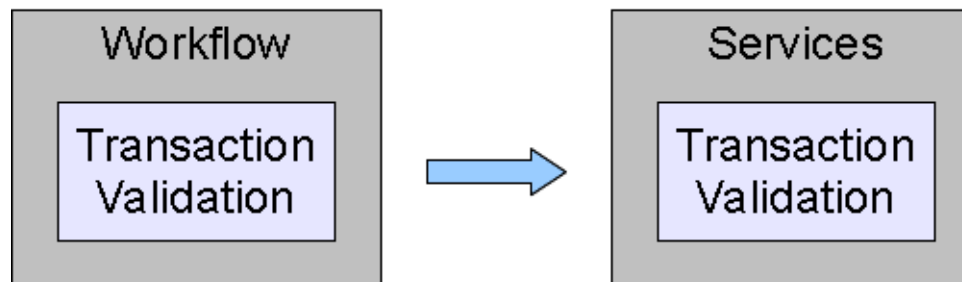
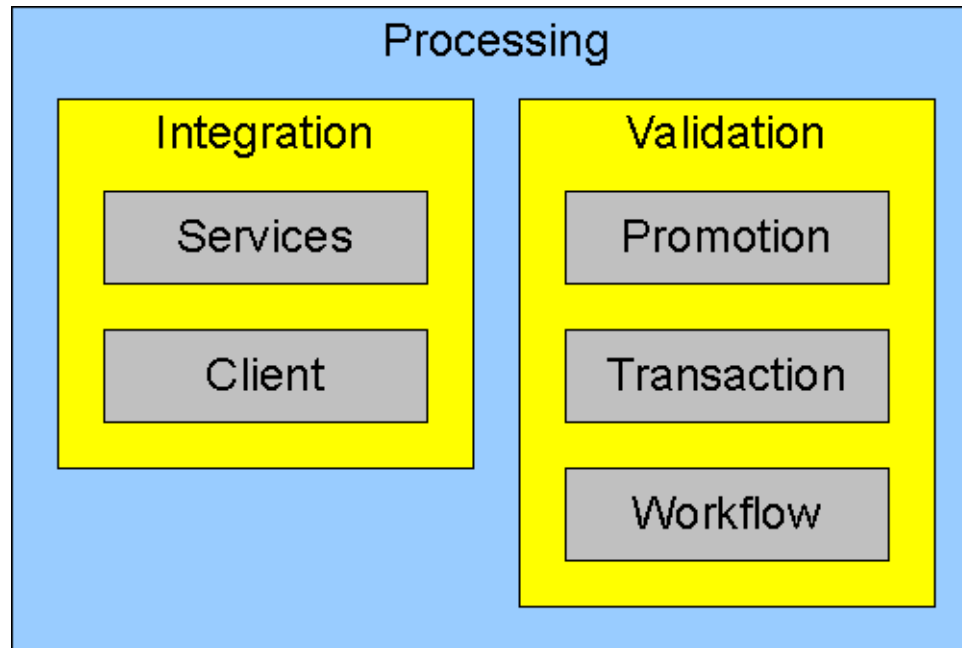
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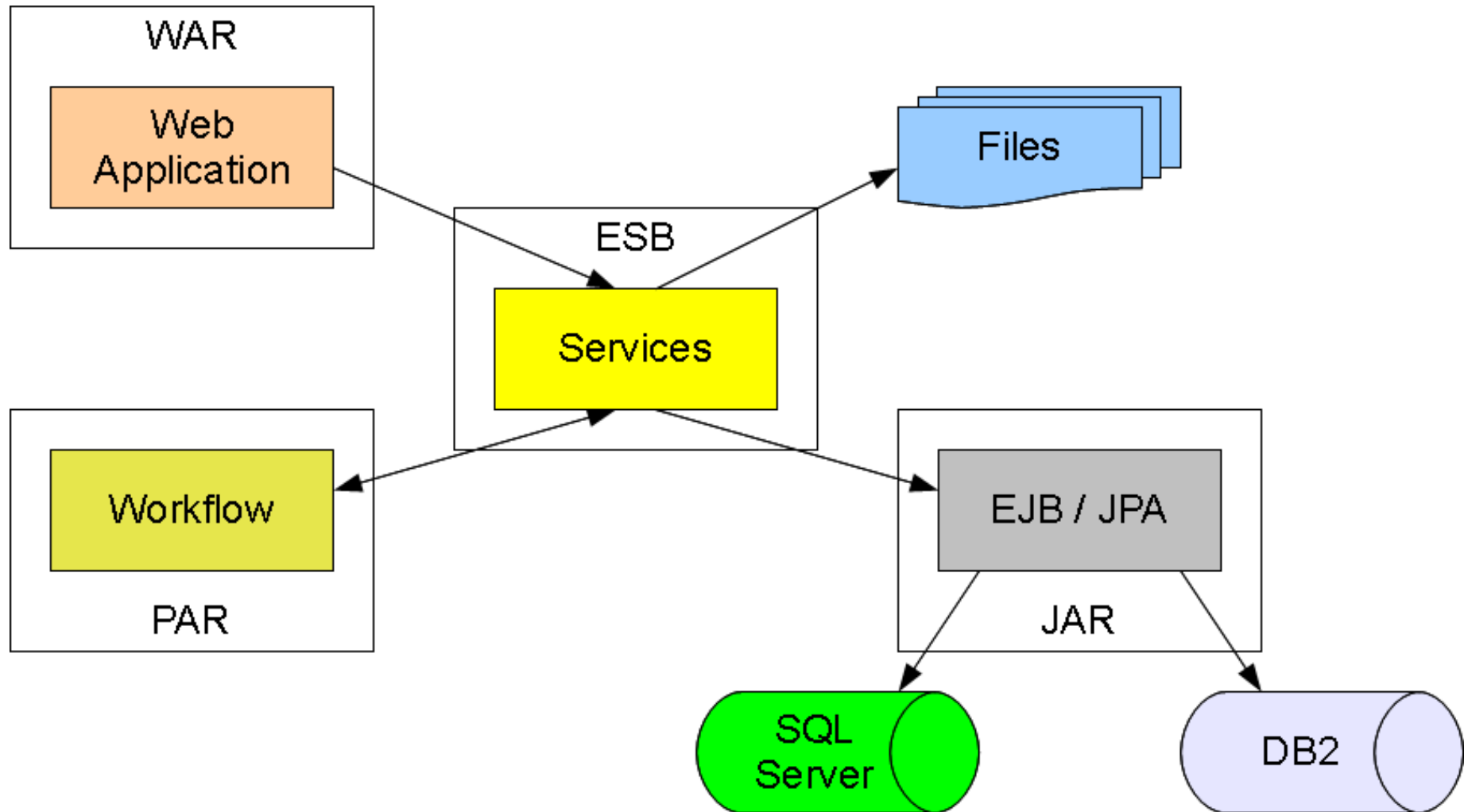
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Modern Architecture – Composition



Modern Architecture – Deployment



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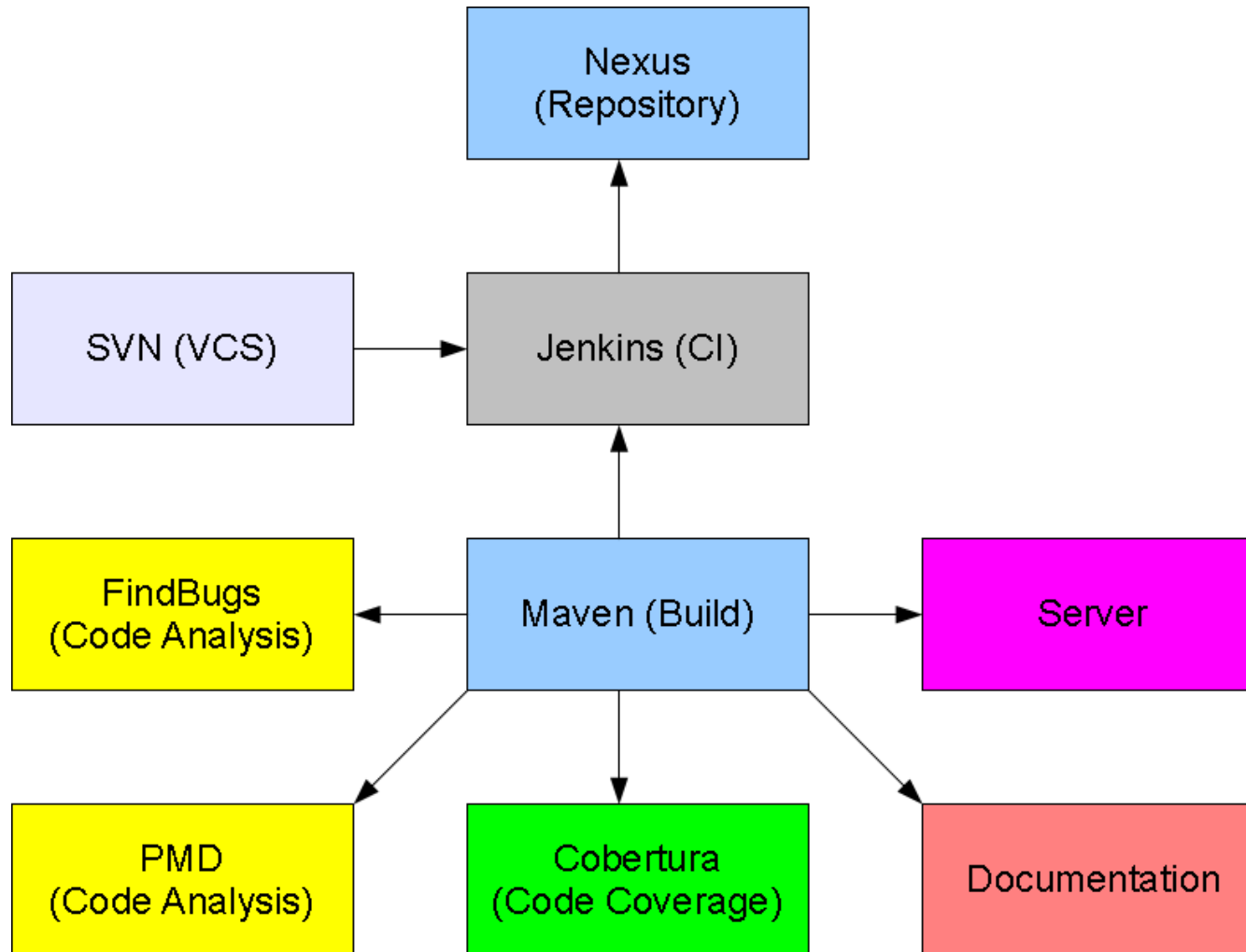


Build & Deployment Infrastructure

- Build & Deployment
 - SVN
 - Maven / Nexus
 - Jenkins
- Testing, Code Coverage & Analysis
 - Cobertura
 - PMD
 - FindBugs



Build & Deployment Infrastructure



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Migration Strategy – Challenges

- Consolidating data and processes.
- Modernizing business processes and their relationships with the technology.

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Migration Strategy – Challenges

- Technical
 - Abstraction – Modernization Requires Abstraction
 - Inventory
 - What is on the mainframe?
 - What programs access this data?
 - Data
 - What are these fields used for?
 - Where are these fields used?
- Business
 - Knowledge Holders
 - Gatekeepers

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Migration Strategy – Challenges / Inventory

Inventory. Why?

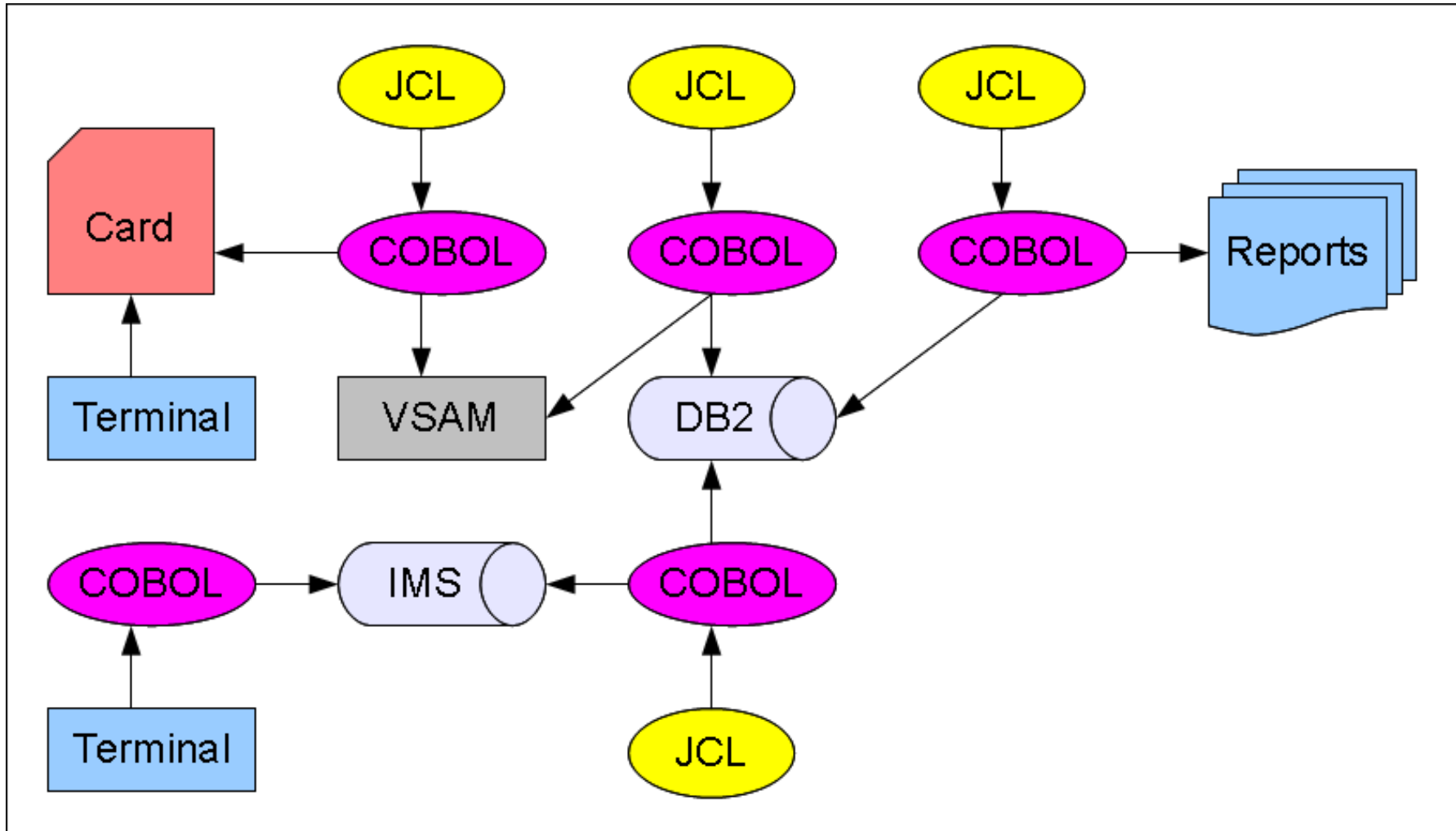
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Migration Strategy – Challenges / Inventory



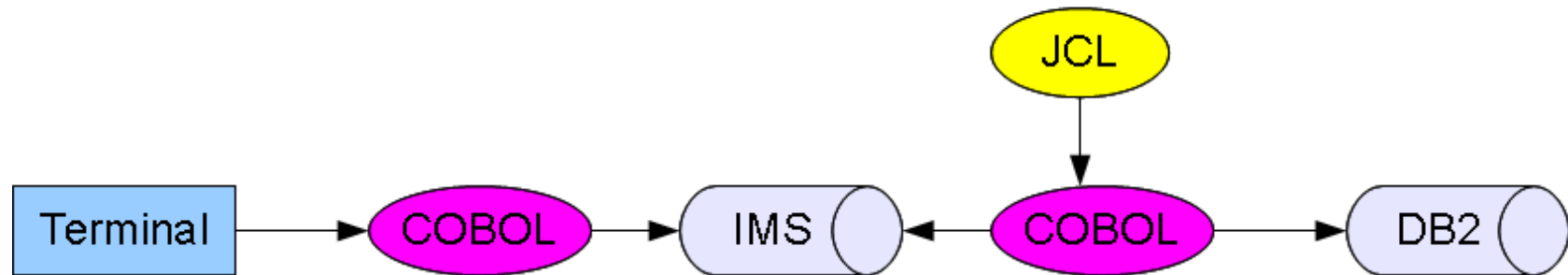
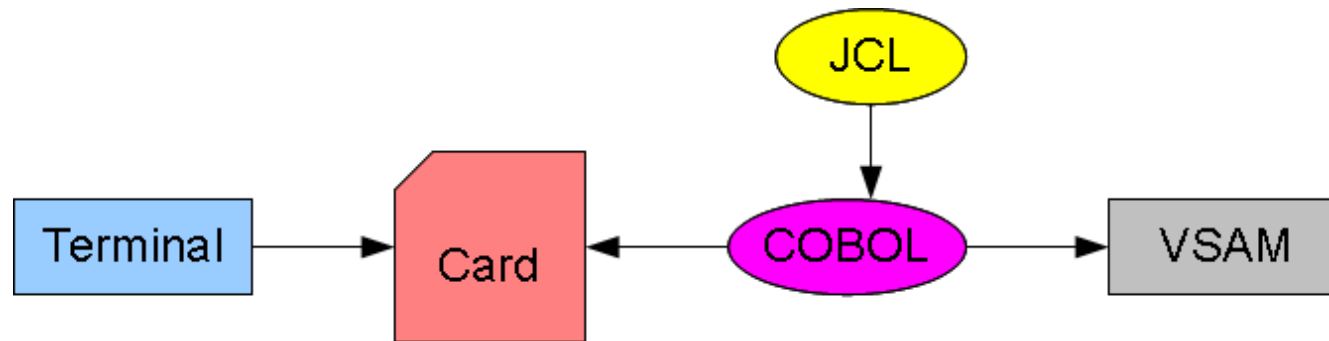
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Migration Strategy – Challenges / Inventory



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Migration Strategy – Challenges / Inventory

Terminology

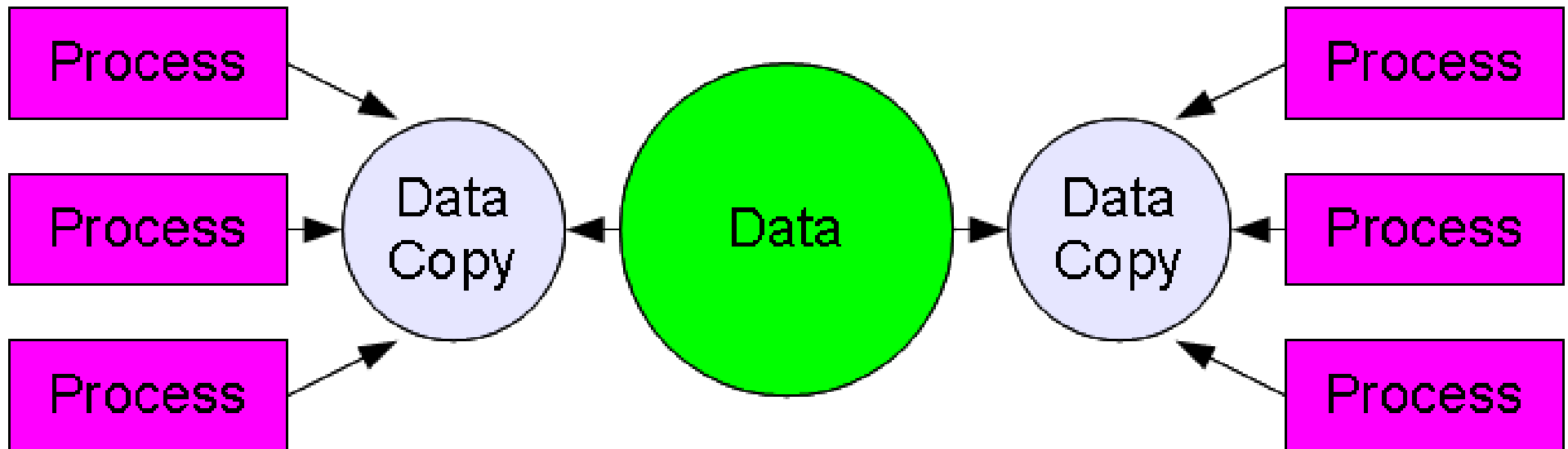
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Migration Strategy – Challenges / Consolidation



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Migration Strategy – Challenges / Consolidation

Data Dictionary

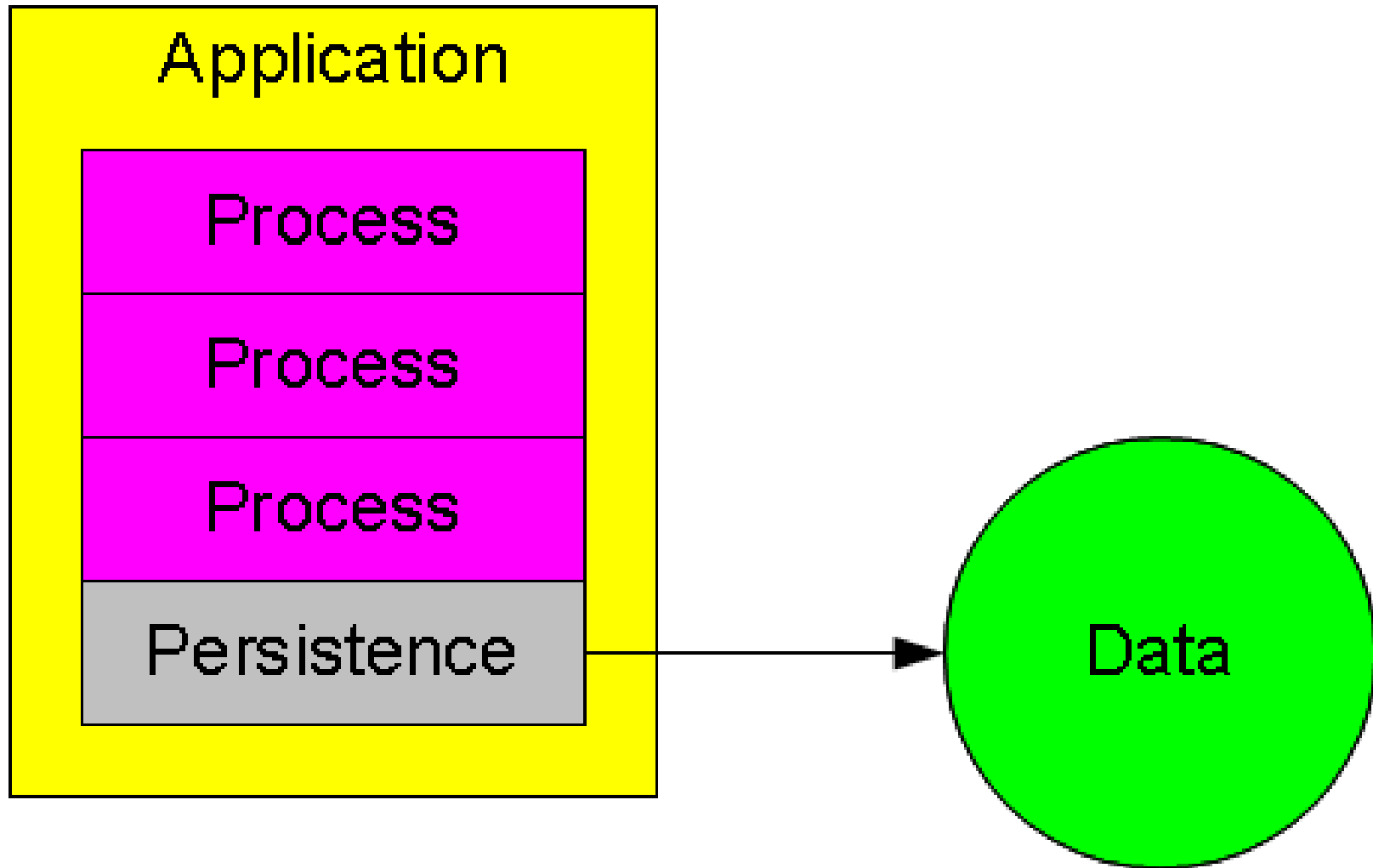
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Migration Strategy – Challenges / Consolidation



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Migration Strategy – Challenges / Origins

How?

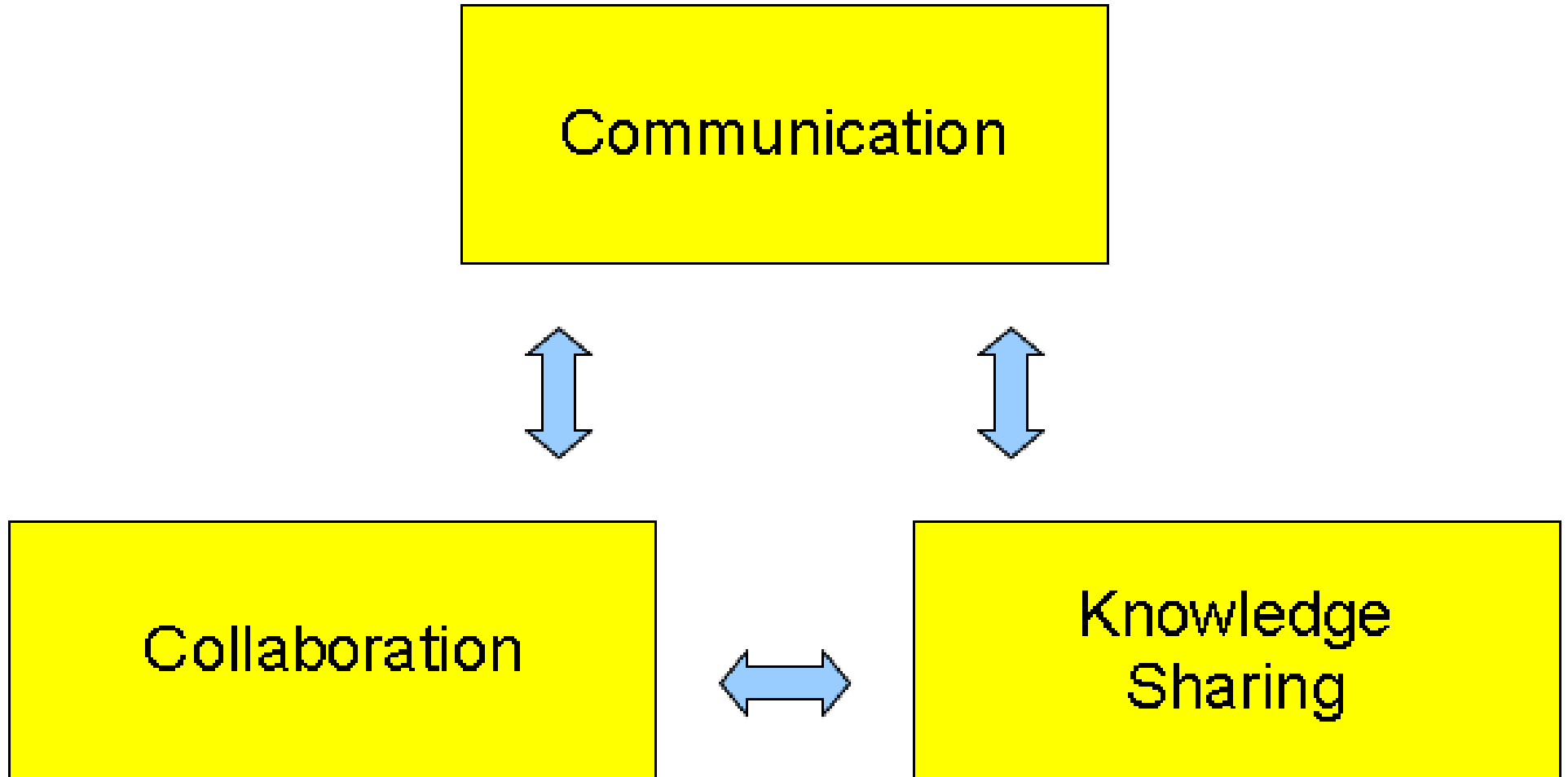
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Migration Strategy – Challenges



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Migration Strategy – Challenges / Origins

Why is it currently done like this?

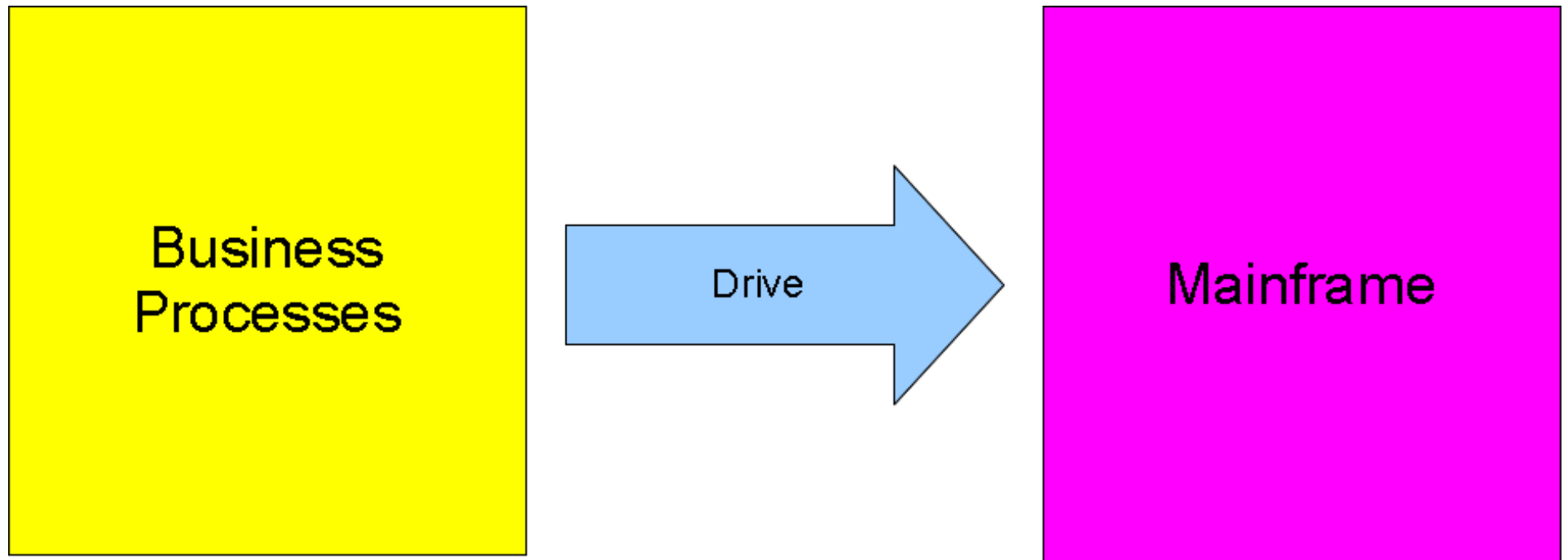
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Migration Strategy – Challenges / Origins



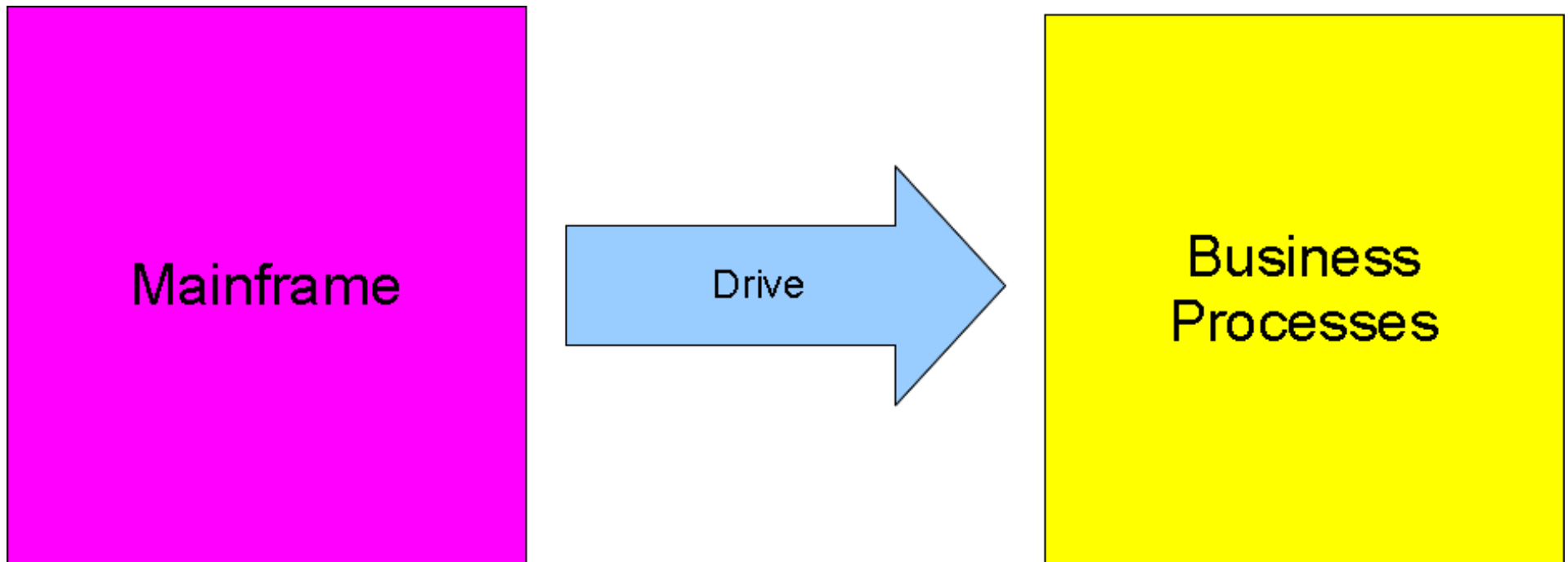
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Migration Strategy – Challenges / Origins



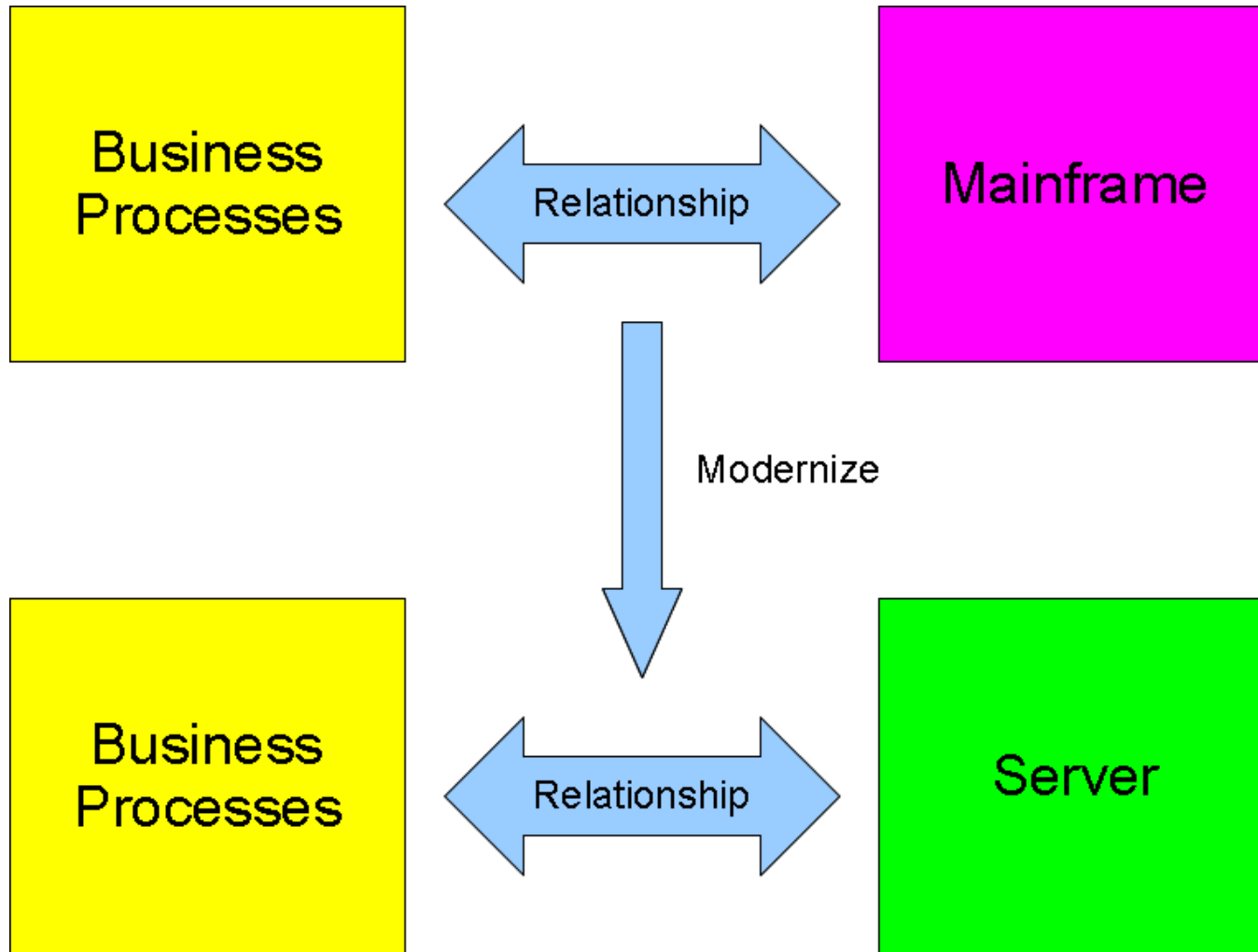
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Challenges – Business Processes / Relationships



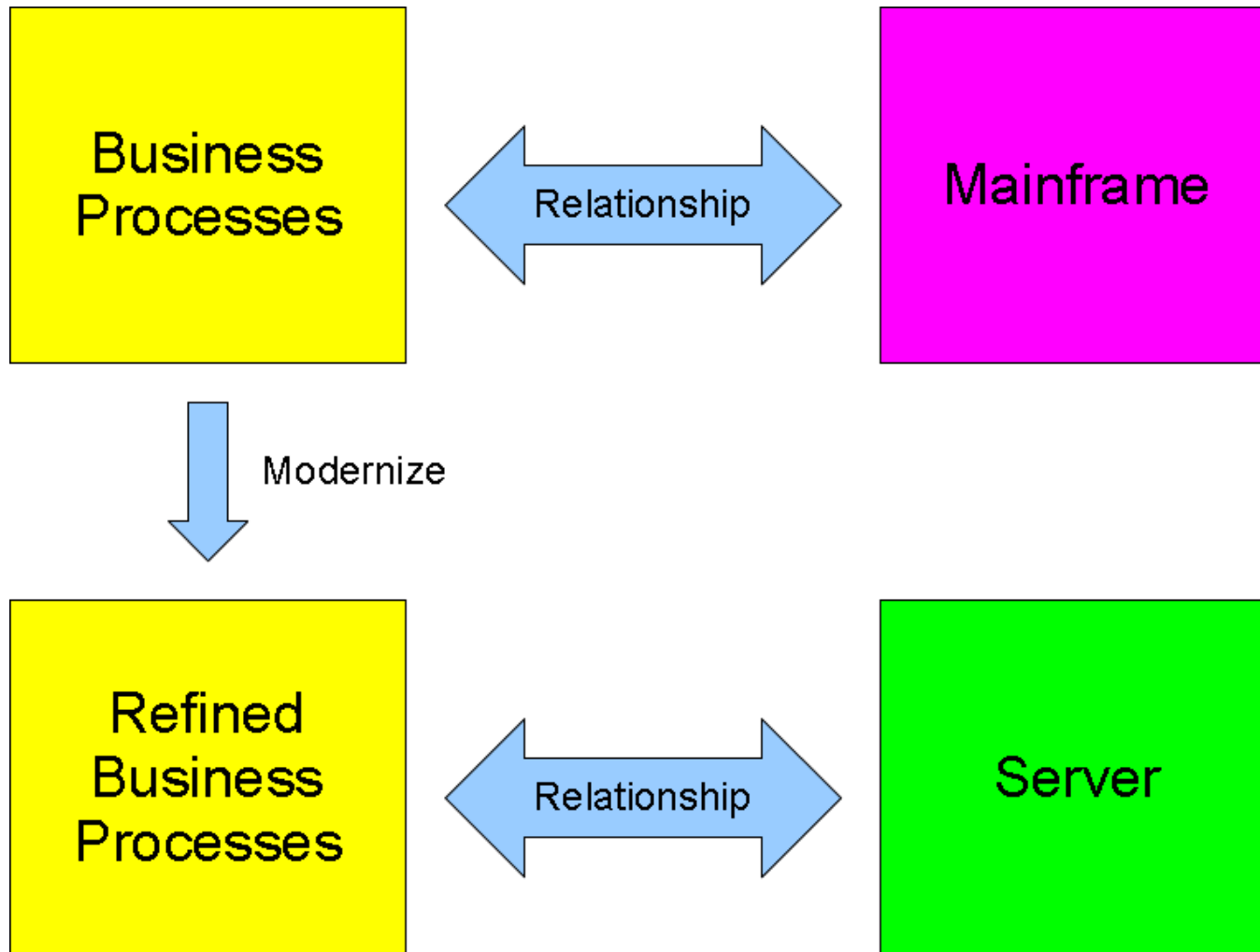
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Challenges – Business Processes / Relationships



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Summary

- Establish a common terminology.
- Create a data dictionary.
- Identify mainframe processes.
- Decide on a level of abstraction.
- Select a migration strategy.
- Communicate!
- Write code.



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