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FP Sizing of SOA applications made easy!

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# accenture <sup>></sup> Objectives



- Analyze available solutions and it's problems for Service Oriented Architecture based applications
- To provide recommended approach and guidelines based on my counting experience
  - For Front End applications
  - For Middleware applications
  - For Back End applications
  - General Hints

# accenture <sup>></sup> Agenda



- SOA concepts
- Challenges
- Available solutions
- Recommended Approach and Guidelines
  - Front End
  - Middleware
  - Back End
  - General Hints
- Conclusion
- References
- Questions



SOA deals with the Service Orientation through contracts. It also deals with modularity, layering, loose coupling, reusability etc.

Moreover an SOA based application (one needs to think as a collection of applications) might deal with the usage of lot of technologies at different layers.

Here, applications will be highly distributed across different layers. It may consist of Front Ends/Channels, Middleware, Back End Engines and Data Base.

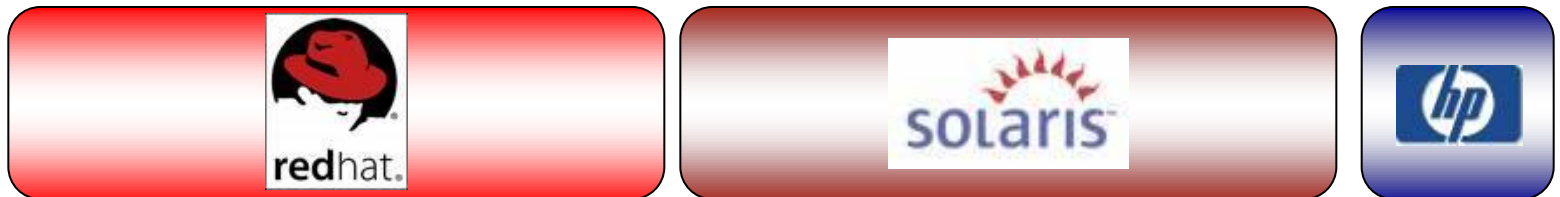
# SOA – Concepts cntd....



Apps/  
Data



Operating  
System



Hardware



# Challenges while measuring the functional size of SOA based applications

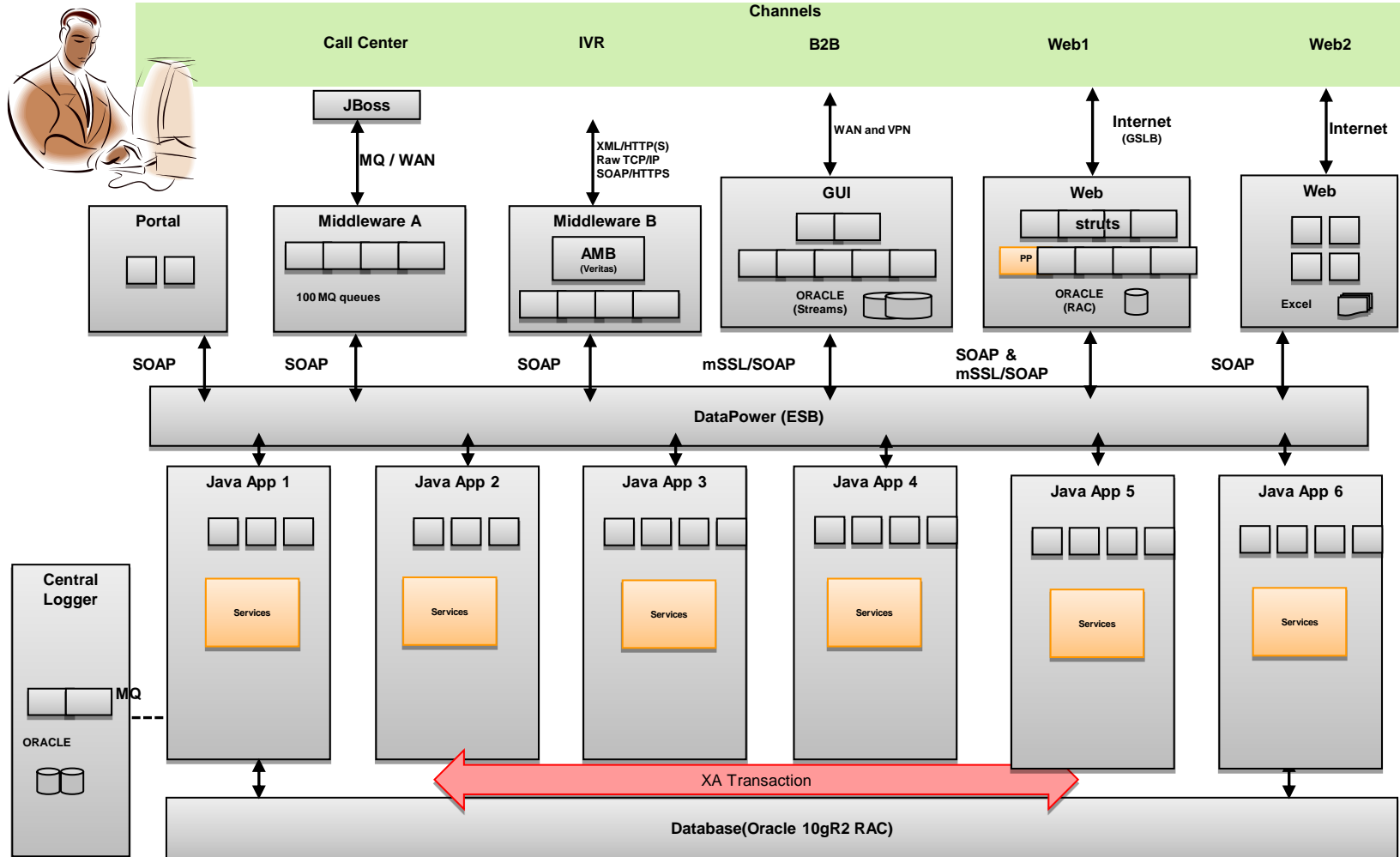


- How to consider loosely coupled software services that supports business processes and its users?
- How to consider the independent web services that are highly encapsulated?
- How to draw a proper boundary for a highly distributed application that spans across different layers? Is it similar to traditional monolithic application or not?
- Who is user here?
- How to effectively segregate common functionality among diversified applications?
- How to consider the separate development teams accountable for each application because of which extensive SME interaction will be required?
- No guidelines from IFPUG for sizing relatively newer technologies!
- If plain IFPUG rules are followed, less FP is generated which can be Clients and Vendors major concern when it comes to productivity!
- How can business leverage the investment done for SOA?
- Even though FP is not limited to any technology – in fact independent of any technology, counters end up facing different technological challenges (SOAP, WSDL, HTTP, XML etc).



- Considering old monolithic approach which draws a single boundary around all these applications as they together constitute user requirements
- But notice that, here we loose a lot of user transactions which transfers data to and from each of these applications.
- At the same time, user identifies each application as each provides a particular answer to the business problem.

# Recommended Approach and Guidelines





# Recommended Approach – Front End Apps



- Consider all maintenance and display requests as EO/EQ's. Here note that maintenance requests are not considered as EI's as no ILF will be maintained within the boundary and requests are sent to back end. But if separate logical file is getting maintained, we can consider EI's.
- Consider all ILF's which are getting maintained within the application say reference data etc. Also consider all the EIF's referred from other applications.



- Mainly transformation and routing of messages happen to another application. Hence consider all transactions as EO/EQ's based on the primary intent. Primarily EO's as lot of transformations will be happened by middleware pieces.
- But some middleware's may be doing more than routing as extensive business validations may be additionally performed.



- Count an ILF only if any data is getting maintained – say messages logged for usage by business user or reference data etc
- Distinctively count all user identifiable transactions if DET, FTR or processing logic changes
- Count all broker applications that sit in between other apps for interfacing if they are all user identifiable

## Recommended Approach - Back End Apps



- Mostly no UI or direct end user transactions. These applications will have the actual ownership of DB layer. Hence give credit for ILF's and EI's.
- Additionally, count EO/EQ for sending data outside the boundary depending upon the primary intent
- If one application is caching in all data that belongs to the other application, still count all as ILF and EI even if it's duplicate from other BE apps. Here, data for this particular application may be getting maintained via notifications from other apps when they get updated.

## Recommended Approach - Back End Apps cntd..



- What we need to see here is the users view, that this application provides a snapshot view of the entire BE apps and hence can distinct identity.
- If any BE app is having its own specific UI (mostly admin functionality to maintain reference data), count this functionality together.
- Consider all exposed services as EI/EO/EQ's based on the primary intent. Since all data functions are maintained here, count all ILFs.



- Ensure not to count various frameworks which will be commonly used by all these applications such as caching, exception, logging etc as these are technical requirements
- Always ensure to document the approach followed for future reference or clarification

## Recommended Approach - No Shared data concept



- Responsibility is shared by all interacting applications
- Each application is considered to be having separate boundary
- Counted separately based upon the user's view of the business functionality.



- Benefits of performing function point sizing on an SOA based application are:
  - Helps to measure the software to support quality and productivity analysis
  - Also used to estimate cost and resources required for software development and maintenance
- An FP Analyst needs to understand that business has invested huge chunks of money:
  - To make use of newer technology to keep business up and running 24x7x365
  - Each application has it's own set of requirements identified by business
  - For easier maintenance of each application
  - Ultimately Value for Money!





- IFPUG BB -  
<http://www.ifpug.org/discus/messages/1778/11119.html>
- IFPUG Manual 4.2

