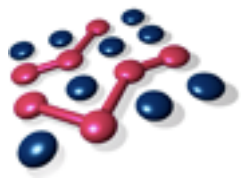


# A Nimble approach to dependency management

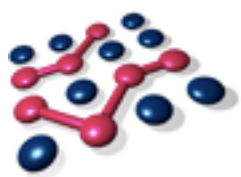
robert.dunne@paremus.com

<http://nimble.codecauldron.org/download>



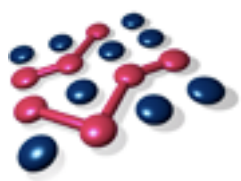
# Managing Dependency Complexity

- Modularity is good ...
- ... But often undermined by complexity
  - ▶ wire-up
  - ▶ configuration
- How can we manage this?
  - ▶ automate where possible
  - ▶ preserve and reuse design decisions
  - ▶ we've been here before



# Nimble

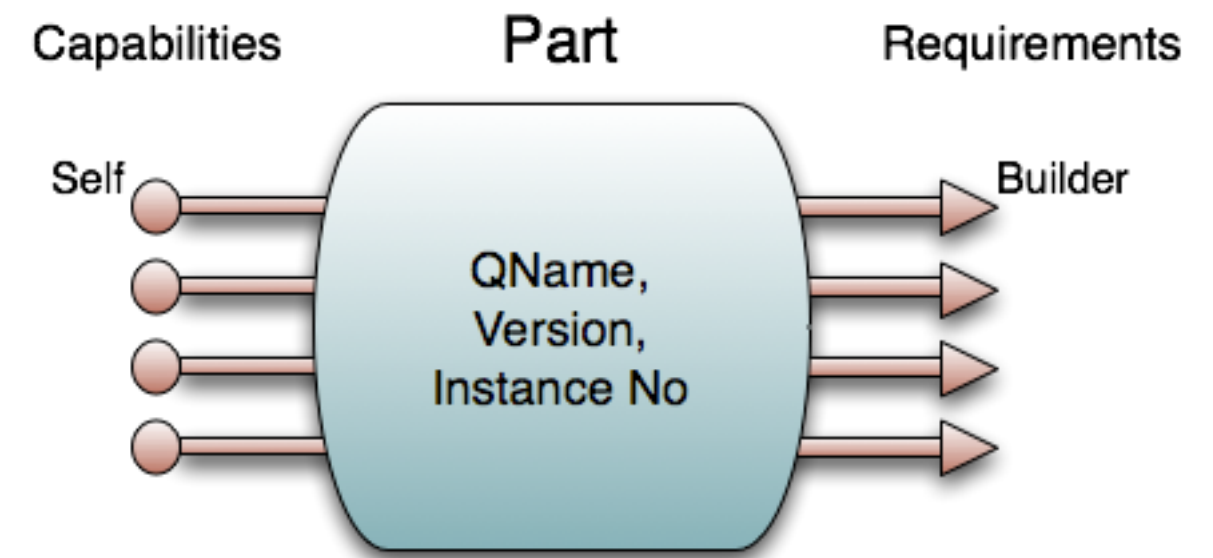
- Full lifecycle dependency resolver
  - ▶ resolve, install, uninstall and clean-up
    - rich diagnostics
  - ▶ multiple deployable units - easily extended
    - Bundles, WARs, POJOs, Config files
  - ▶ OSGi specific features
    - fragment attachment policy
    - optional import policy
    - import narrowing
    - resolves dependencies on extender bundles (DS, SpringDM, iPOJO)

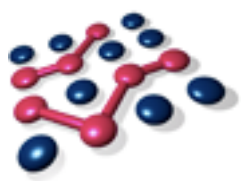


# Parts

## ▶ Nimble manages a Part Graph

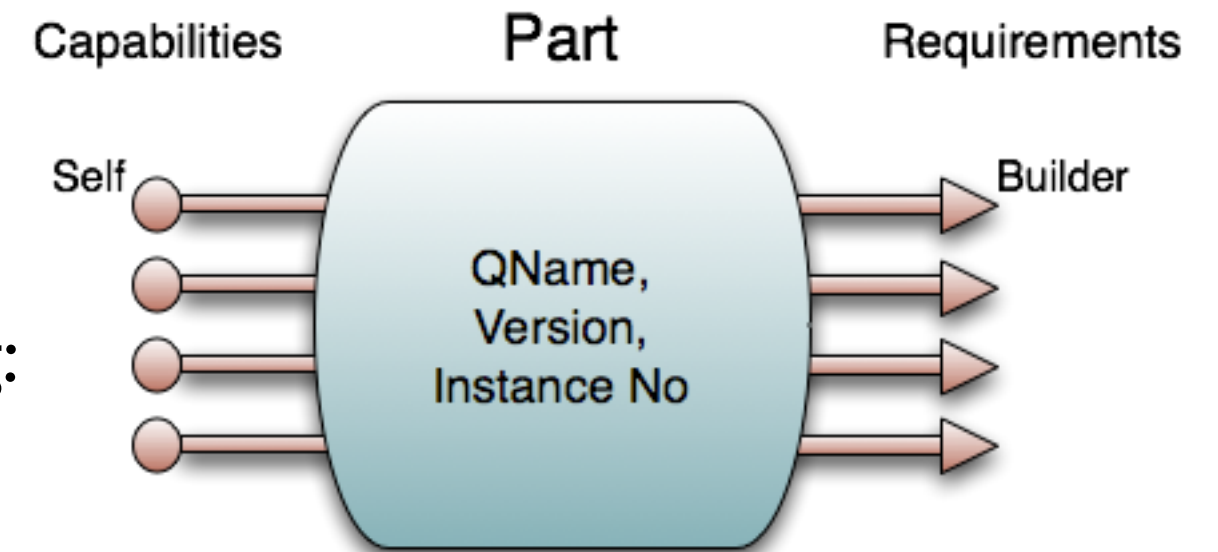
- parts have capabilities and requirements
- resolved bundles
- requirements -> exports, capabilities -> imports
- POJOs
- requirements -> constructor args, capabilities -> interfaces
- Add & Remove Root Parts
- Control Resolution with policy

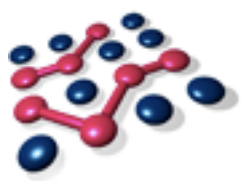




# Builders

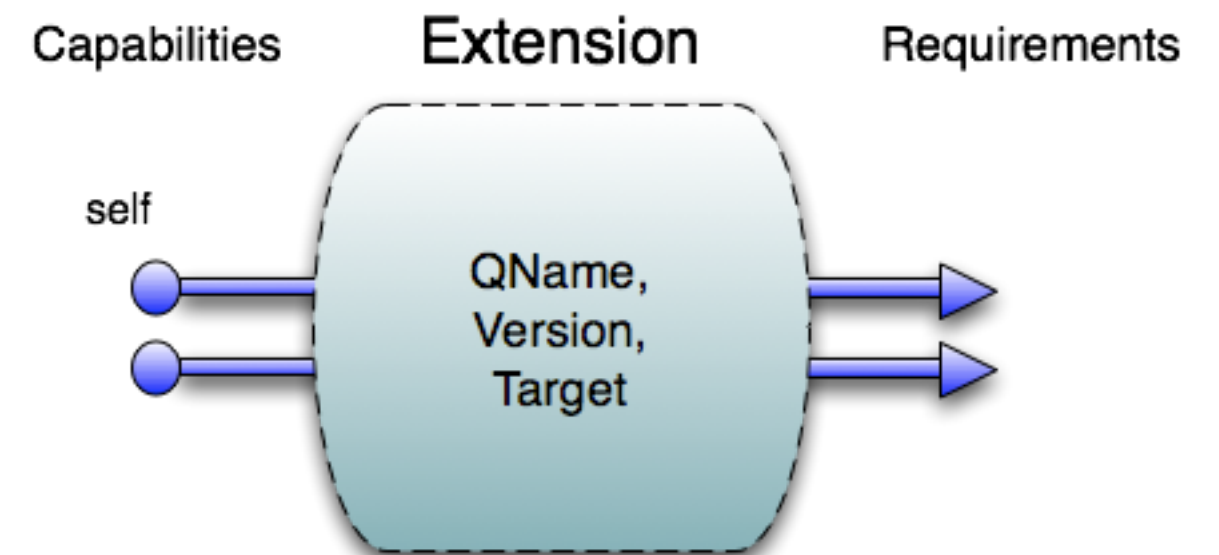
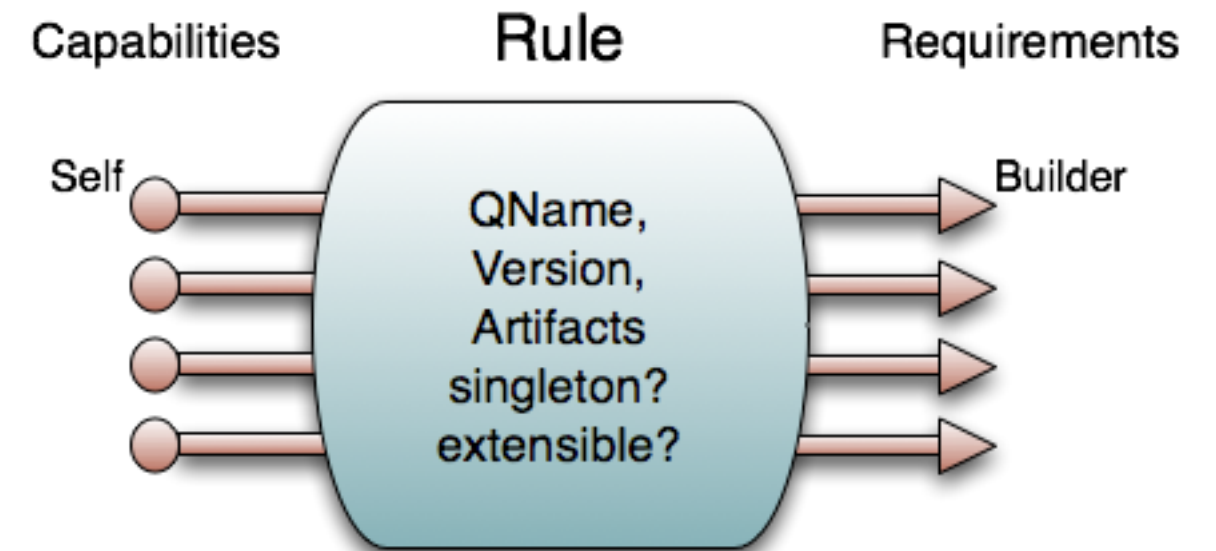
- **Parts have a builder requirement**
  - ▶ no need for pre-installed builders
  - ▶ builder turns the part into a runtime entity using:
    - artifacts for the part
    - capabilities wired to parts other requirements
- **Builders for**
  - ▶ resolved, active and fragment bundles
  - ▶ WARs, Config files
  - ▶ easily extensible

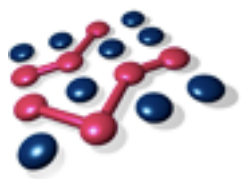




# Rules and Extensions

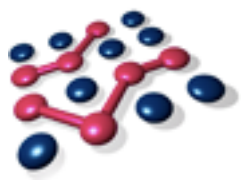
- Rules are Templates for Parts
  - ▶ Rule + configured Extensions -> Part
  - ▶ target
    - rules to which extensions can apply
  - ▶ policy
    - choice of extensions to apply





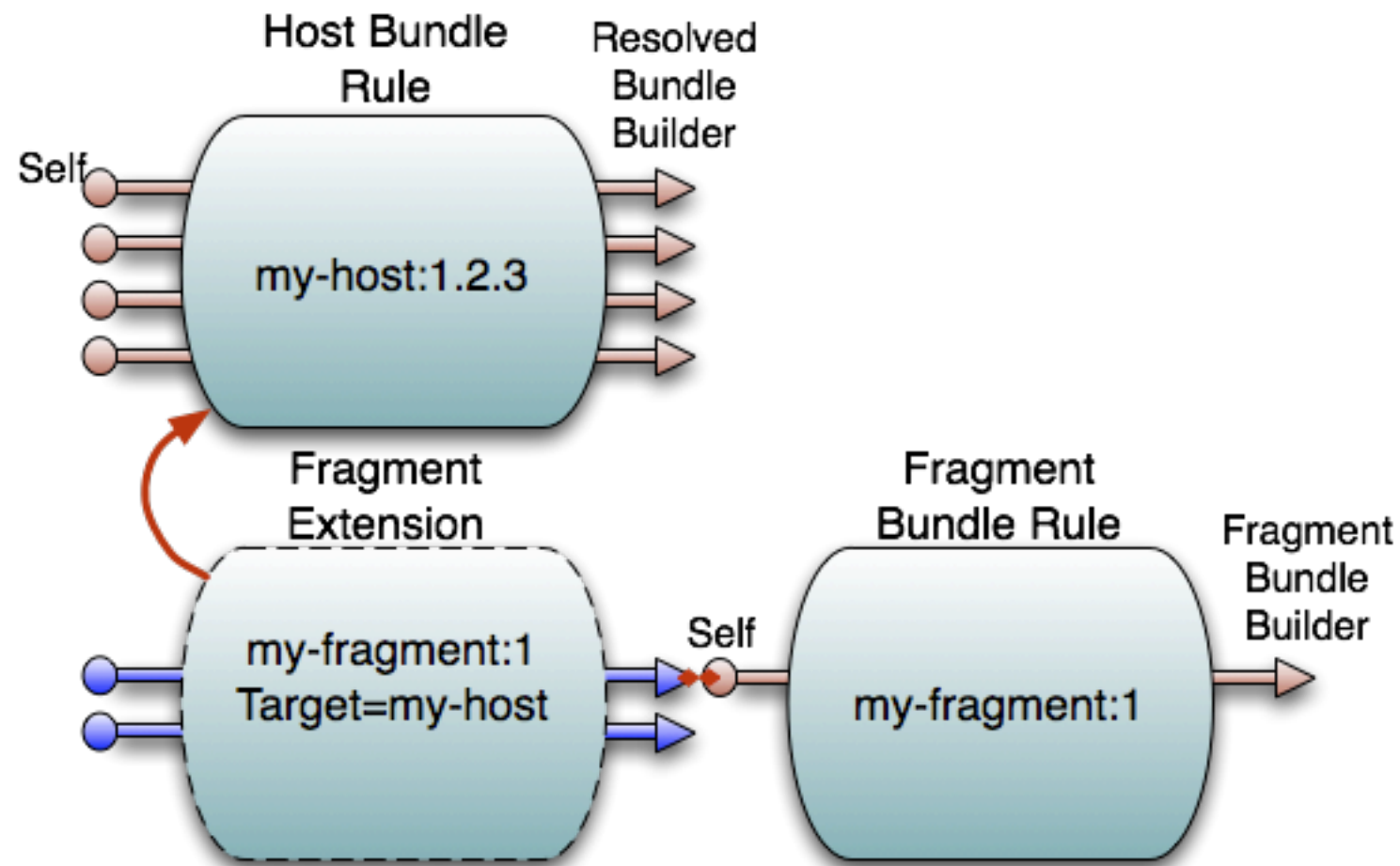
# Repositories and Policies

- Repository
  - ▶ Index of available rules and extensions
  - ▶ OBR or richer Nimble metadata
- Policies
  - ▶ configure selected extensions
  - ▶ constrain requirement -> capability matching
  - ▶ configure option resolution

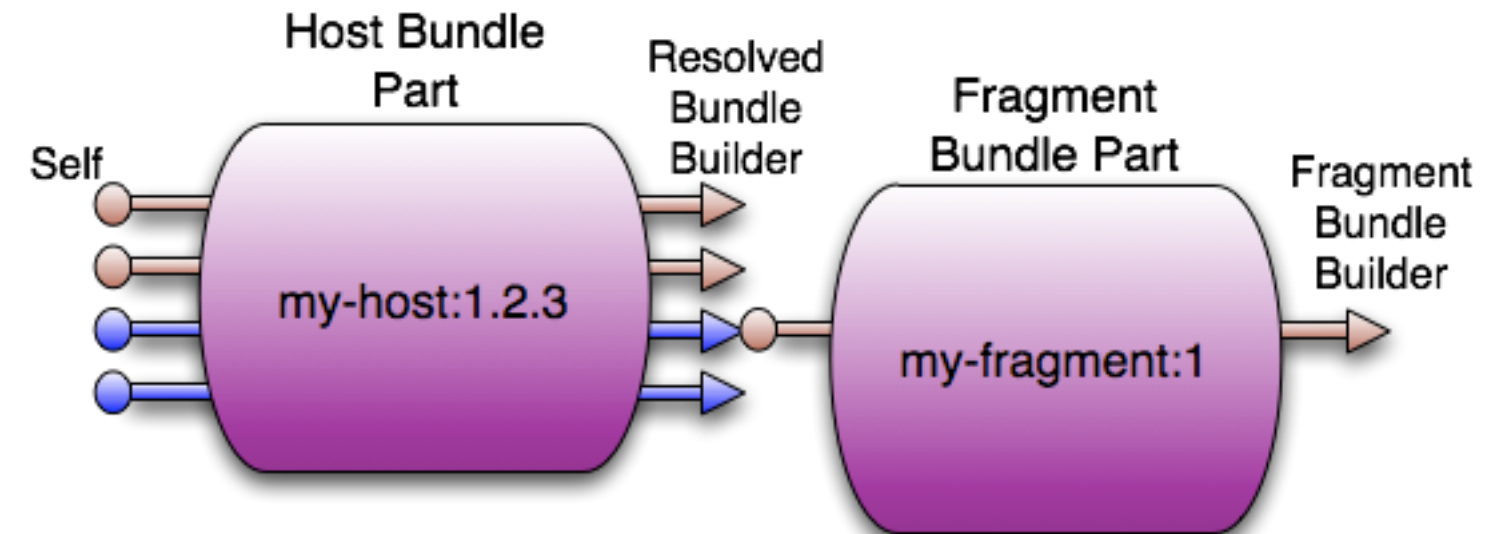


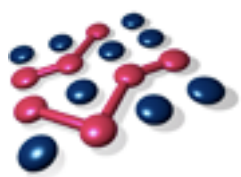
# Modelling Fragments

## Fragment Rules



## Fragment Parts





# Thanks for coming

<http://nimble.codecauldron.org/download>

<http://www.paremus.com>

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