

# **Designing a Flexible Services Based Architecture for Internet Applications**

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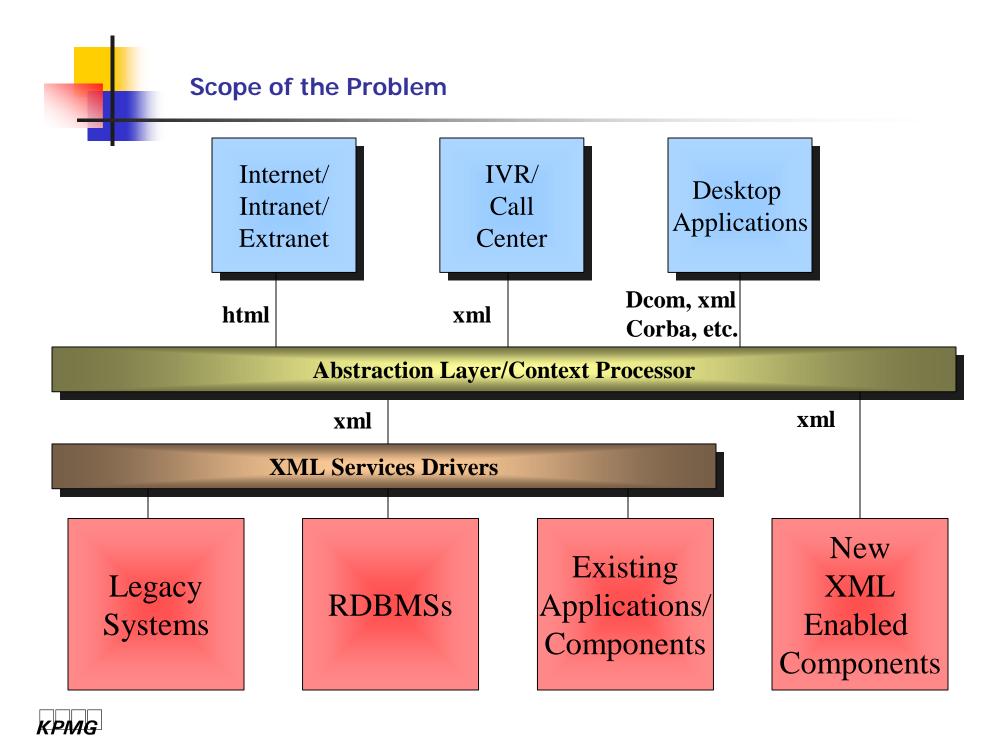
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#### **Agenda**

- Scope of the Problem
- Architectural Goals
- Architectural Abstraction
- Current Implementation Architecture
- Context Processing Layer
- Business Logic Layer
- Services View
- Implementation Genealogy
- Lessons Learned







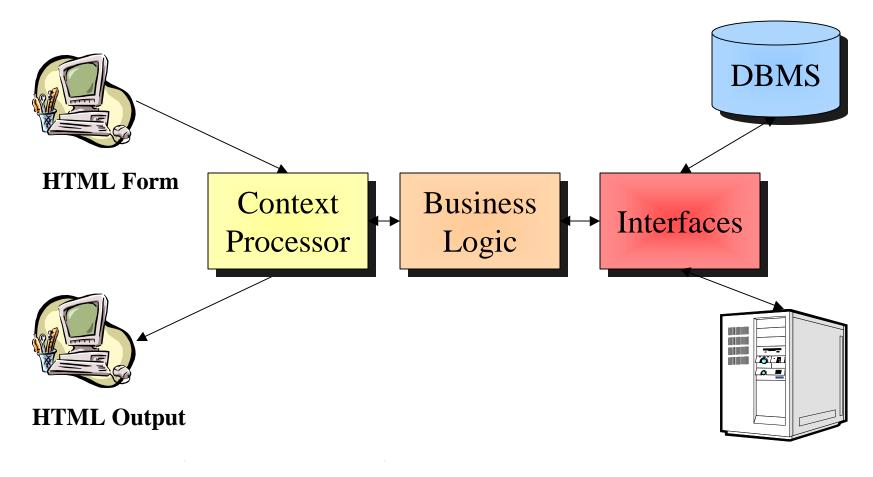
#### **Architectural Goals**

- Provide consistent treatment of services across all access channels
- Be scalable, flexible, adaptable and extensible to support a changing business environment(not to mention a changing technology environment)
- Support a consistent strategic architectural vision
- Reduce the cost of technology ownership
- Leverage existing assets
- Leverage/Enhance/Buy/Build
- Support short-term tactical implementations in support of a long-term vision





#### **Architectural Abstraction**



Client Layer Context Processing Layer Business Logic Layer Interface Layer





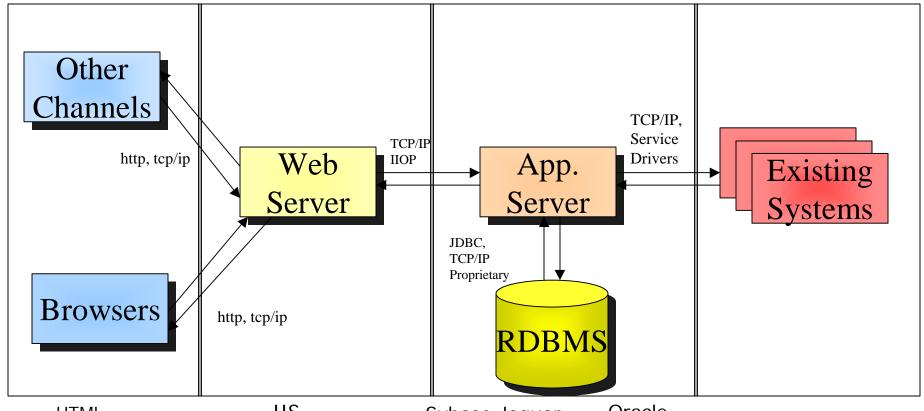
#### **Current Implementation Architecture(s)**

<u>Client</u> <u>Layer</u> Context
Processing
Layer

<u>Logic</u> <u>Layer</u>

**Business** 

<u>Interface</u> <u>Layer</u>



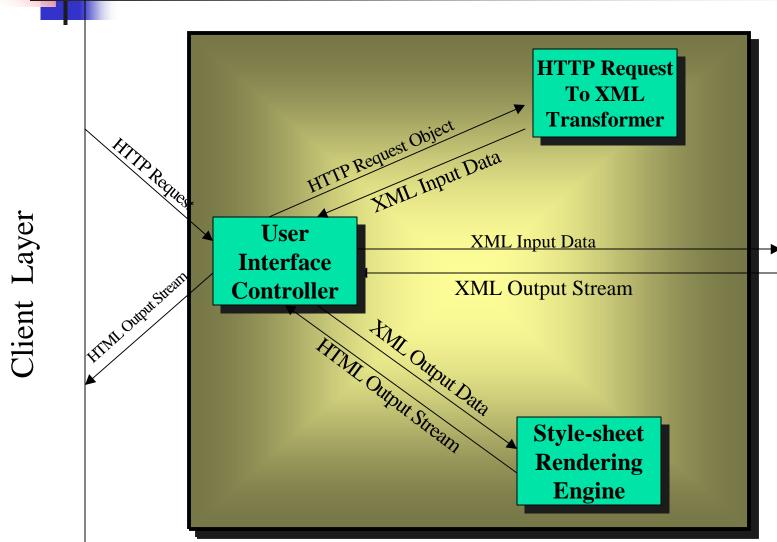
HTML JavaScript IE 4.0+ NS 4.07+ IIS Apache NES 4.0 Lotus XSL Sybase Jaguar WebSphere 3.5 NAS 4.0 Oracle UDB 5.2

OS/390 Powerbuilder (NT)

**MQ** Series



#### **Context Processing Layer**

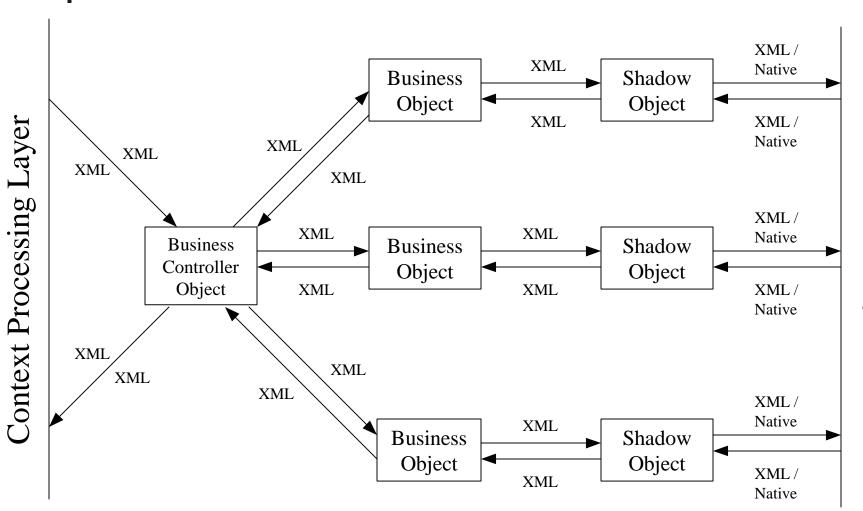


Business Rules Layer





### **Business Logic Layer**





Interface Layer



## **Application Service Architecture**

Application	Presentation Services							
Services	Business Logic Services							
Application Utility Services {	Analytics		Application Security		Utilities/ Helper Classes			
Application Arch. Services {	Connection/ Transaction Management	Error Handling	Security/ Encryption (SSL/LDAP)	State/Session Management	XML Meta- Data Services	XML Service Drivers		
Runtime/ {	Application Server			Database Server				
Deployment Infrastructure Services {	Network Connectivity							
	Operating System							





## **Implementation Genealogy**

	Context			Application	
Iteration	Processing Functions	Implementation	Magagina	Server	lmplomontotion
iteration		Implementation	Messaging	Components	Implementation
	Function Routing			Business	COM VB
1	XML/XSL Merge	MS VB DLL	XML	Only	Components
	Function Routing				
	Name/value pair	MS VB DLL,		<b>Business</b>	
2	conversion	Java Script	Native	Only	Java Servlets
	Function Routing			Business	
3	XML/XSL Merge	MS VB DLL	XML	Only	Java Servlets
	Function Routing			Business	
4	XML/XSL Merge	Java Servlet	XML	Only	Java Servlets
				XML/XSL	
5	Function Routing	Java Servlet	XML	Merge	Java Servlets
				Business	
				XML/XSL	
6	Function Routing	Java Servlet	XML	Merge	EJBs





#### **Lessons Learned**

- Provide consistent treatment of services across all access channels
  - 2 week implementation of IVR from browser based channel
- Be scalable, flexible, adaptable and extensible to support a changing business environment
  - Environments supported, stress test results
- Support a consistent strategic architectural vision
- Reduce the cost of technology ownership
- Leverage existing assets
  - Legacy systems supported
- Leverage/Enhance/Build/Buy
  - Integrate with Vignette, Oblix, BowStreet, e.Piphany, Chordiant
- Support short-term tactical implementations in support of a long-term vision
  - MyBenefits vs. Hyatt Enrollment
- Other "gotchas"
  - Develop process for communicating XML contracts up front
  - Object model to data model to code
  - XML is preferred when the component clearly will be exposed/re-purposed
  - Scalability is dependent upon application design as well as infrastructure tools chosen (i.e., WebSphere)
  - HTTP get vs. http Post

