

A man with glasses and a blue button-down shirt is sitting at a desk in an office. He is looking at a laptop screen with a thoughtful expression, his hand resting on his chin. The background is a blurred office environment with shelves and windows.

***“The value of ideas lies  
in the using of it”*** - THOMAS EDISON



*Unique and Innovative Technology Solutions*



[nocoug.org](http://nocoug.org)



# Web Services, SOA & BPEL

## - A Primer



*Unique and Innovative Technology Solutions*

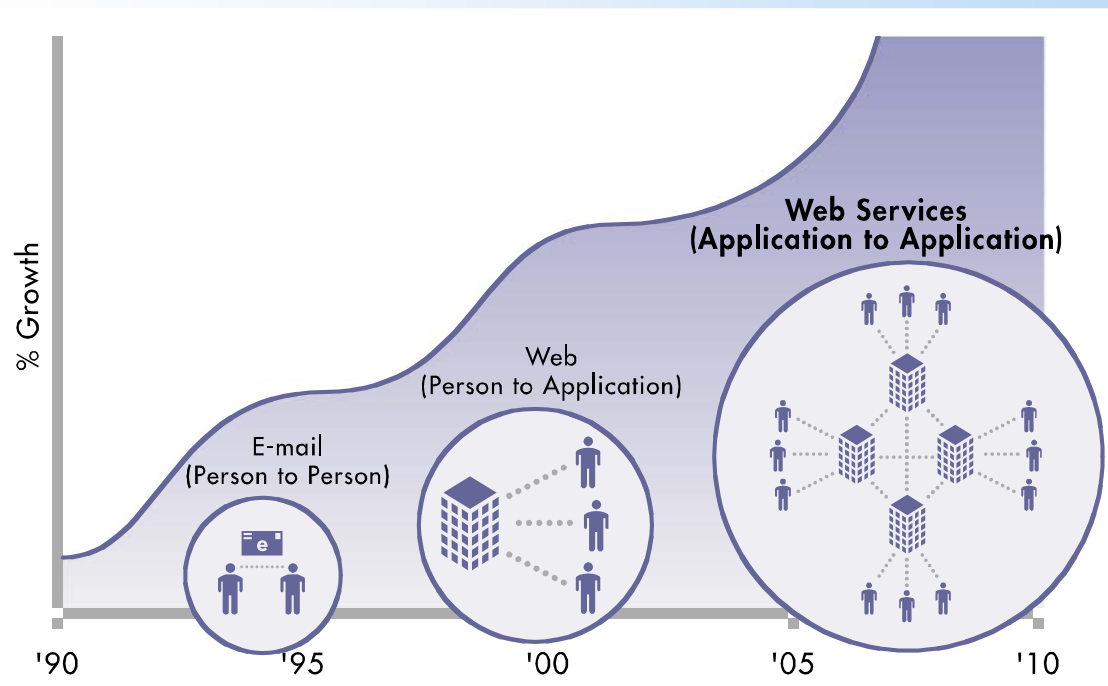


# Agenda

- Introductions
- What Are Web Services?
- How Do Web Services Work?
- What Is SOA?
- How Does SOA Work?
- What Is BPEL?
- How Does BPEL Work?
- Demo
- Next Steps
- Q & A

# What Are Web Services?

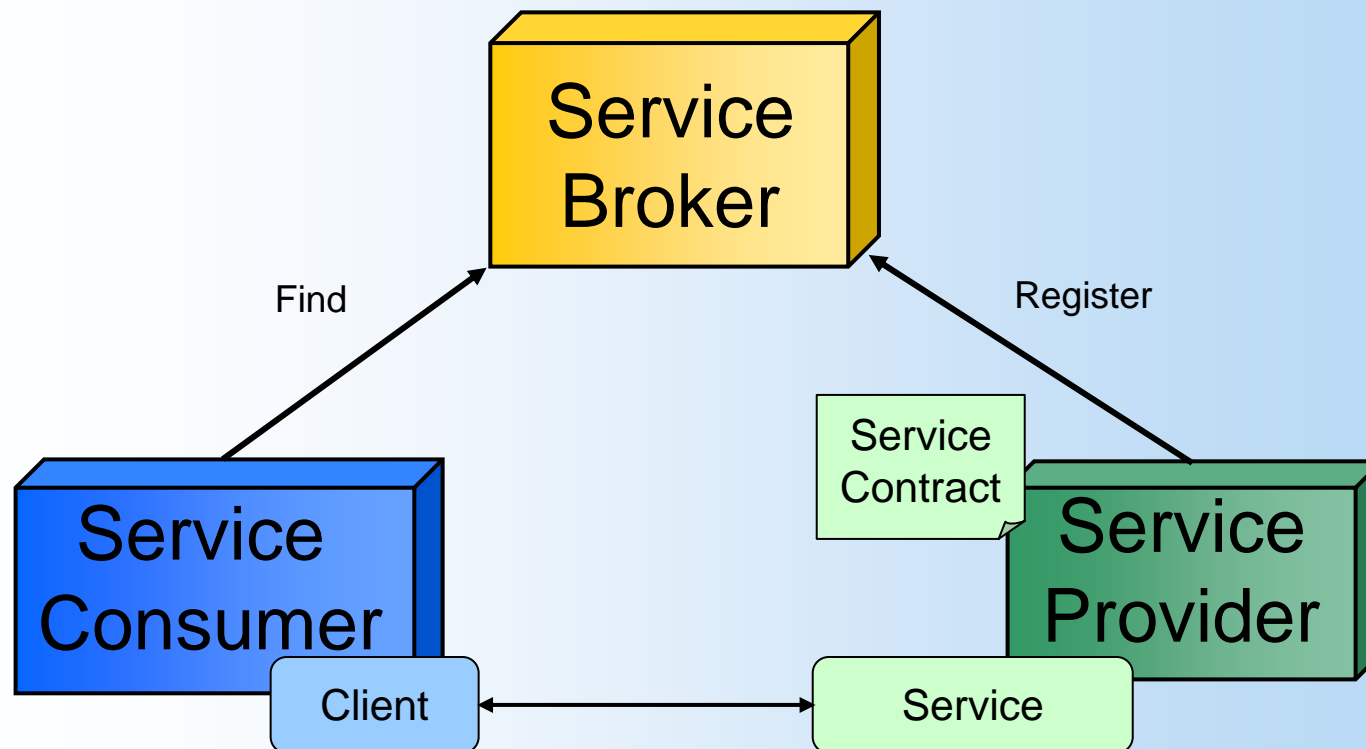
- C2C: Person (consumer) to person – Email (SMTP, RFC-822)
- B2C: Person to application – Web (HTTP, HTML)
- **A2A: Application to application - Web services** (XML, SOAP, UDDI, WSDL)



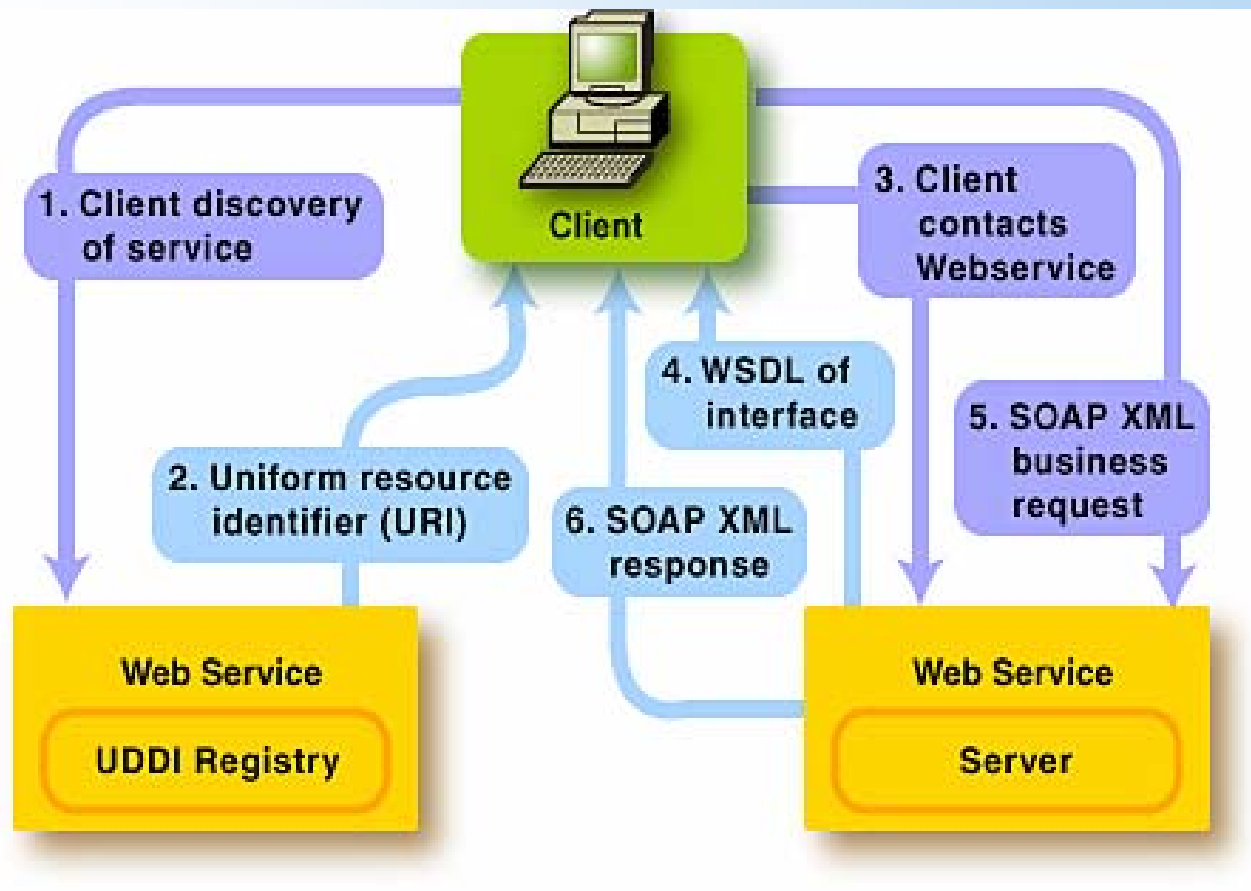
## What Are Web Services?

- **A Web service ...**
  - Exposes and describes itself
  - Allows other services to locate it on the Web
  - Can be invoked
  - Must return a response

# How Do Web Services Work?

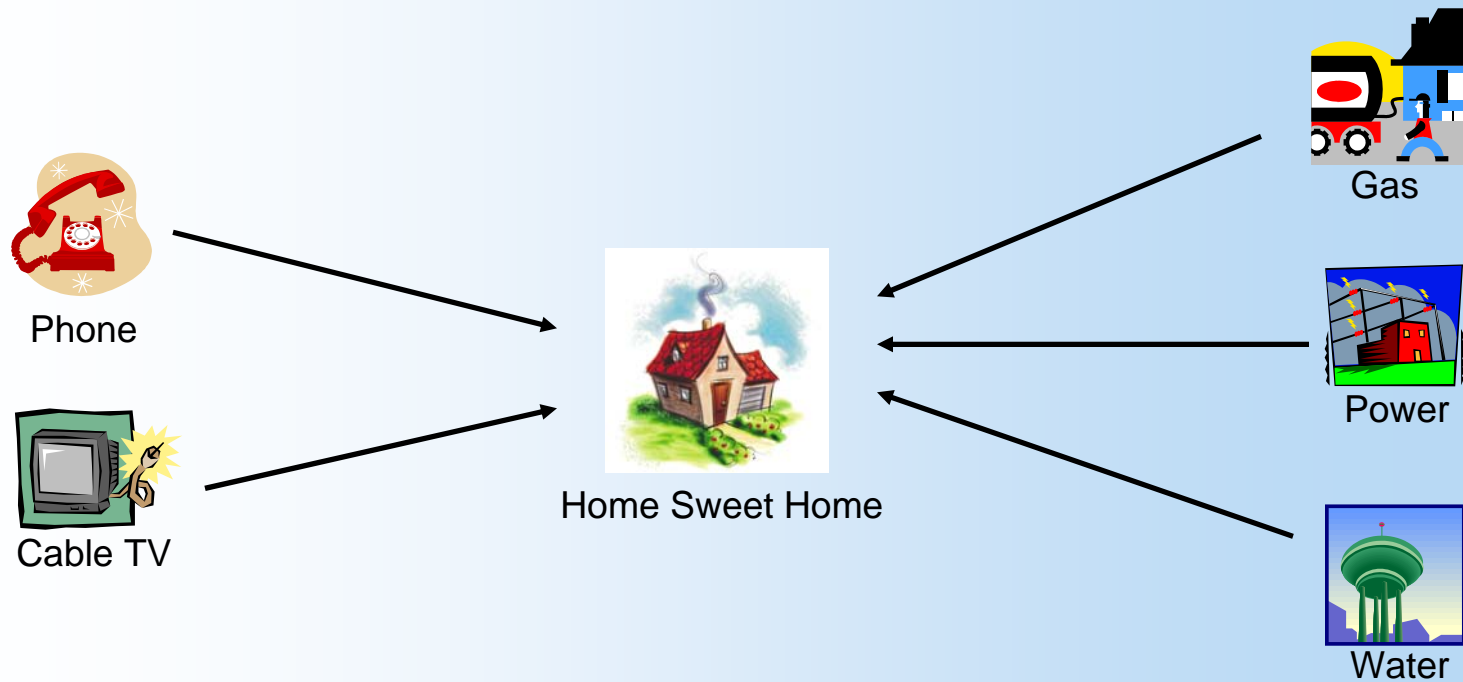


## How Do Web Services Work?



# Service-Oriented Architecture (SOA)

*When we move to a new home ...*

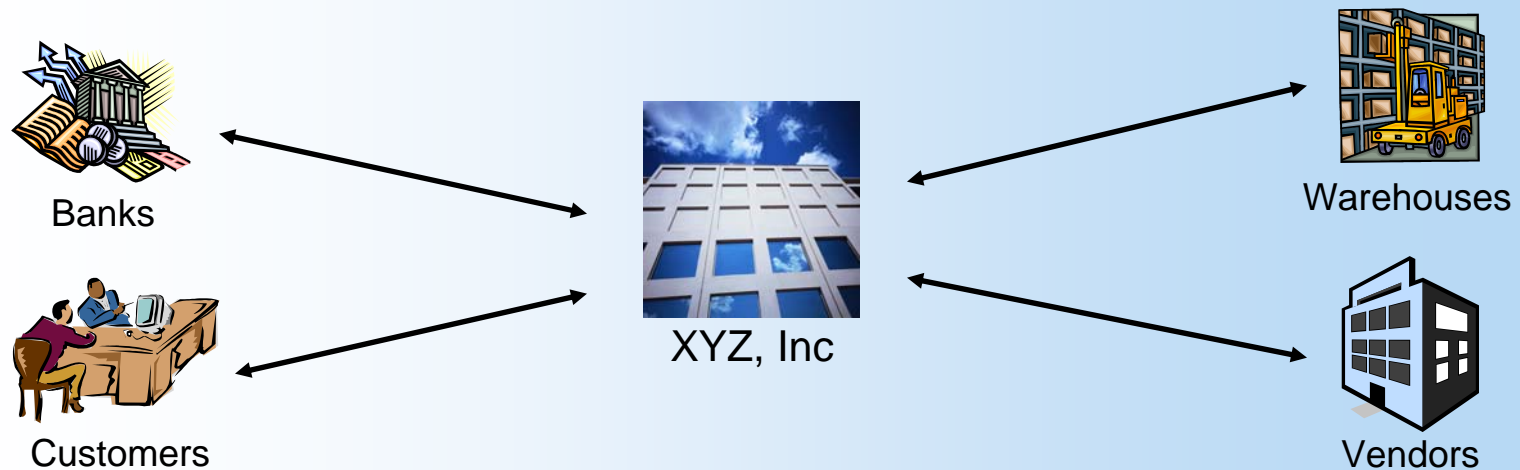


*... we establish and use (everyday) a Service-Oriented Architecture!*



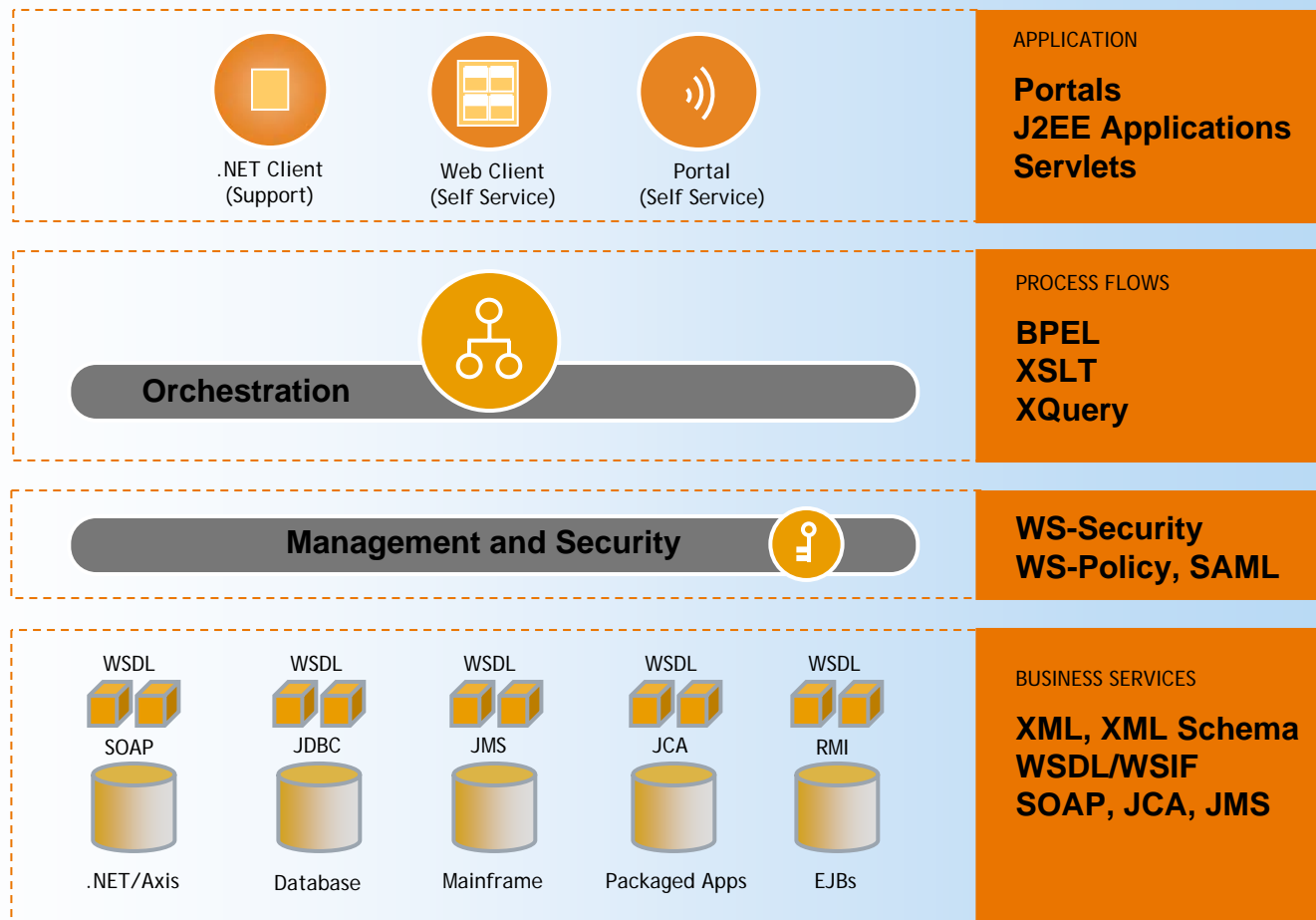
# Service-Oriented Architecture (SOA)

*Yet, why is it that most organizations today ...*



*... build their own bridges to interact between applications or with partners?*

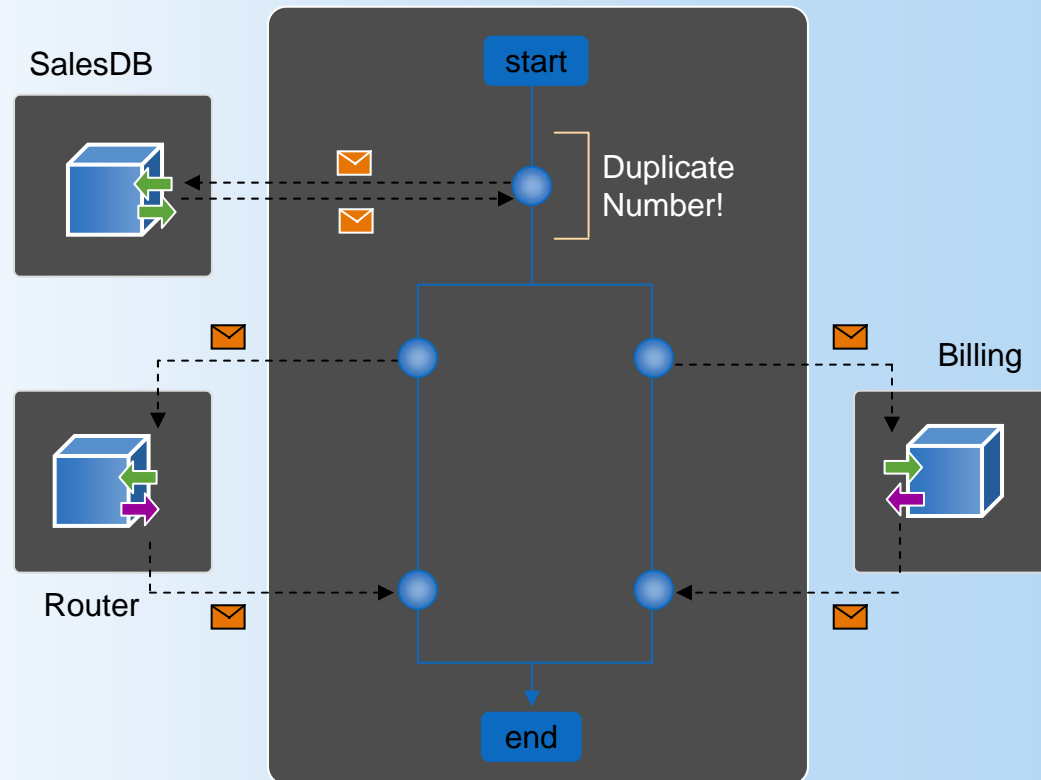
# Service-Oriented Architecture (SOA)



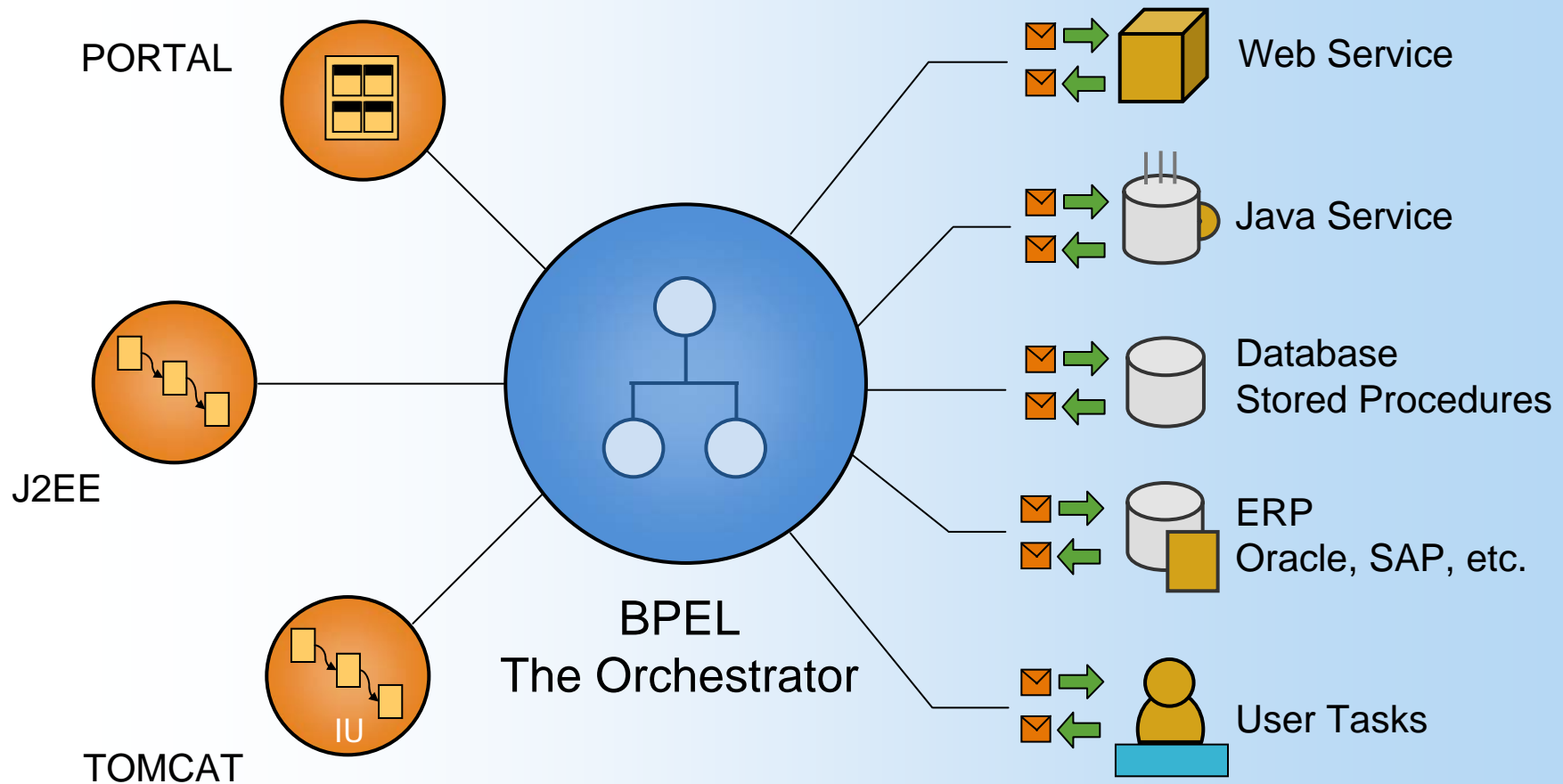
# What Is BPEL?

Business Process Execution Language: Markup language for composing a set of discrete services into an end-to-end process flow

- 10+ years of R&D from MSFT and IBM
- SOAP but also Java, JCA
- Rich Flow Semantics
- Optimized Bindings
- XPATH+XSLT+XQuery
- WS-Security
- A Process is a Service



# How Does BPEL Work?



## SOA – Characteristics

- **Reusability** – leverages existing business processes across the enterprise and external trading partners
- **Agility** – provides true business agility for rapid technology deployment
- **Interoperability** – provides framework that is platform or language agnostic
- **Visibility** – provides insight into available services and business processes
- **Manageability** – increases ability to monitor, secure, and manage services and business processes



*Unique and Innovative Technology Solutions*



## SOA – Benefits

- Lower cost, flexible architecture
- Complies with industry standards and long term future direction
- Loosely coupled solution that is vendor and platform agnostic
- Enables rapid business application development by reusing existing functionality
- Enables the process-oriented or services-oriented organization that is extremely agile and adaptable to change
- Leverage existing IT legacy investments with lower risk, incremental projects

## SOA – Key Considerations

- Services must be provisioned and accessed in a secure manner
- Services must comply with corporate and regulatory policies
- Services must be highly available and reliable
- Service consumers must be isolated from the changes to:
  - Service implementation and network topology
  - Security and management policy
- Services and policies must be discoverable via a registry to promote reuse
- Services must meet SLA, performance, and scalability goals
- Services must be monitored and managed to ensure quality of service



*Unique and Innovative Technology Solutions*



# BPEL Demo





*Unique and Innovative Technology Solutions*



## Next Steps

- Visit Oracle BPEL Home Page  
<http://www.oracle.com/technology/bpel>
- Download & try Oracle BPEL – it is FREE!
- Join Web Services Special Interest Group  
<http://wssig.oaug.org>
- SOA-enable your organization today!



*Unique and Innovative Technology Solutions*



Thank You!

# QUESTIONS & ANSWERS

Basheer Khan  
(949) 735-4025  
[bk@innwavetech.com](mailto:bk@innwavetech.com)