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The Sun Certified Architect Exam for JEE 5 – take two

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Agenda

- > Recap on last year's presentation
- > Short review of the exam itself
- > Developments from June 2008 – June 2009
- > Purpose of this year's session
- > Worked example for exam - part two
- > Looking forward to JEE 6
- > Q & A

Recap on last year's presentation

- > The first public outing for the new JEE 5 exam
- > Aim was to
 - Explain the new exam
 - Compare and contrast the old with the new
 - Dispel some rumors we had seen in the open
 - Encourage exam adoption
- > Slides still available –
<http://humphreysheil.blogspot.com>

The exam itself

- > Composed of three parts
 - Part one – 64 multiple choice questions
 - Part two – documenting a solution to a given business problem
 - Part three – defending / reasoning about your part two submission
- > Exam is the pinnacle of Sun's Java certification
- > Reflects a strong desire to enable Java programmers to progress along the career path to architect with well-defined goals

June 2008 – June 2009

- > Old exam was EOL'd (big spike in Nov / Dec)
- > New exam for JEE 5 is now the sole Sun architect exam available
- > Feedback so far?
 - In general, people find part one easier
 - Part two more difficult
 - And part three is considered a sterner test as well

June 2008 – June 2009 (Book)

- > Book is now mostly complete
- > Should be available on Safari Rough Cuts any day now
- > Chapter graphics still need to be added
- > As do more sample questions at the end of each chapter
- > Hope to promote the book from draft to completed in a couple of months from now
- > Check out blog for updates

Purpose of this year's presentation

- > Primarily, to drill more into part two – the major part of the exam
 - Examine a business problem of similar complexity to an exam equivalent
 - And work through it in a phased manner

Worked example for part two

- > Structure of this segment
 - Problem overview
 - Reviewing the deliverables
 - Developing the domain model
 - Some dos and don'ts
 - Recap
- > These slides will be made available, plus the sample scenario in full

Problem Overview

*You are the architect for JustBuildIt Corporation, <..> construction company with significant operations in the US and Canada, Europe and the Pacific Rim. JustBuildIt operates its own forests, quarries and steel foundries to supply its own building sites with wood, concrete and steel. JustBuildIt has decided to build a **building commodities exchange** to allow both it and indeed some of its competitors to effectively pool excess capacity in a co-opetition model.*

<..>

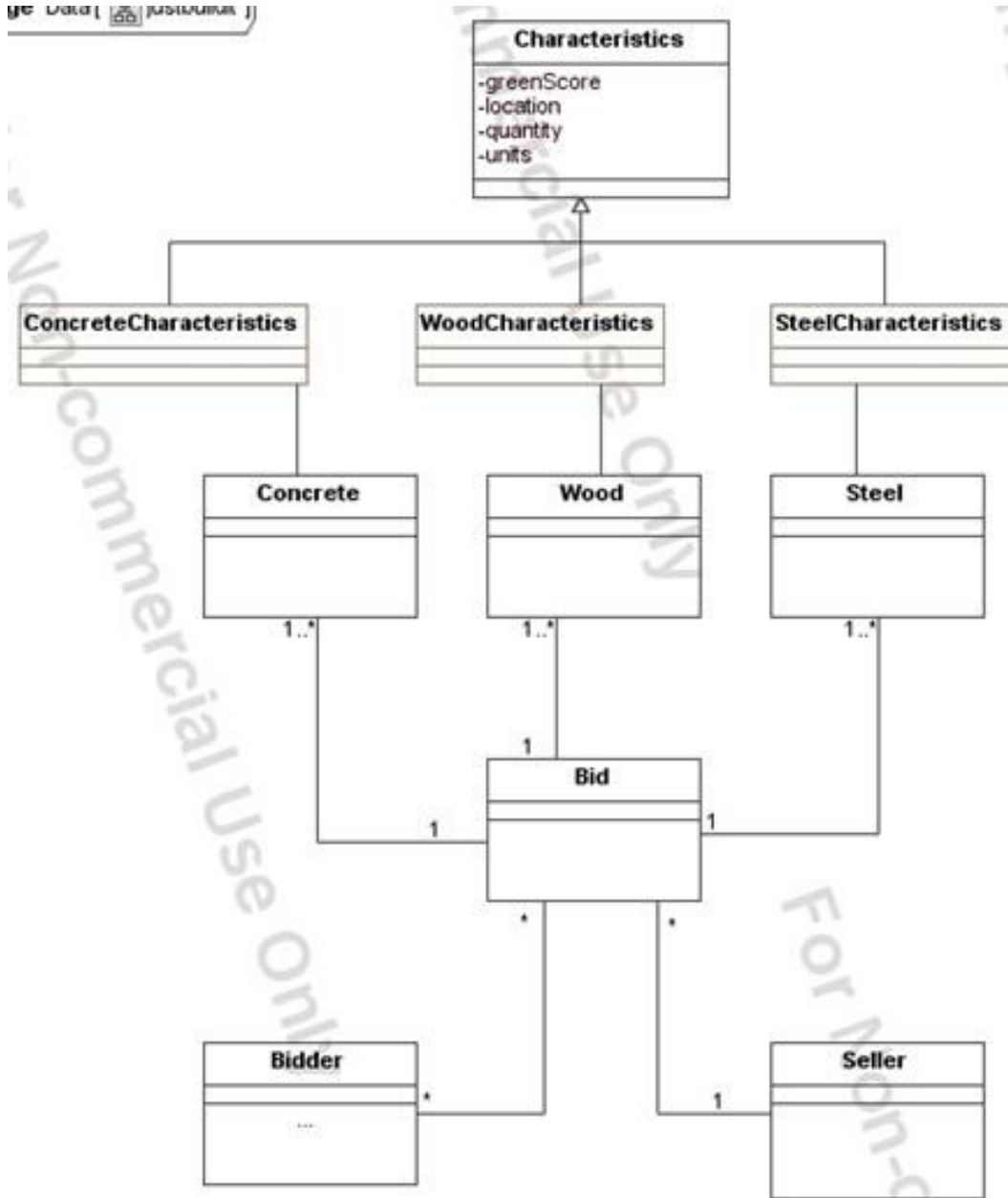
What you're given

- > A detailed textual description
- > Domain model
- > Use cases
- > Directions on required deliverables

What you have to deliver

- > SuD = System under Discussion (your system)
- > Deliverable 1 – class diagram
- > Deliverable 2 – component diagram
- > Deliverable 3 – deployment diagram
- > Deliverable 4 – use cases (as sequence or collaboration diagrams)
- > Deliverable 5 – top three technical risks and mitigations for same

Sample Domain Model..

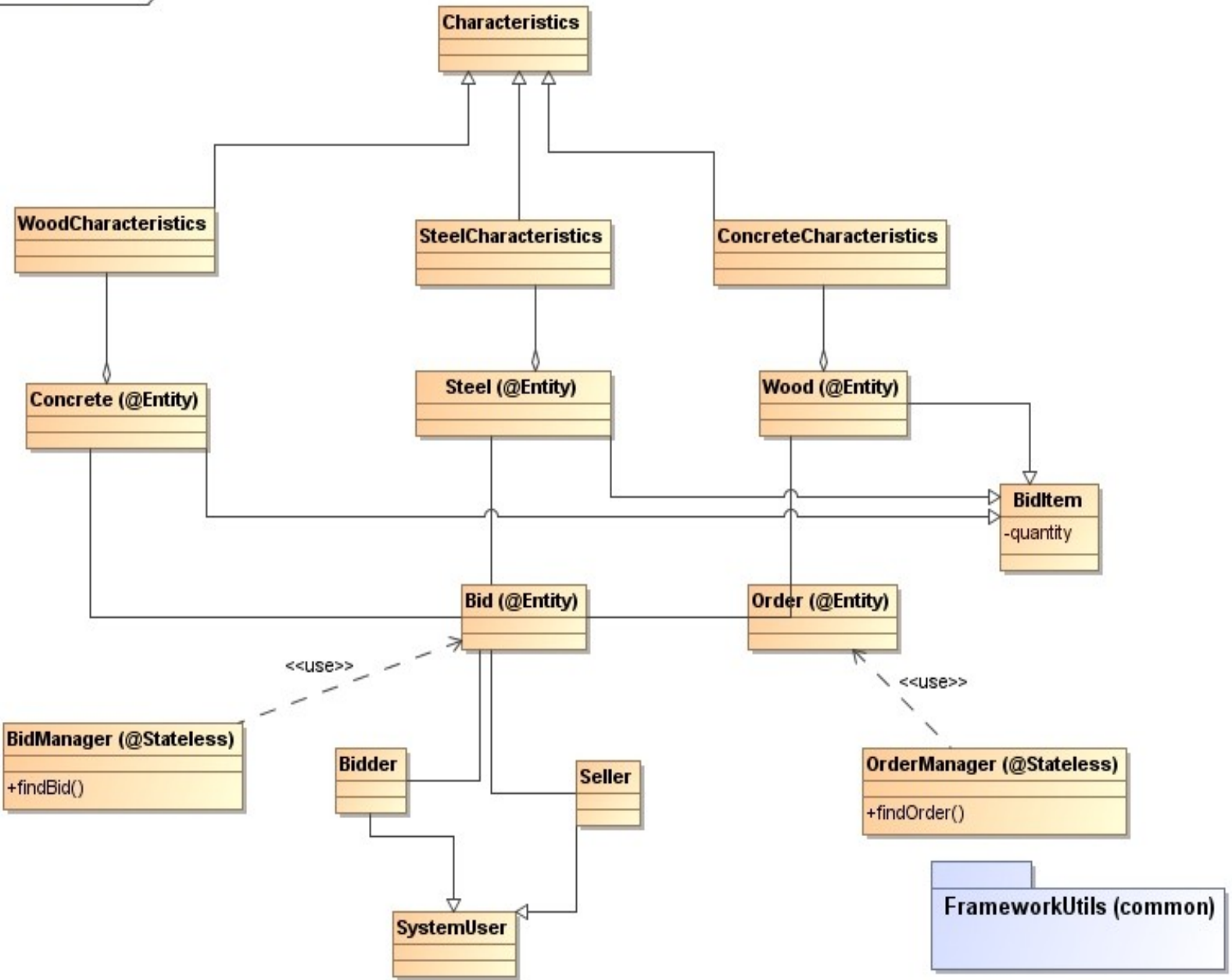


Developing the Domain Model

- > Using annotations makes this straightforward
 - Declare entities
 - Session beans that will encapsulate business logic
 - Important to emphasize the type of session bean
- > Do not lose association or multiplicity information as you do this

Developing the Domain Model

- > Add attributes and methods you consider important to classes
- > Name important aggregations of business logic
 - ABCManager, XYZController
- > Finally, references to “plumbing code” / wiring
 - Logging, configuration, exception handling etc.
- > Keep the class diagram as simple as possible
- > If you split it up, you must provide a *roadmap* or *overview* class diagram
- > Don't split it up!



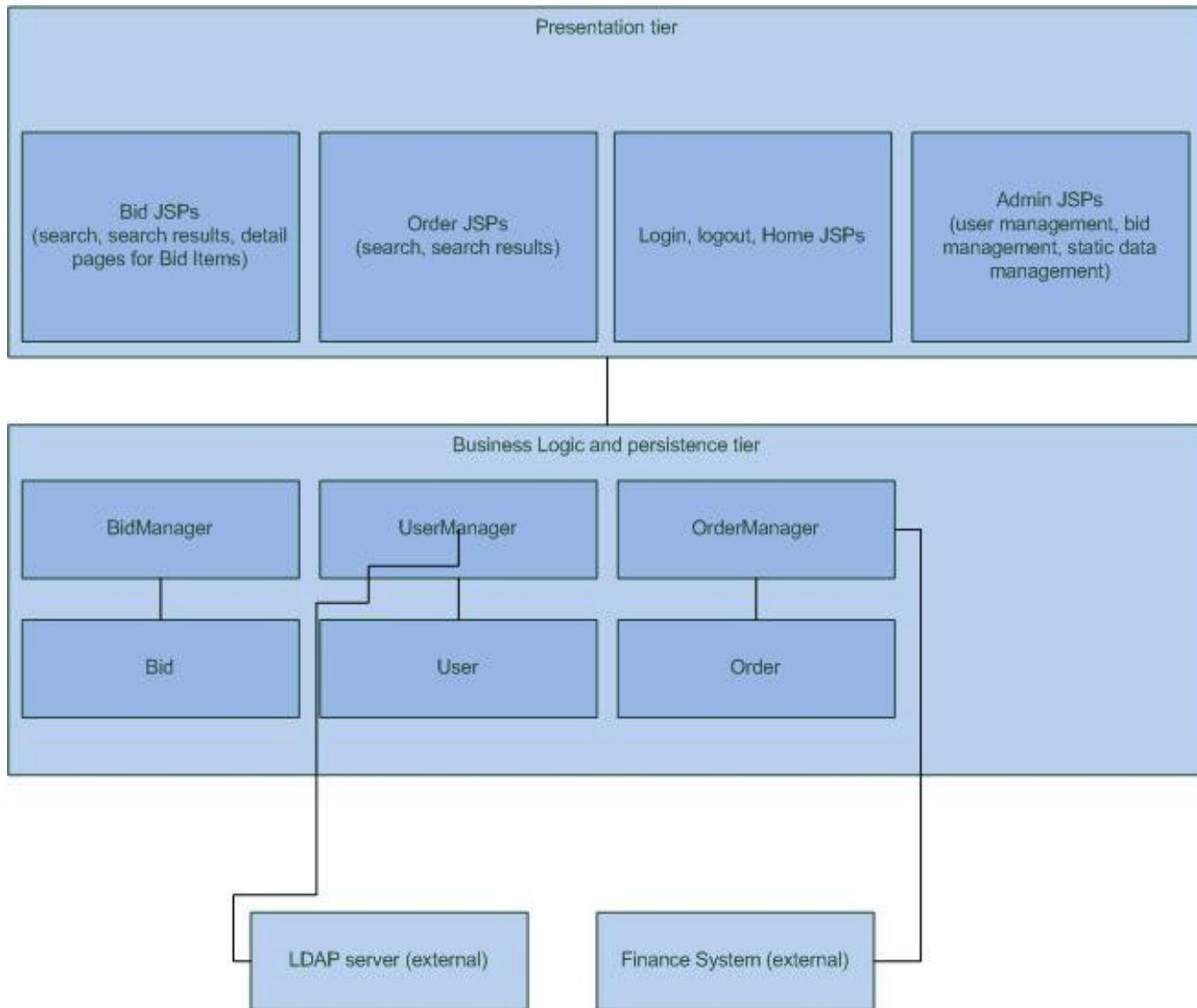
Class Diagram - completion

- > Add multiplicity information
- > Add more attributes
- > Add more methods (public only)
 - Return types and parameters not important here
 - Are good to show in sequence diagrams
- > Small package diagram beneficial to show how framework package used by the entire structure

Component Diagram

- > Must clearly call out
 - Presentation tier
 - Business logic tier
 - Persistence tier
 - Integration touchpoints
- > Major interactions between all four tiers
- > Should explicitly show what is part of the SuD and what is being invoked as a separate system

Component Diagram



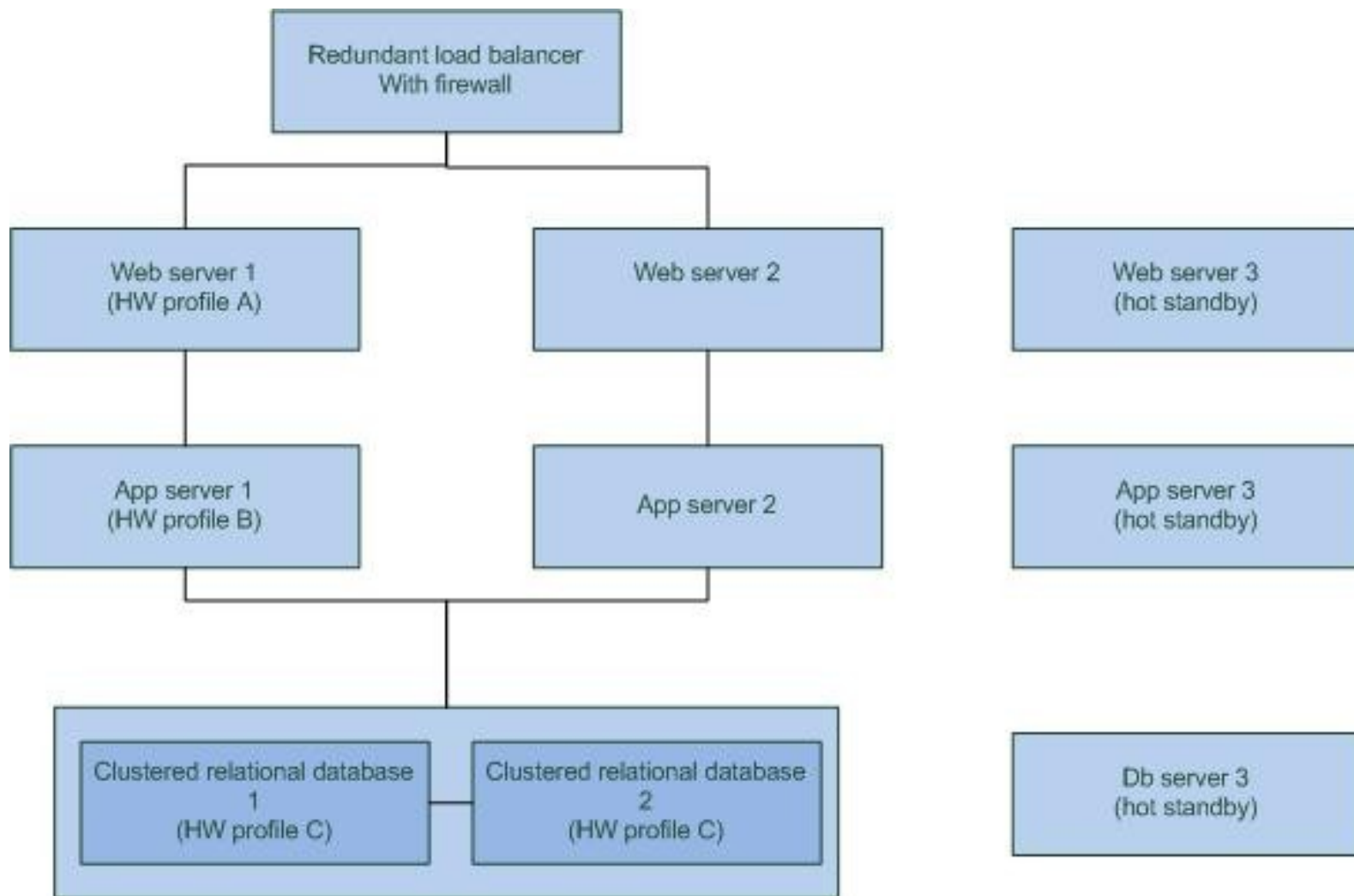
Component Diagram - completion

- > Expand navigation / control logic in presentation tier
- > Enumerate JSPs to a more fine-grained level
- > Include inter-session bean workflow
- > Depict security restrictions on Admin JSPs

Deployment Diagram

- > It is impossible for you to predict the actual hardware required before you build the SuD
- > But it is reasonable (and expected) to give a decent guesstimate
- > Resources: CPU, memory, network and disk
- > Resilience, fail-over, redundancy characteristics can also be planned and designed for
- > RE: vendors, be as specific or circumspect as you like (not tested)
- > RE: important deployment concerns, be very specific

Deployment Diagram



Deployment Diagram - completion

- > Consider inter-tier security
- > Describe network protocols used
- > Describe network connectivity expected
- > Define hardware profiles A, B and C in English text
- > For database-centric applications (all!), describe appropriate RAID / storage configuration
- > Consider virtualization
- > Consider other environments (QA, UAT, pre production)
- > Continually review the SLAs for this section

Recap

- > Keep revisiting the deliverables
- > Favor diagrammatic representation of information
- > Do not lose information as you develop the model
- > You are free to optimize, extend, simplify, but
 - Do not lose information as you do this!
- > General proposal for all diagrams
 - For assignment complexity, maximized browser window running at > 1280 x 800 resolution – should not need scroll bars

Looking forward – JEE 6 and beyond

- > JEE 6 version of the exam expected (2010)
- > Part one will change to explicitly target this version of the platform
- > Part two – you can target either JEE 5 or JEE 6 – whichever you prefer (it has always been like this)
- > Part three is specification agnostic
- > It is unlikely that the certification will split to complement the profiles

Q & A



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Thank You

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