

# Developing the System Model

The Steps of Business Rule Methodology\*

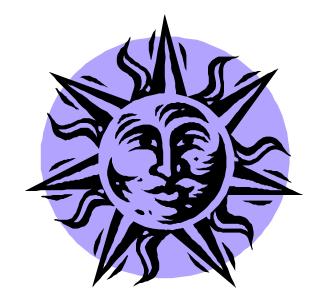
Ronald G. Ross Gladys S.W. Lam

Principals, Business Rule Solutions, LLC www.BRSolutions.com 713 668-1651

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\*Note: The complete set of steps presented in this document is usually tailored according to the particular circumstances and needs of the given business rule project.

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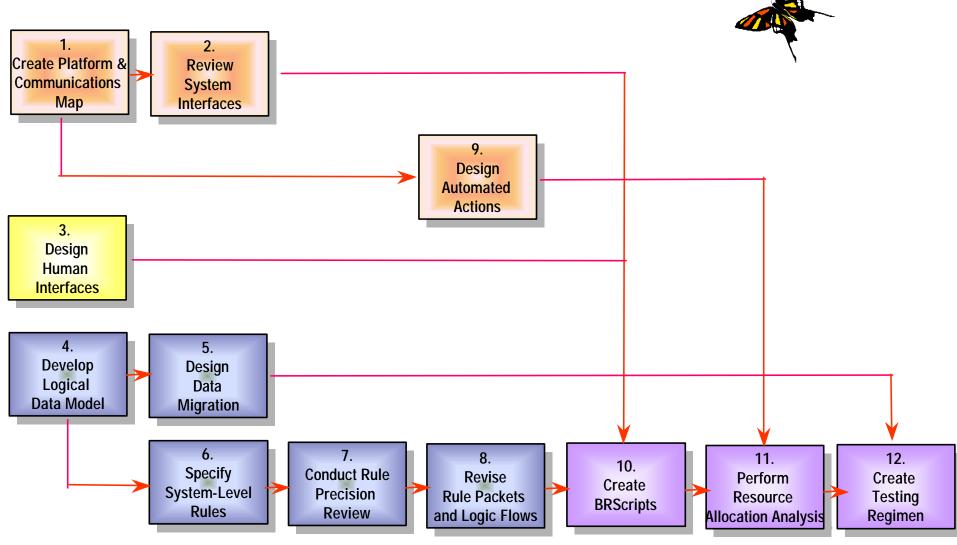
TM

... the BRS Business Rule Methodology

Fourth Edition



# System Model Steps ...



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#### Fact Model & Concepts Catalog...

- 1. Do all terms used in the Fact Model, Policy Charter, Business Milestones, and RuleBook have a clear, concise definition in the Concepts Catalog?
- 2. Have all terms and facts required as input to or output from tasks, and as basic knowledge to support business tactics and rules, been included in the Fact Model?
- 3. Are there rules that selectively reference terms at the instance level, and if so, has the Fact Model been extended to incorporate them?

#### **Business Process Model...**

- 4. Does every task include clear documentation, including algorithm(s) needed to support alternative scenarios?
- 5. Are all kinds of information required as inputs to tasks, or produced as outputs from tasks, clearly identified?
- 6. Have all actors (roles) in the business process model been documented?
- 7. Have all significant business events been identified?
- 8. Have workflows for all significant (high frequency, widely-performed) scenarios been developed?



#### **Business Connectivity Map...**

- 9. Have all business sites been identified?
- 10. Have all standard business links (for transport and/or communication) between these sites been identified?
- 11. Have any new kinds of business links (for transport and/or communication) needed between the sites been documented?
- 12. Have location(s) and appropriate connection type(s) for all actors been established?

#### Organizational Work Model...

- 13. Have all organizational roles been identified?
- 14. Have all interactions between the roles been identified?
- 15. Have all the work products created during the interactions been identified, including those generated from the inputs and outputs of the tasks in the Business Process Model?

#### **Business Milestones...**

- 16. Has Business Milestone analysis been performed for each coordination-type concept (e.g., order, shipment, reservation, etc.)?
- 17. Has the business milestone vocabulary been standardized?
- 18. Have basic business milestone rules been defined?
- 19. Have rules for prohibited antecedents, suspense criteria, and state-dependencies been defined?



#### **Policy Charter...**

- 20. Have business tactics been developed for every goal in Scope?
- 21. Has every significant business risk been addressed?
- 22. Have acceptable workflows and/or rules been developed for all areas of the business tactics?

#### RuleBook/B...

- 23. Has each rule been properly and fully documented?
- 24. Do all rules (including the decision table for a rule, if any) use standard terms?
- 25. Have all pattern questions been asked to harvest rules for each deliverable they pertain to?
- 26. Are all rules in atomic form?
- 27. Have every re-usable condition been extracted from rules, and made into a derivation rule with a derived term as subject?
- 28. Do all rules use derived terms and computed terms wherever a separate rule has been established giving the associated logic?
- 29. Have all rules (not just those in decision tables) been analyzed to detect anomalies?
- 30. Has each rule been mapped to at least one task?

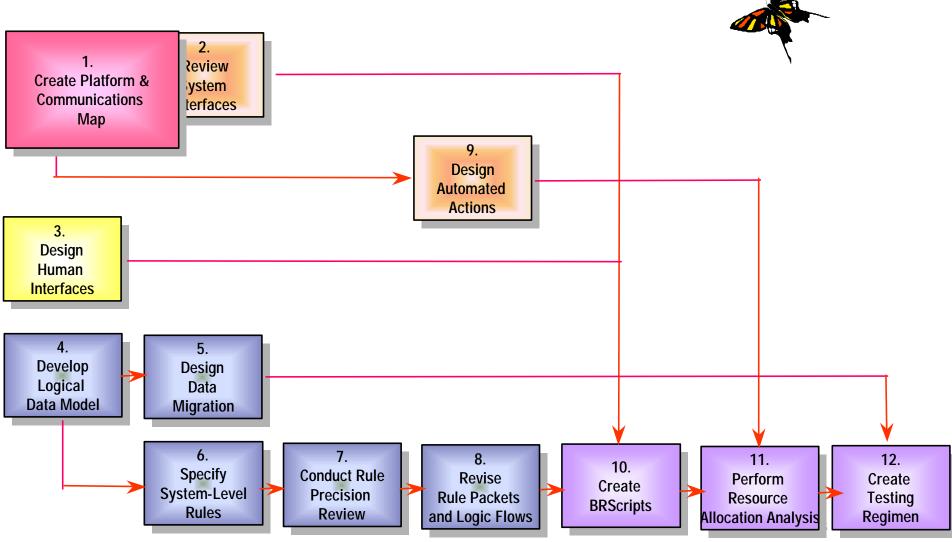


#### **Decision Points...**

- 31. Have all key decision points in the business tactics and/or workflows been identified?
- 32. Have full sets of rules been developed to address every relevant contingency (situation) involved in these decision points?
- 33. Have all sets of parallel rules been organized into well-formed decision tables?
- 34. Have the decision tables been analyzed for anomalies?
- 35. Have rule packets (for rules not in decision tables) and appropriate logic flows been developed for decision points involved with higher numbers of rules?

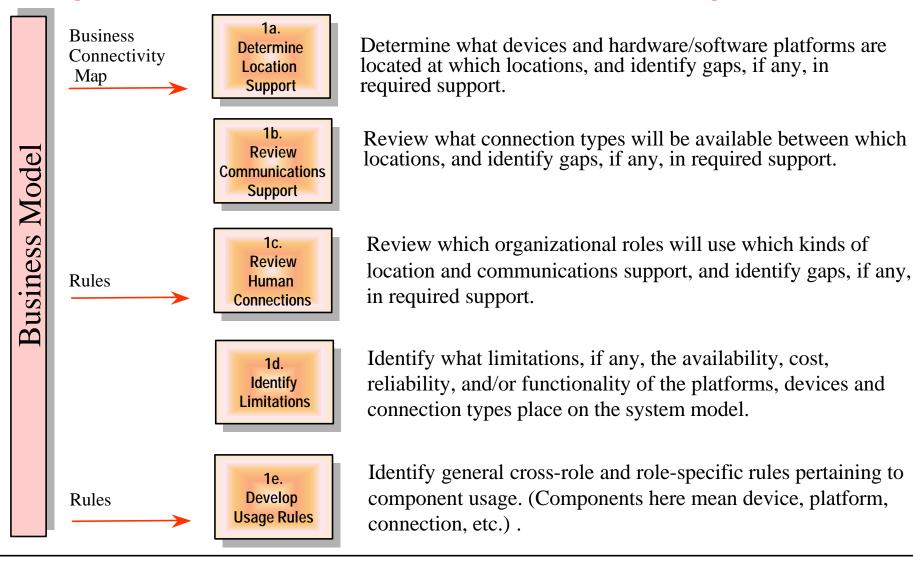






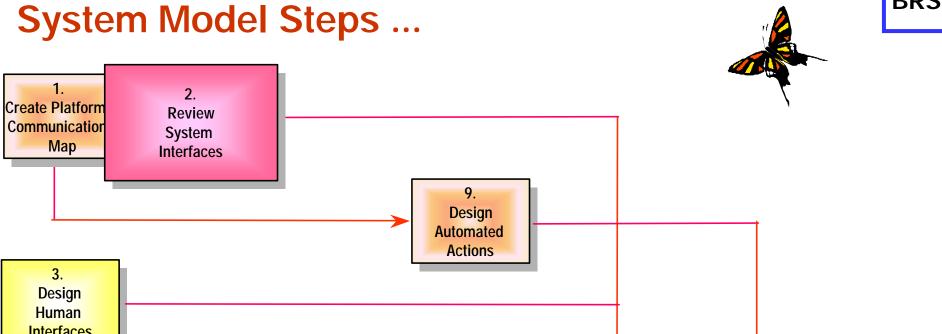


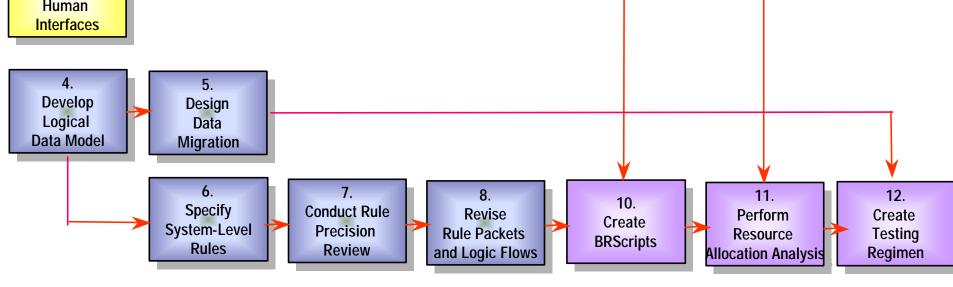
### Step 1. Platform & Communications Map ...





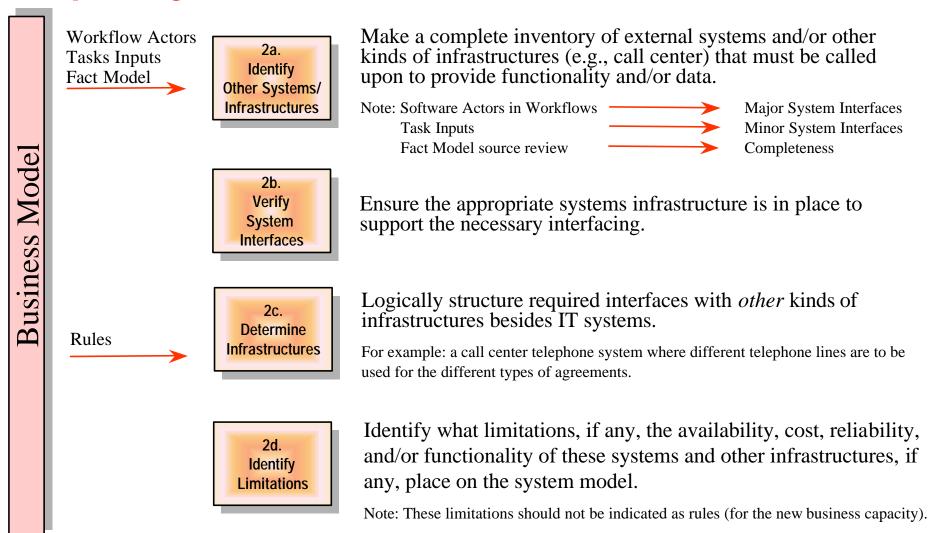
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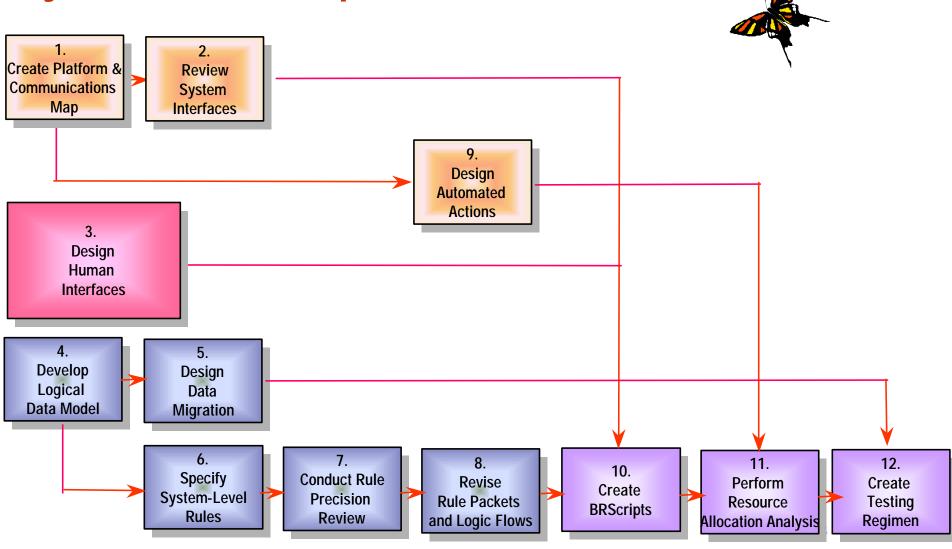


### Step 2. System Interfaces ...











### Step 3. Human Interface Architecture ...



3a. Review Roles Review each role to assess the level of its technical capabilities. All human interfaces should be developed to the appropriate level of capabilities.



**Business Model** 

3b. Identify Work Products Identify all work products (e.g., reports, analyses, etc.) relating to Tasks these roles must produce, review, and/or use.

Note: A work product is something created *specifically* to support an actor-to-actor relationship or interaction ... e.g., a notification, a request, an analysis, a legal agreement, a sign-off, etc. Work products should *not* simply reflect creation or maintenance of data in the database (e.g., "establish customer").



3c. Identify Request Criteria

Identify relevant request and/or search criteria for retrieval of each work product



### Step 3. Human Interface Architecture Cont ...

3d. Develop Security Rules Develop Security/Privacy Rules by role for Data Types, Processes, Rules, and Work Products.

For example: Opt-out option for company promotions must be offered to every registered website user.

For example: Company promotions may be sent only to registered website users who opt-in for promotion.

3e. Identify Presentation Rules Identify cross-role, role-specific, and work-product-specific Presentation Rules.

For example: Service Providers must be listed in order of preference for a service request.

3f.
Determine
Work-Product
Formats

Create first-cut mock-ups and/or prototype the work products and their usage.

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System-Level

Rules

**Precision** 

Review



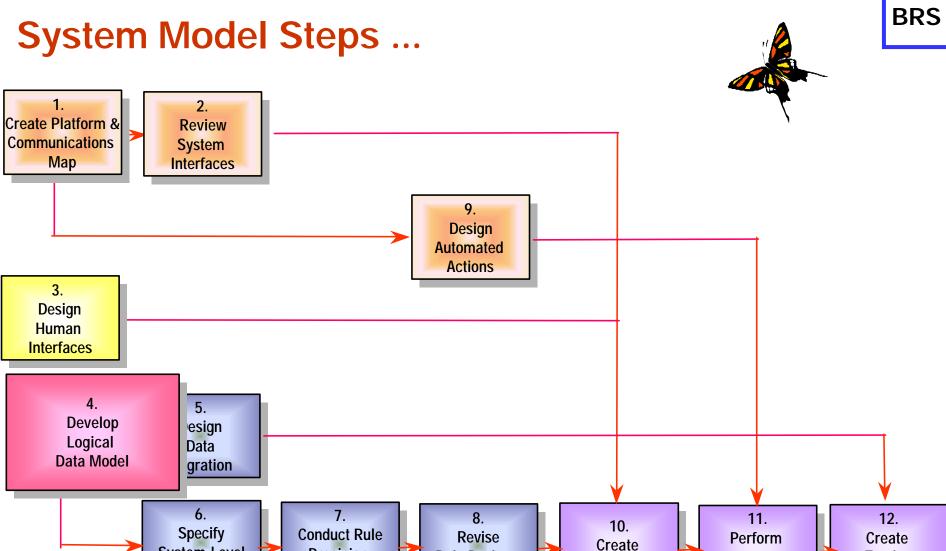
**Testing** 

Regimen

Resource

**Allocation Analysis** 

**BRScripts** 



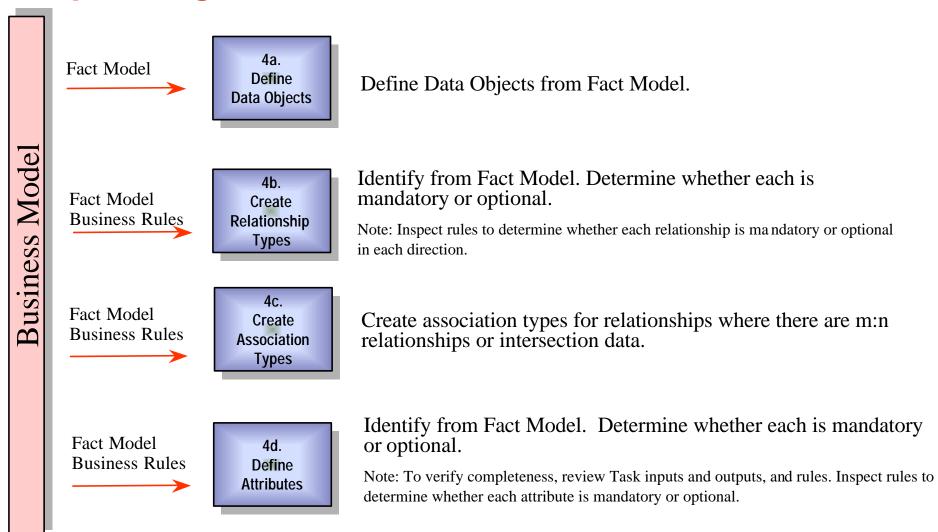
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**Rule Packets** 

and Logic Flows

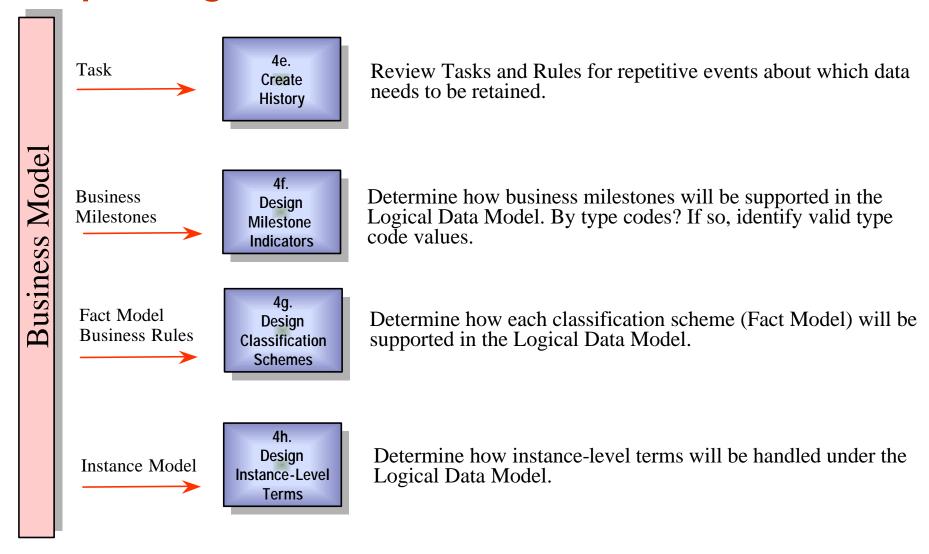


### Step 4. Logical Data Model ...



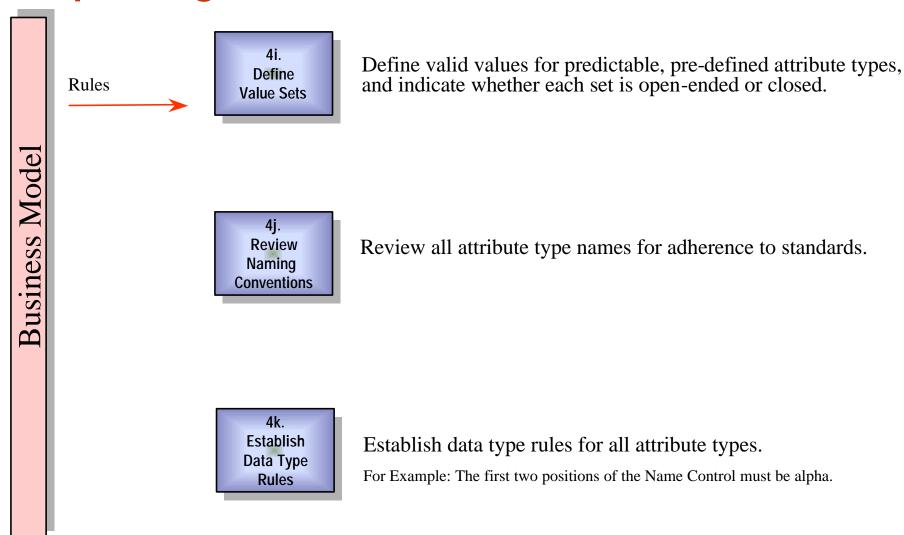


#### Step 4. Logical Data Model Cont...



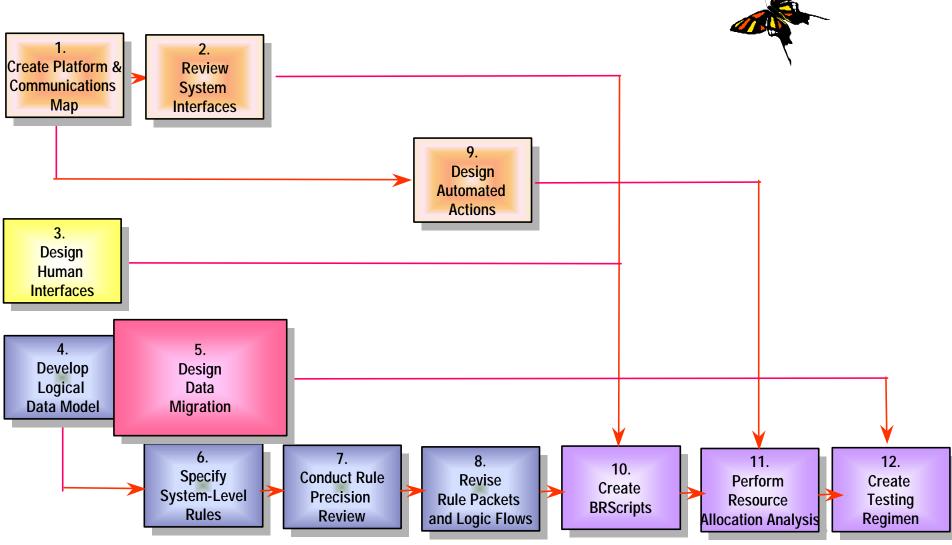


#### Step 4. Logical Data Model Cont...



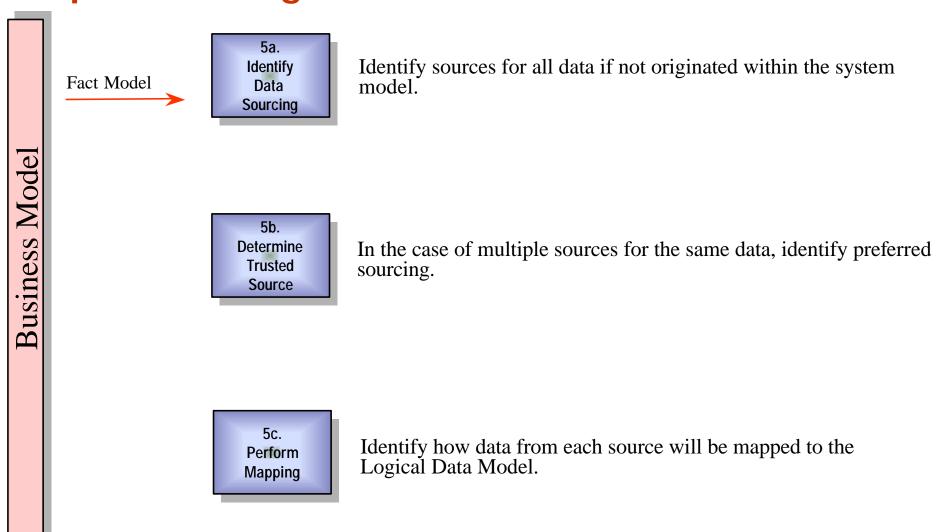








#### Step 5. Data Migration ...



## **Step 5. Data Migration Cont ...**



Identify semantic inconsistencies between the source data and the Logical Data Model (and associated rules), and develop conversion rules to address them.



Develop rules for rejection thresholds and/or compensation/cleansing strategies.

5f. Dete<mark>rm</mark>ine Timing

Identify optimal refresh/upload cycles.

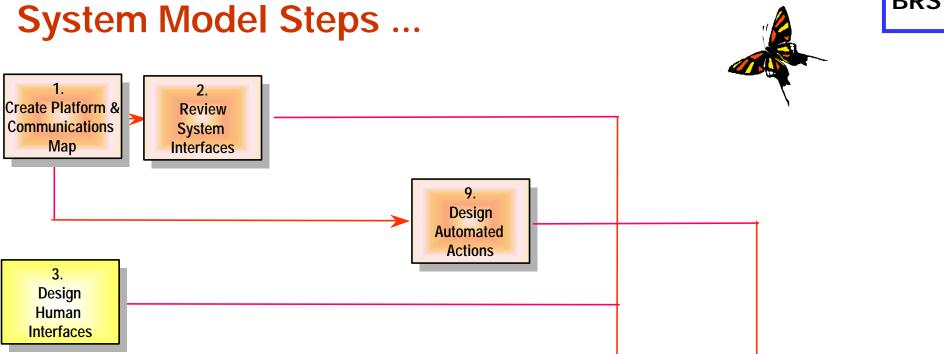
For example: one-time load, periodic refresh, periodic import of delta data, etc.

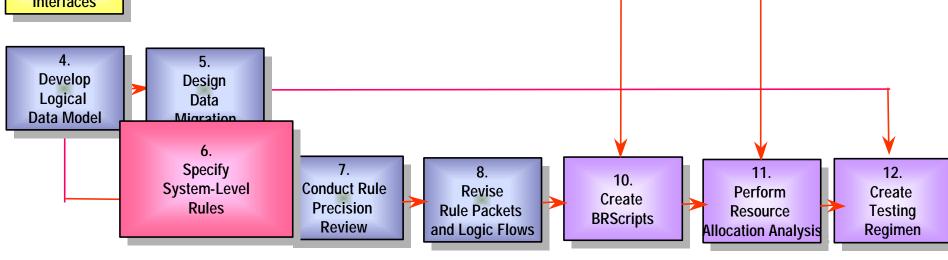
**Business Model** 

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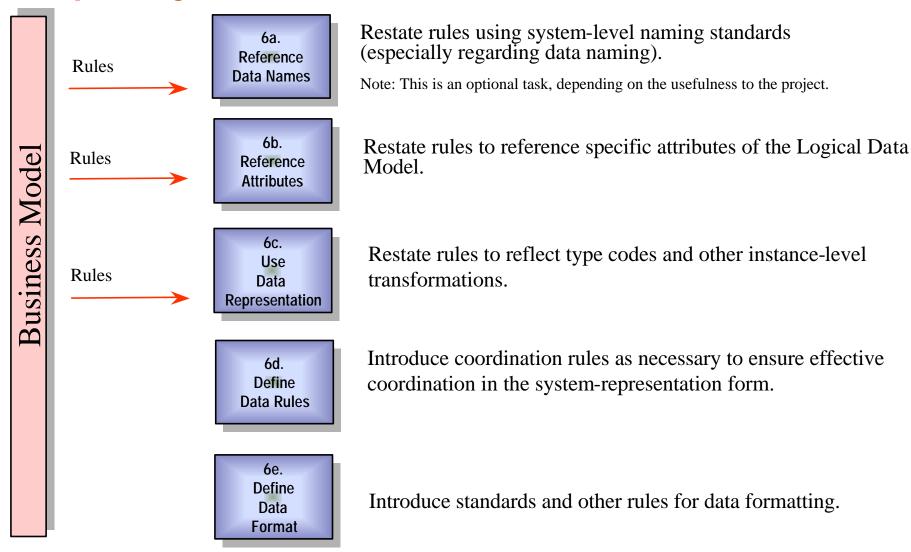




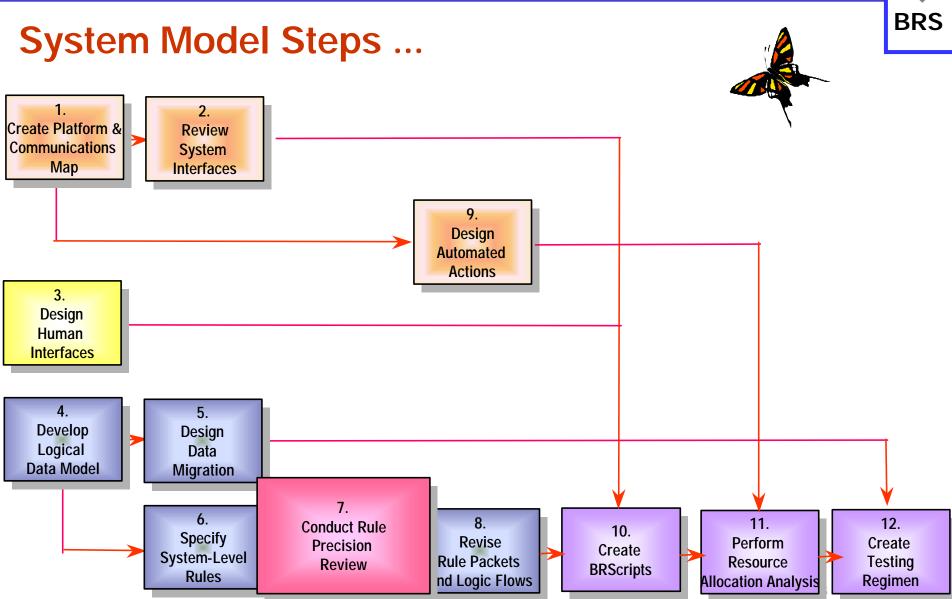




### Step 6. System Level Rules ...

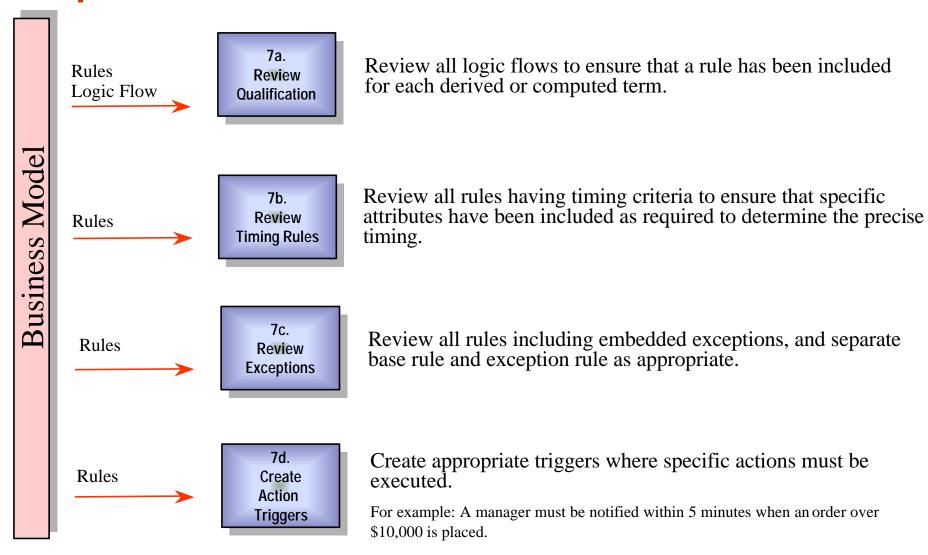




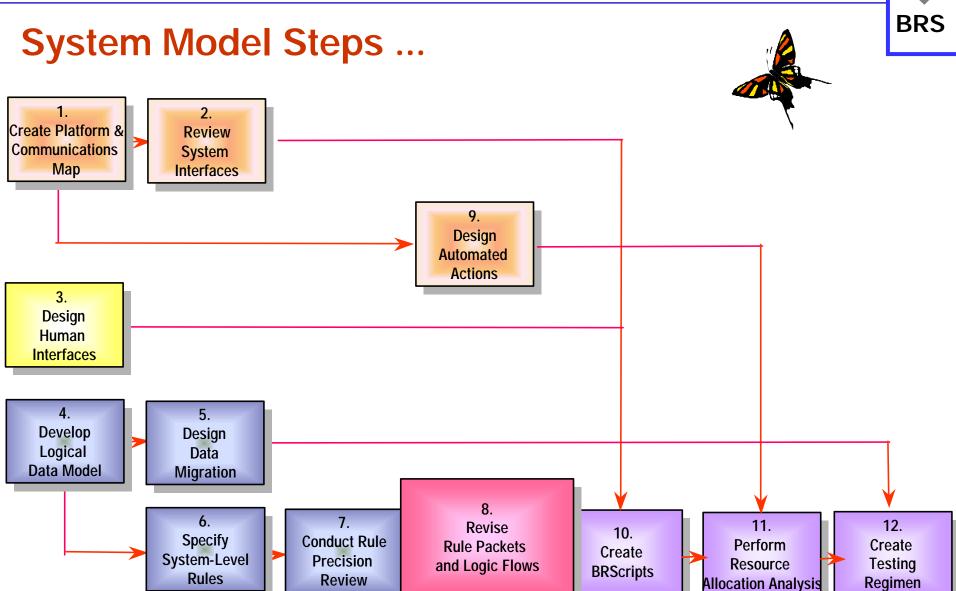




#### **Step 7. Precision Review...**









### Step 8. Rule Packets and Logic Flows ...

Rules
Decision Tables
Logic Flow
Rule Packets

8a. En<mark>su</mark>re Computability Review all logic flows to ensure that a rule has been included for each derived or computed term. If separated into different rule packets, then make sure the computation or derivation rule falls into an earlier packet than where the result is used.

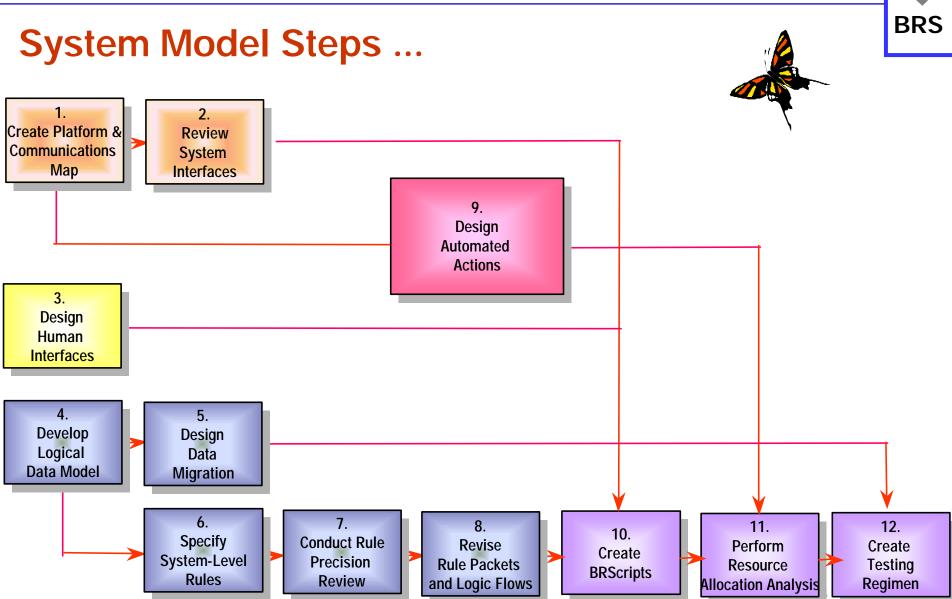
Logic Flows

**Business Model** 

8b. Ensure User Friendliness Review all logic flows to ensure that rejectors for base data fall before projectors, and that among rejectors, the most difficultto-overcome fall earliest.

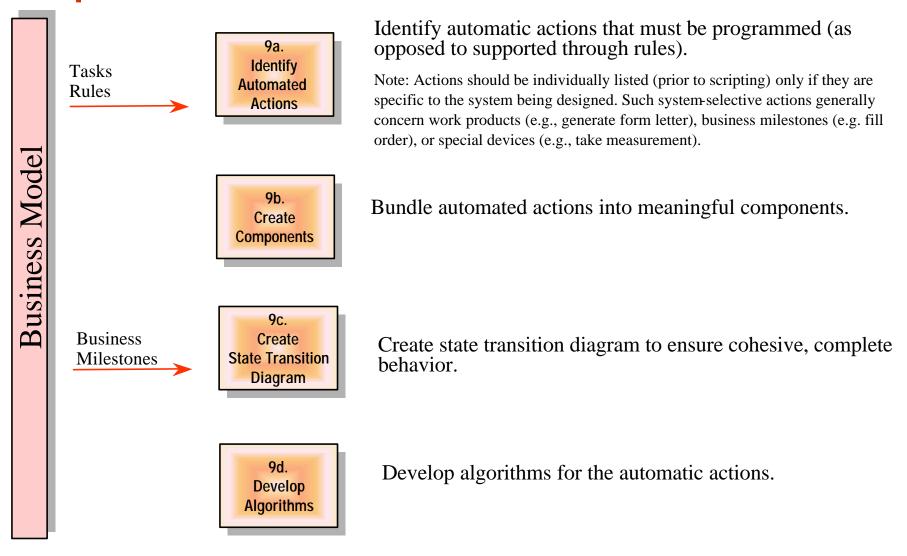
Note: This creates the most work-friendly system environment.





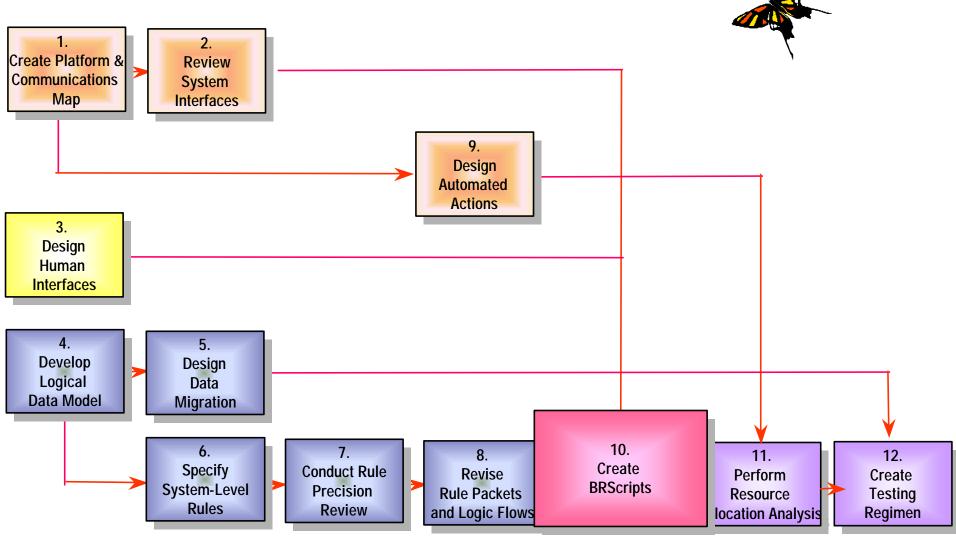


#### Step 9. Automated Actions ...











#### Step 10. BRScripts ...

Tasks Work Products 10a. Identify Scripts Identify which scripts should be developed for each Task balancing re-usability vs. length vs. generality (numbers of scenarios handled) vs. complexity.

Note: Scripts are generally require to support series of actions involved in performing Tasks, and/or to support creation or processing of Work Products.

10b. Identify Device Actions

Enumerate the useful and/or relevant actions a device (e.g., telephone keypad) supports.

10c. Develop BRScripts Develop BRScripts, using Software Actors (Components), Rule Actors (Rule Packets), and Real-World Actors (humans and devices).

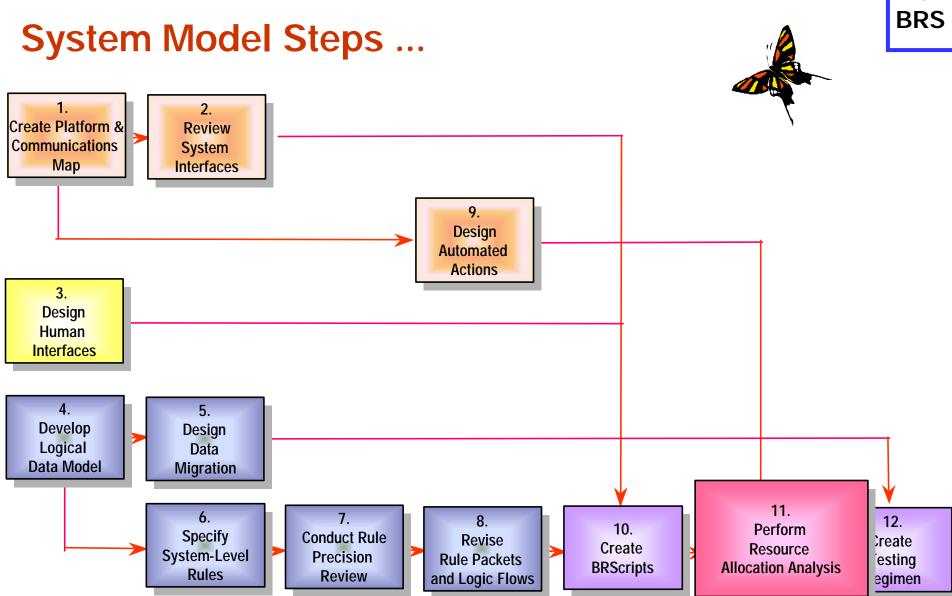
10d. Specify Rule Violation Activity

Identify rejector-type rules, where they should fire, and what scripting is appropriate as a response.

Note: this should be developed in a selective manner with respect to roles.

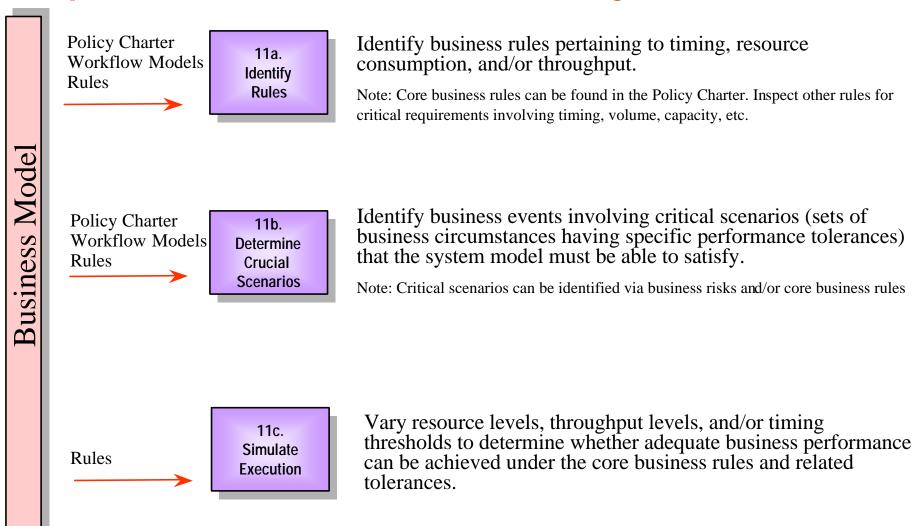
**Business Model** 



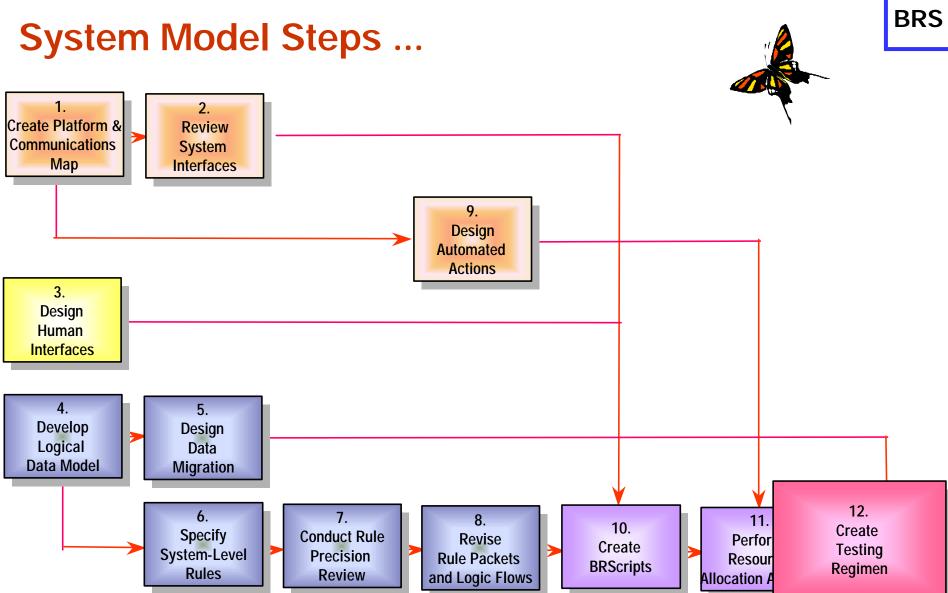




### Step 11. Resource Allocation Analysis ...









#### Step 12. Testing Regimen ...

