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# Composite Applications, Mash-ups and the Service Oriented Architecture

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#### And, we will change the way we do business.

- We're already well into the era of implementing new ways of communicating with both customer and supplier systems over the network.
- We must continue to support our current business models (and the technology that supports those business models) as we experiment with, and then deploy, new business models.
- Because we have to continue to support our existing business models, and because it would simply cost too much to pursue a "rip and replace" strategy, our infrastructure (including hardware and software) will not undergo a wholesale replacement.
- To the contrary, our investments must be incremental and additive.
- This leads us to the era of Composite Applications.





### **Composite Applications**

Composite applications are process-oriented programs built "on top of" multiple existing systems.



#### Your Web 2.0 architecture will vary.



## Run-the-business requirements? A systematic approach.



**Systematic** 

#### **Opportunistic**





- Completeness of the Suite
- Integration of the Suite (TCO)
- Standards Support: both Interoperability and Portability
- Code Generation
- A hardware platform architected for an SOA
- Building an SOA Center of Excellence





## There are lots of moving parts in composite applications.



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#### Integrated tools reduce costs throughout the SDLC.

- Advantages of a single repository
  - Better support for reuse.
  - Better support for impact analysis.
  - Better support for version control and configuration management.
- Advantages of a single runtime
  - A single management framework.
  - A single security framework
  - A single transaction management framework
  - A single debugging environment
- Advantages of a single development environment
  - A consistent look and feel
  - Reuse of development tools





#### The Advantages of an Integrated Suite

#### Butler Customer Study on Sun Java Integration Suite

Savings attributable to use of a fully integrated development/deployment environment:





Source: Butler Group November 21, 2005



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# "Write Once / Run Anywhere" portability.

- Multiple Operating Systems
  - Solaris<sup>™</sup>
  - Microsoft Windows
  - HP-UX
  - IBM AIX
  - Red Hat Linux
  - SuSe Linux
- Multiple Java EE app servers
  - IBM WebSphere
  - BEA WebLogic
  - Sun Enterprise Application Server
  - JBoss

















### Standards-based SOA tools maximize interoperability.

Interoperability: "Plug-and-Play" with everything.



for the Enterprise

# Web services standards will undergo a profound change.

- **Project Tango** Sun and Microsoft are collaborating on completely interoperable implementations of a set of Web services standards.
- Microsoft's .Net implementation is in Windows Communications Foundation.
- Sun's Java implementation is in the recently introduced **Web Services Interoperability Technology** (WSIT).
- The overwhelming impact of hundreds of millions of WSIT and WCF implementations will drive perception of Web services interoperability.
- This "economic coercion" will ensure broad realization of "plug-and-play interoperability" through the adoption of the WCF/WSIT approach to Web services interoperability.

Going forward:

- Like it or not, WCF will become the reference implementation for Web services interoperability
- Everyone will need to provide
   "certified" interoperability with WCF
- Plugfests will be the "certification mechanism" to ensure compatibility





#### Java Business Integration allows a pluggable ESB.







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# Code Generation and Round-Tripping

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#### Positioning the Vendors in the ESB Market



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## An SOA-Optimized Chip Architecture

- Composite applications on top of an SOA consume vast numbers of threads
- Context switching among these thousands of threads consumes an enormous percentage of CPU capacity
- A multi-core CPU architecture becomes a very attractive hardware architecture in this context.
- A multi-core CPU architecture that allows each core to simultaneously manage multiple threads is even more attractive.





#### Architecture, Methodology and Governance









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# Thank You

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