

**Bill Martorano**

Chief Architect - ELA

Hewlett-Packard

HP Services

August 2001

HP World

# Presentation Agenda

What is EIA?

What is EIA's Integration Broker?

Definition of "Business Process".

What is a Business Process  
Manager?

Case study: Integrating HP  
Process Manager (HPPM) with  
BEA eLink (Tuxedo).

## What is EIA?

"Enterprise Information Architecture"

Project to build internal infrastructure to support A2A (internal eAI) and framework for B2B services.

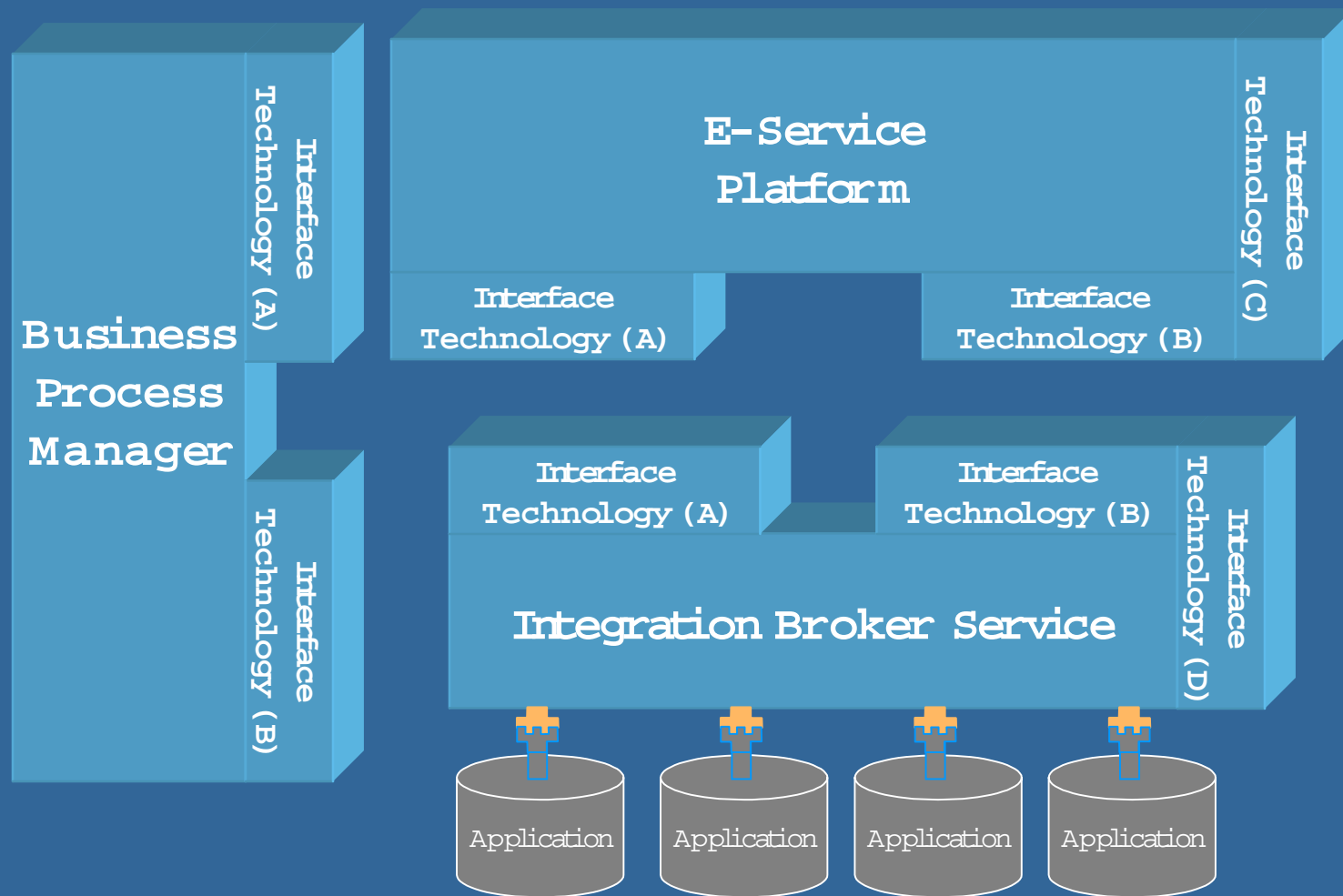
Major components are;

"Integration Broker"

"Business Process Manager"

"Application Server Platform"

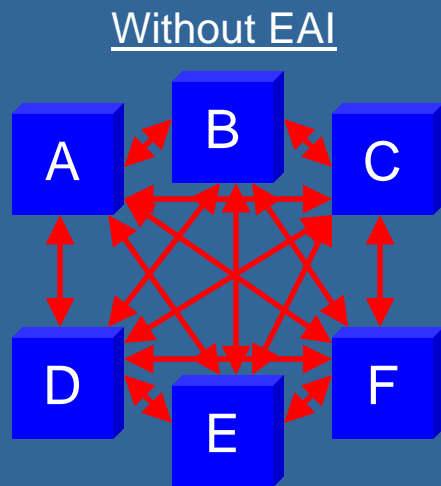
# EIA Architectural Framework



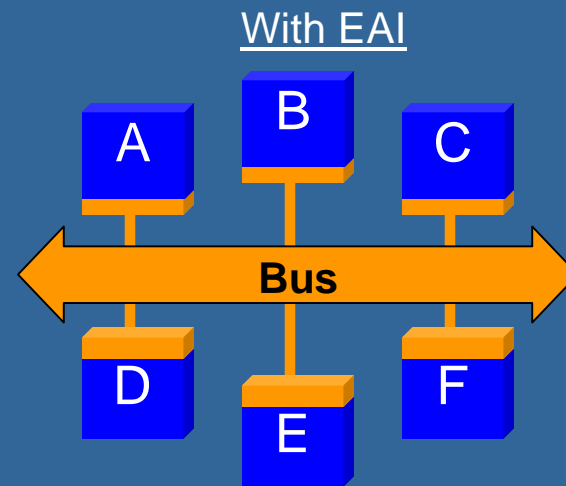
# Enterprise Application Integration (eAI)

- **Benefits:**

- One single, common integration platform (better manageability)
- As soon as a component is connected to the bus, it is directly accessible for any present and future other component.



N Applications  $\Rightarrow$   $N \cdot (N-1) / 2$  Connections



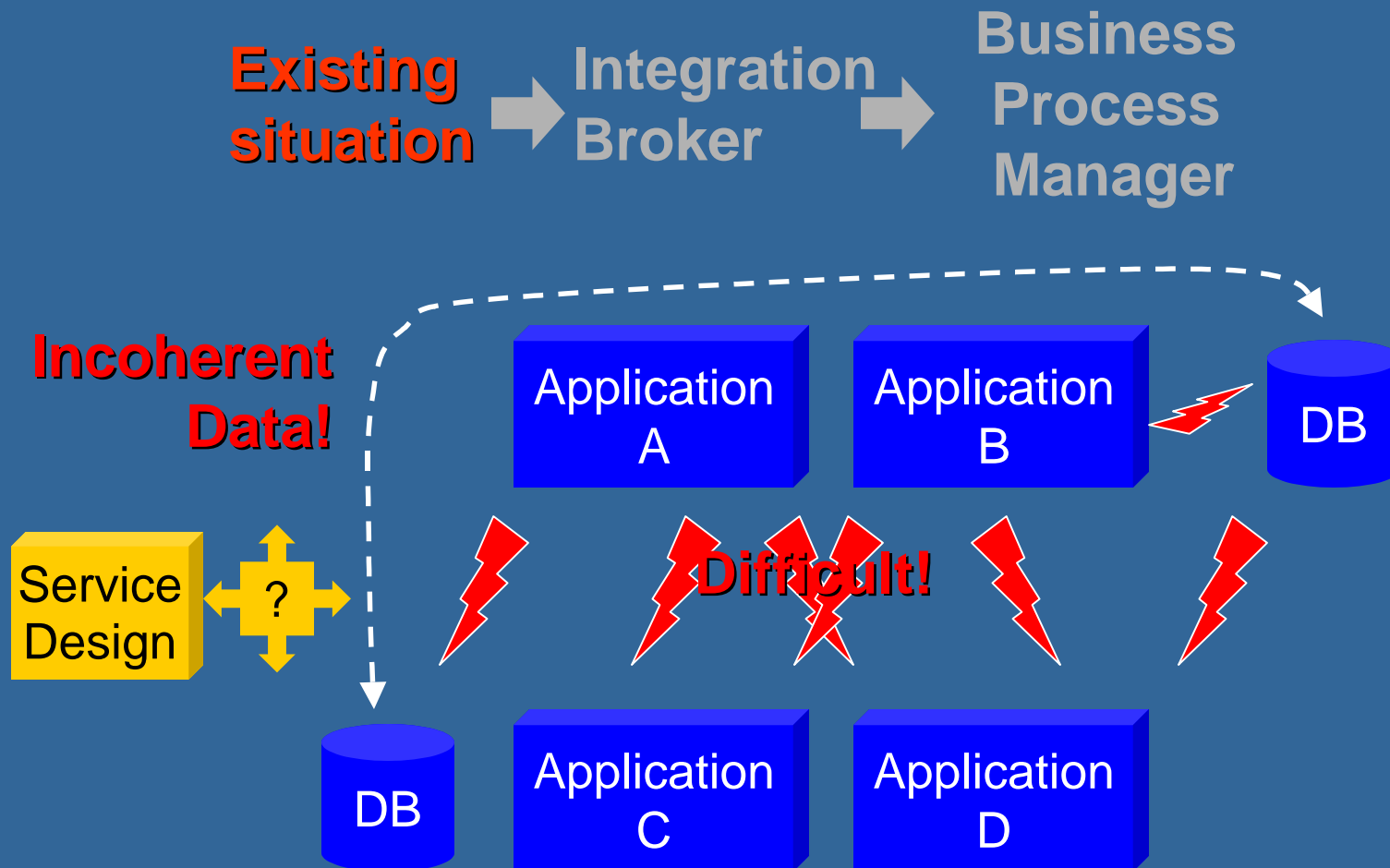
N Applications  $\Rightarrow$  Only N Connections

# Enterprise Application Integration

- **Benefits:**

- Control and monitoring of data flow (security, auditing, post-mortem analysis)
- Make physical network infrastructure transparent for applications
- Advanced data distribution schemes (eg. publish/subscribe)
- Guaranteed data delivery
- Allows development of new cross-application functionality
- Integrated applications can be easily replaced without affecting the whole infrastructure (adapters isolate the bus of the application specific interface).
- Provides an efficient back-office connectivity for eBusiness
- Reduced maintenance and development cost

# Technical case for an Integration Broker





## What is EIA's Integration Broker?

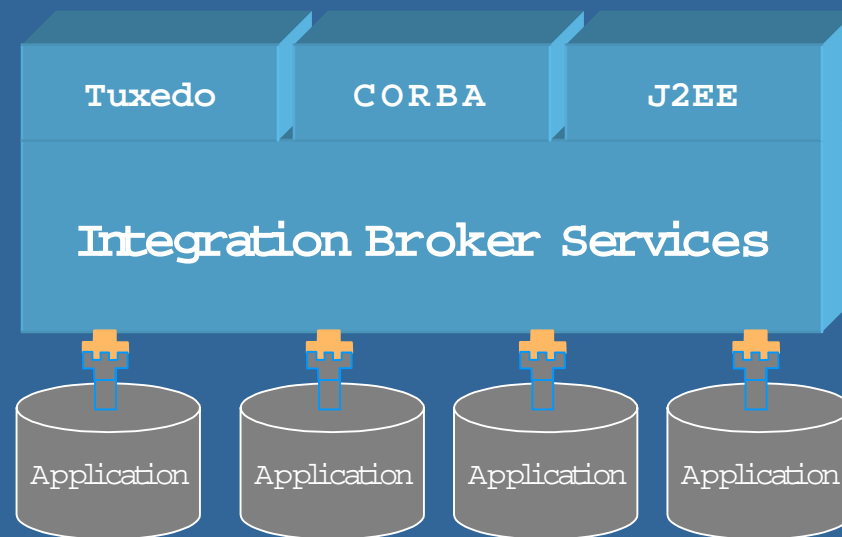
Software focused on enabling integration between multiple applications and services.

Asynchronous (loose-coupling) implementation accomplished by use of a Message-Oriented (MOM) Integration Broker technology.

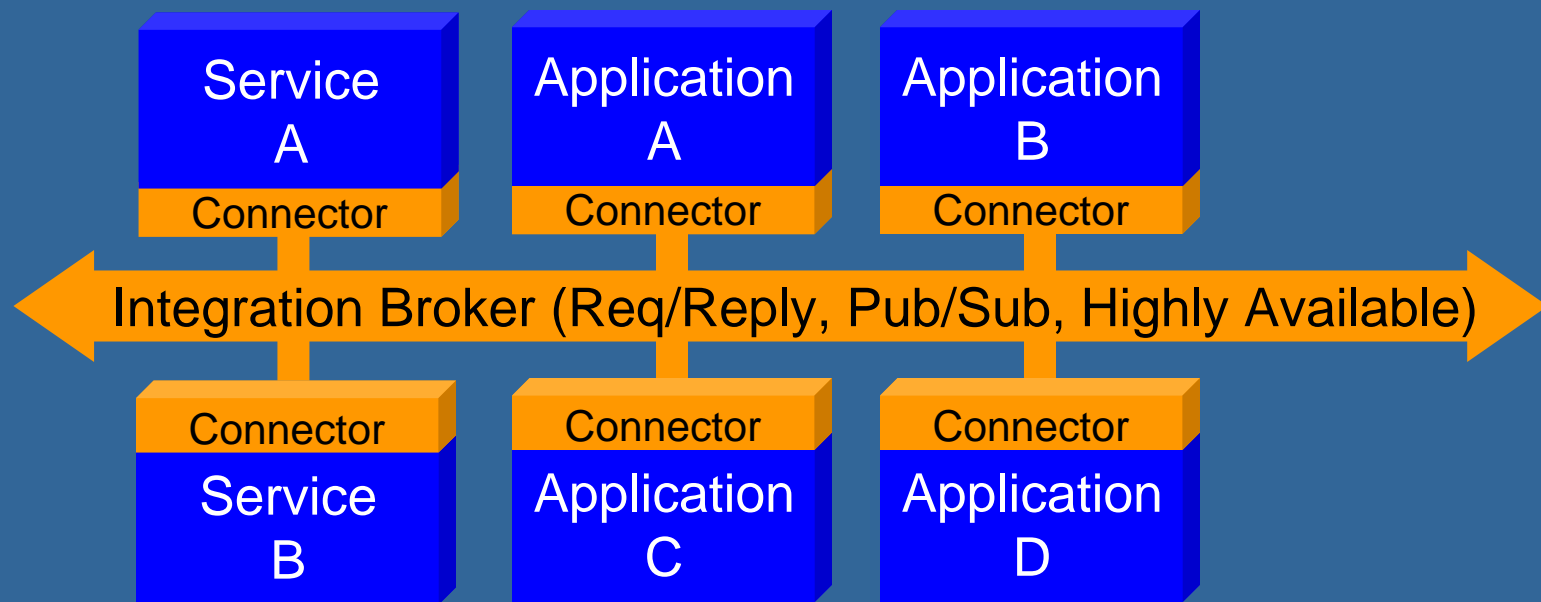
Synchronous (tight-coupling) implementation accomplished by use of CORBA technology.

Dedicated to enabling highly available environment.

# EIA Architectural Framework Integration Broker Component



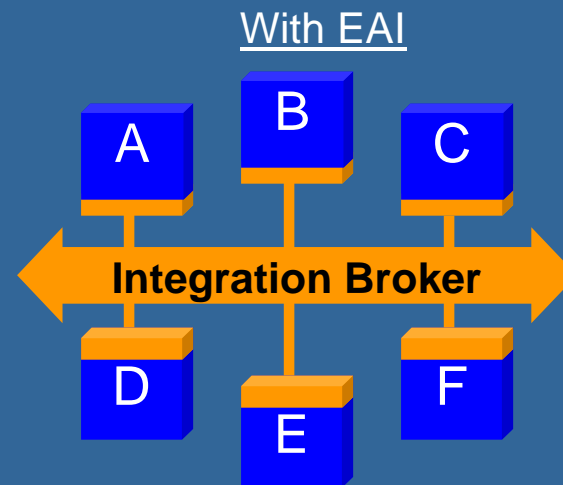
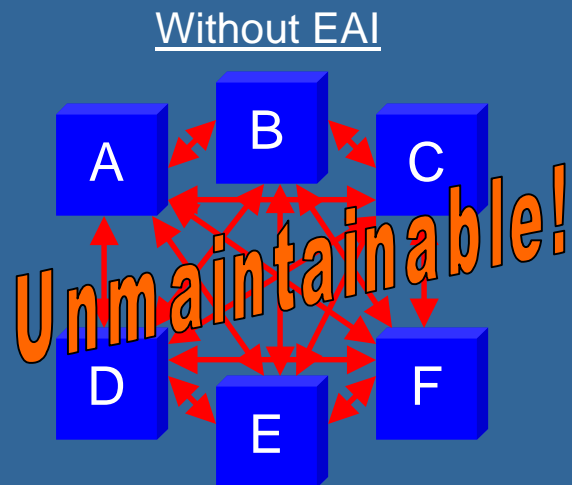
# The Role of the Integration Broker

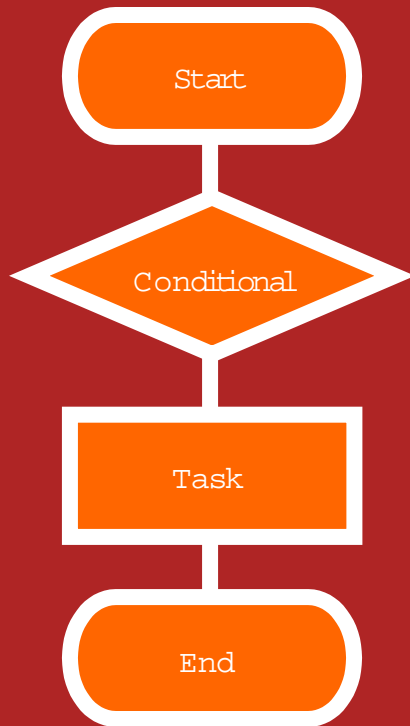


# Integration Broker

## Benefits

- One single, common integration platform (better manageability)
- Simplified, scalable inter-application communication channel:





process

## What is a Business Process?

- A series of task, that fulfill some functionality
- Each task is performed by a software application or person.
- Work is granular and atomic.
- Processes can be...
  - Bounded by the enterprise (A2A)
  - Across the internet (B2B)
  - Intersected with WebServices

# What is a Business Process Manager?

Software focused on defining and controlling workflow between multiple applications and/or services.

Maintains state of a process through the full end-to-end lifecycle.

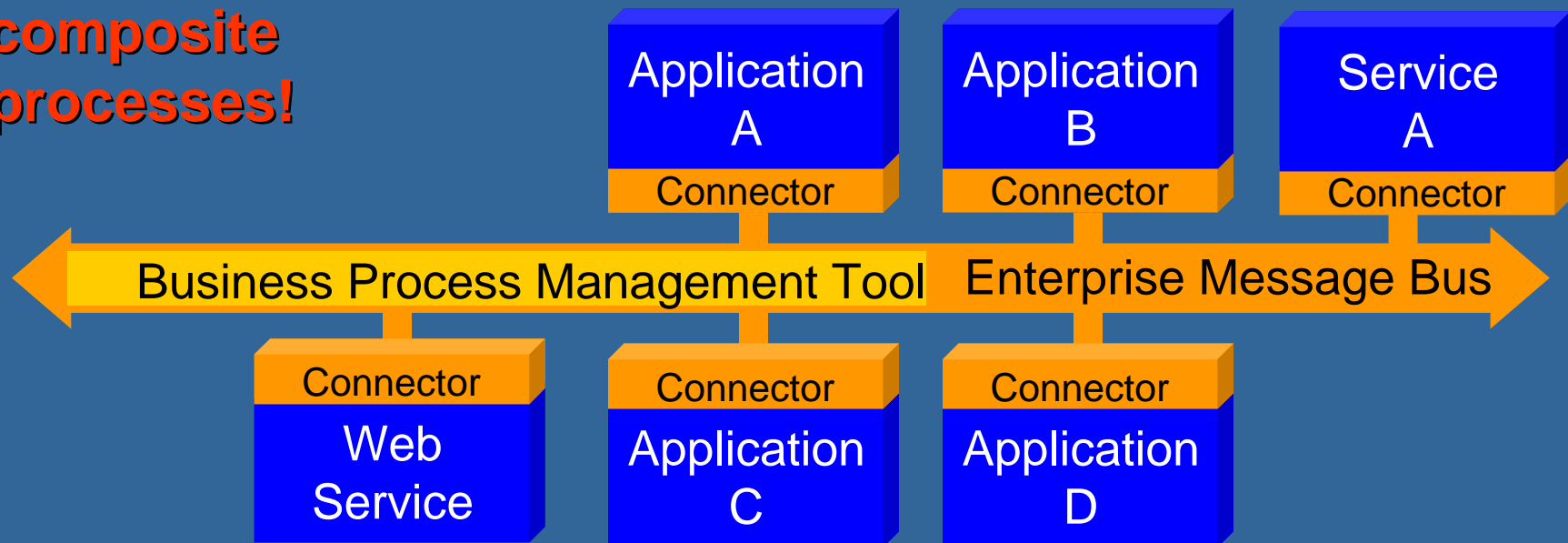
Platform for defining fail-over and error recovery mechanisms.

The "Guardian Angel" of application/service integration.

# Role of BPM and the Integration Broker

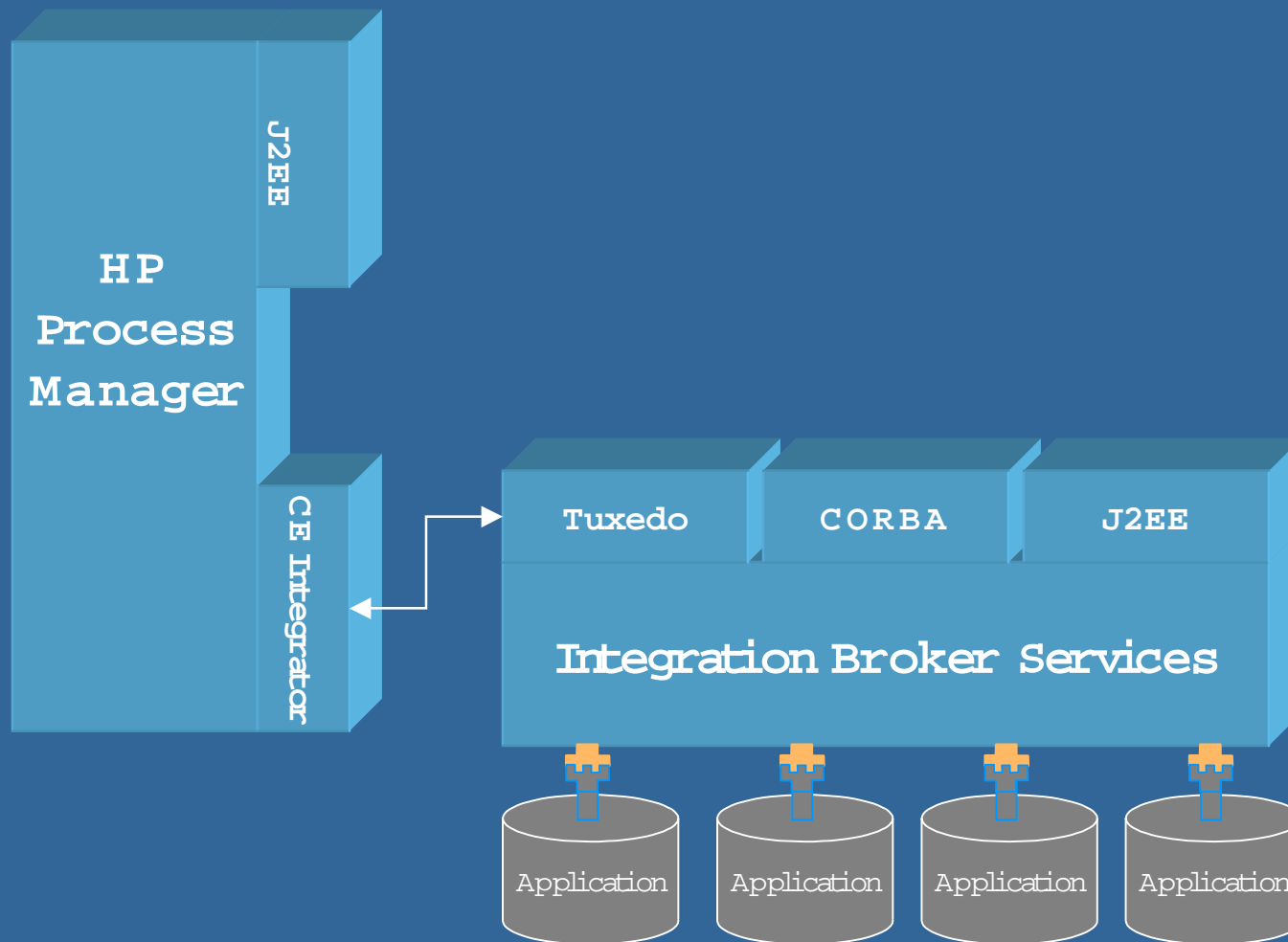


**Control of composite processes!**



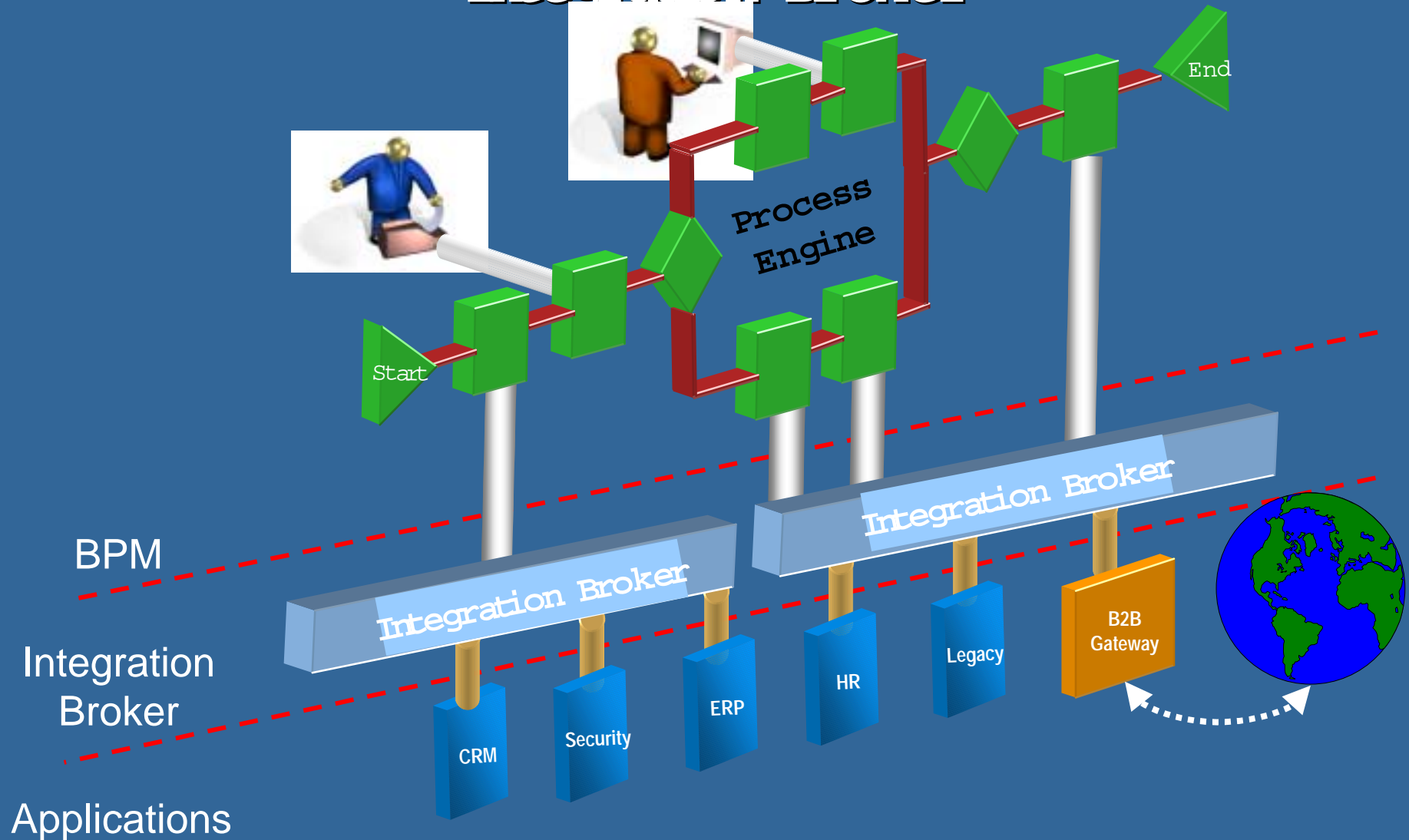
# EIA Architectural Framework

## Business Process Manager Component

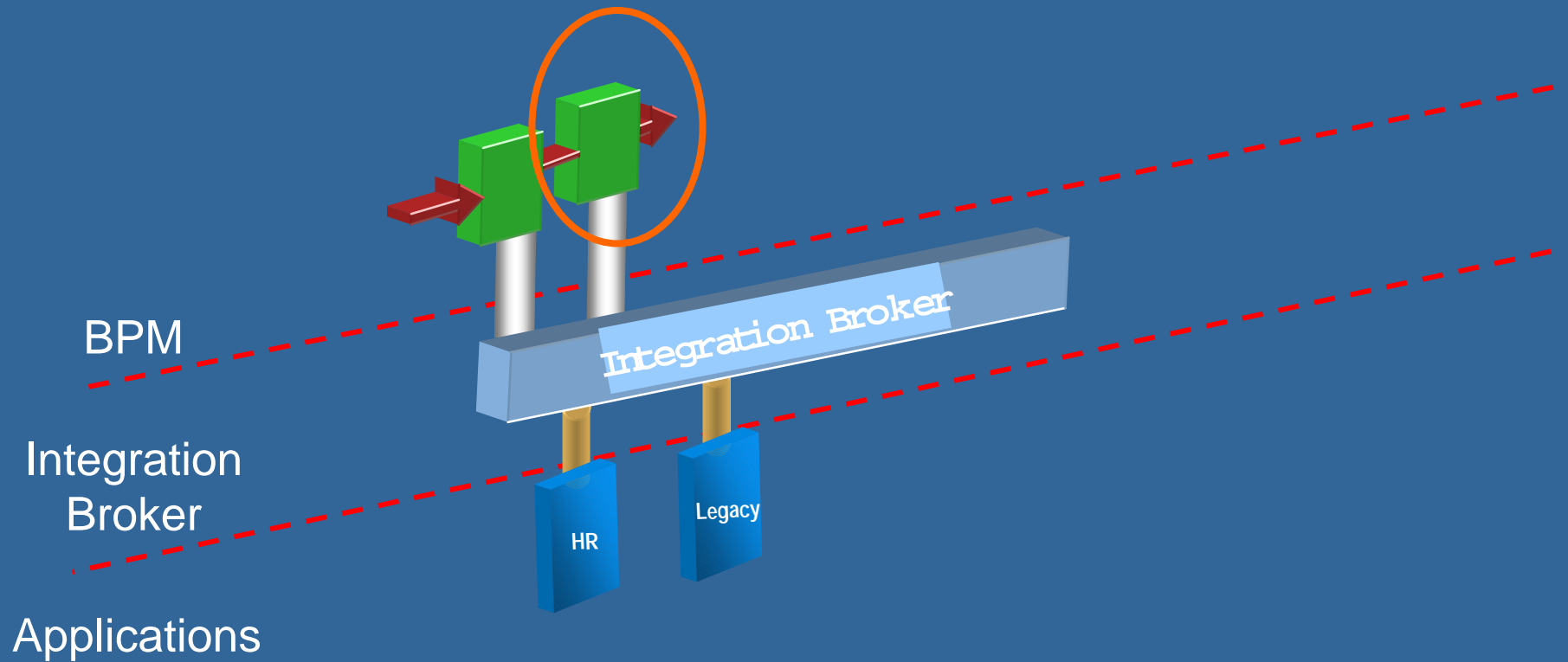




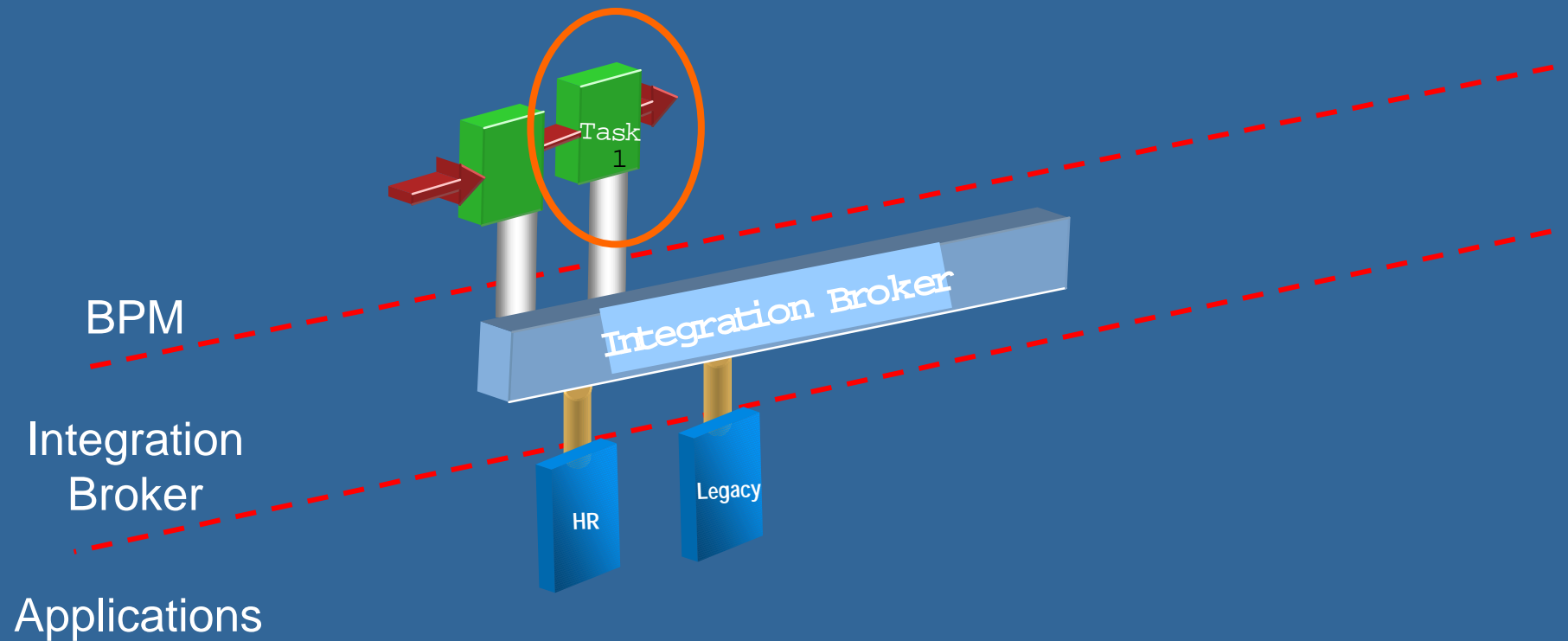
# Business Process intersection with the Integration Broker



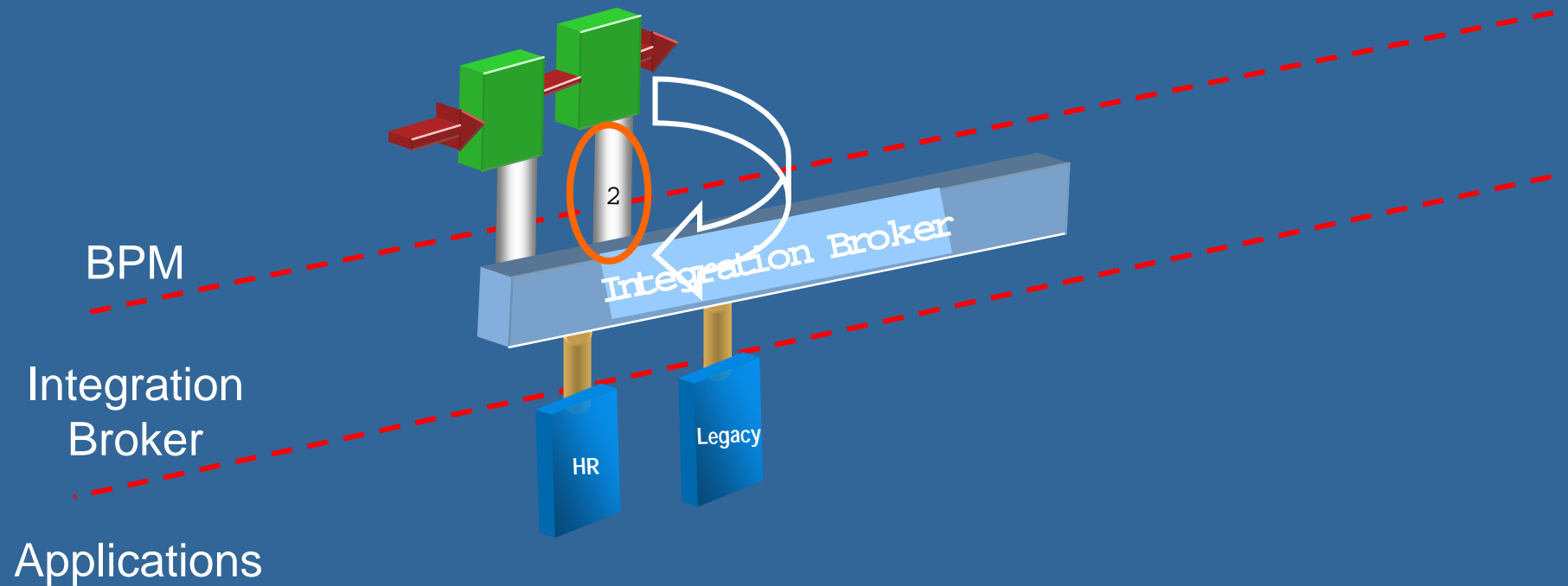
Lets examine execution of a particular task.



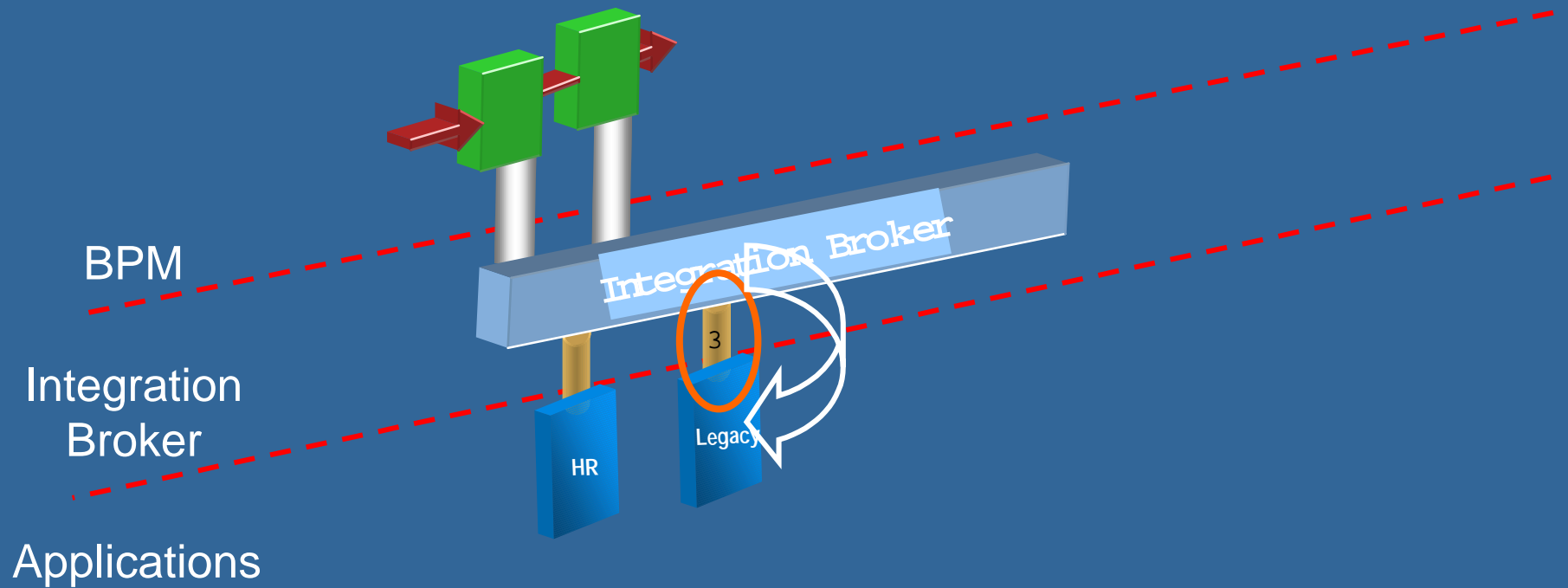
Step 1: Application Event occurs, Workflow engine triggers interaction with Legacy System.



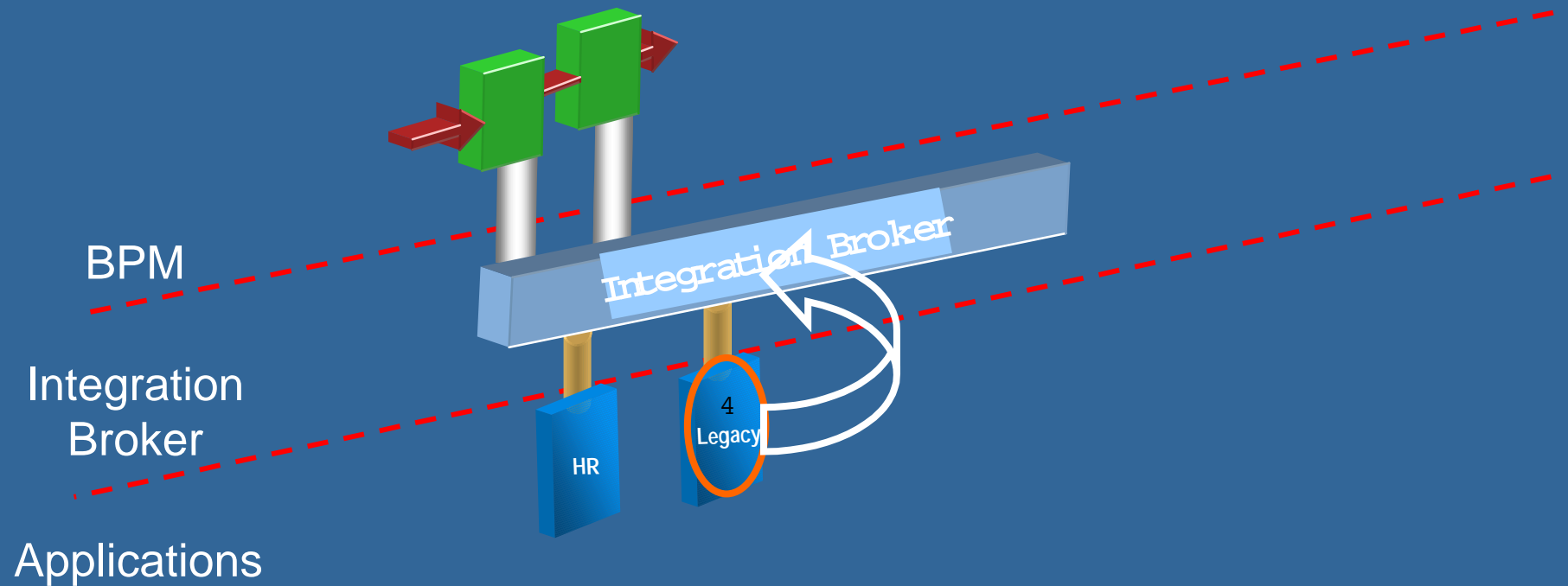
## Step 2: Workflow engine connects with Integration Broker.



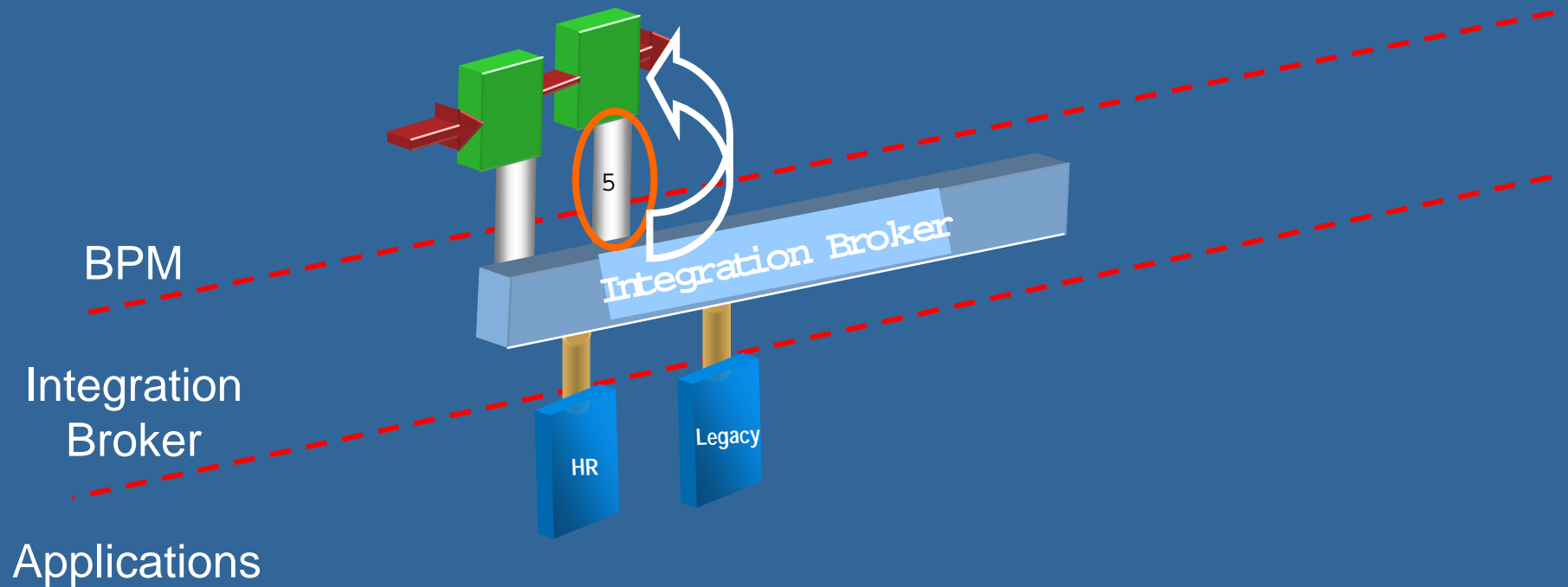
# Step 3: Integration Broker connects to legacy system.



Step 4: Legacy system performs task, returns results to Integration Broker.



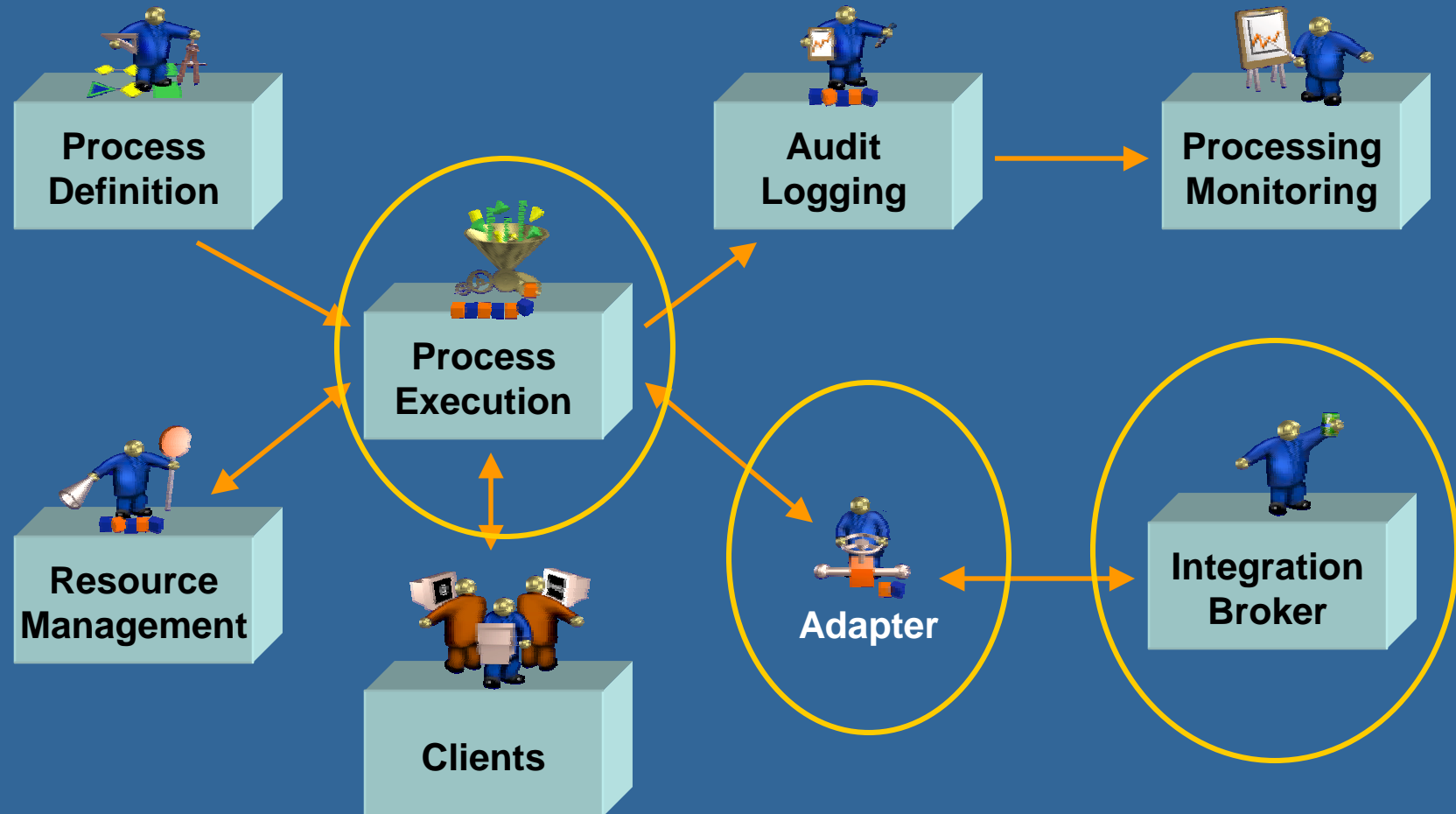
# Step 5: Integration Broker passes results (resources) to Workflow Engine.



Now, let's look at the internal design..



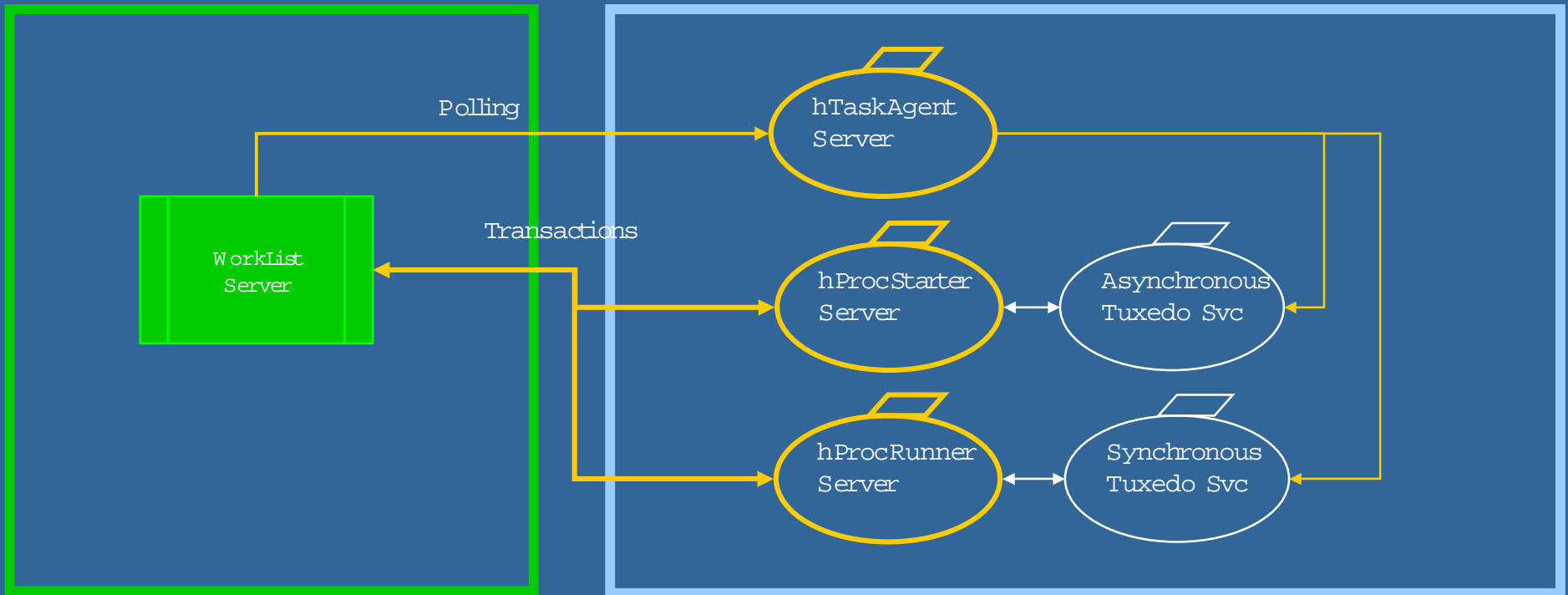
# HP Process Manager's View of the Integration Broker



# Business Process Manager / Integration Broker Adapter architecture

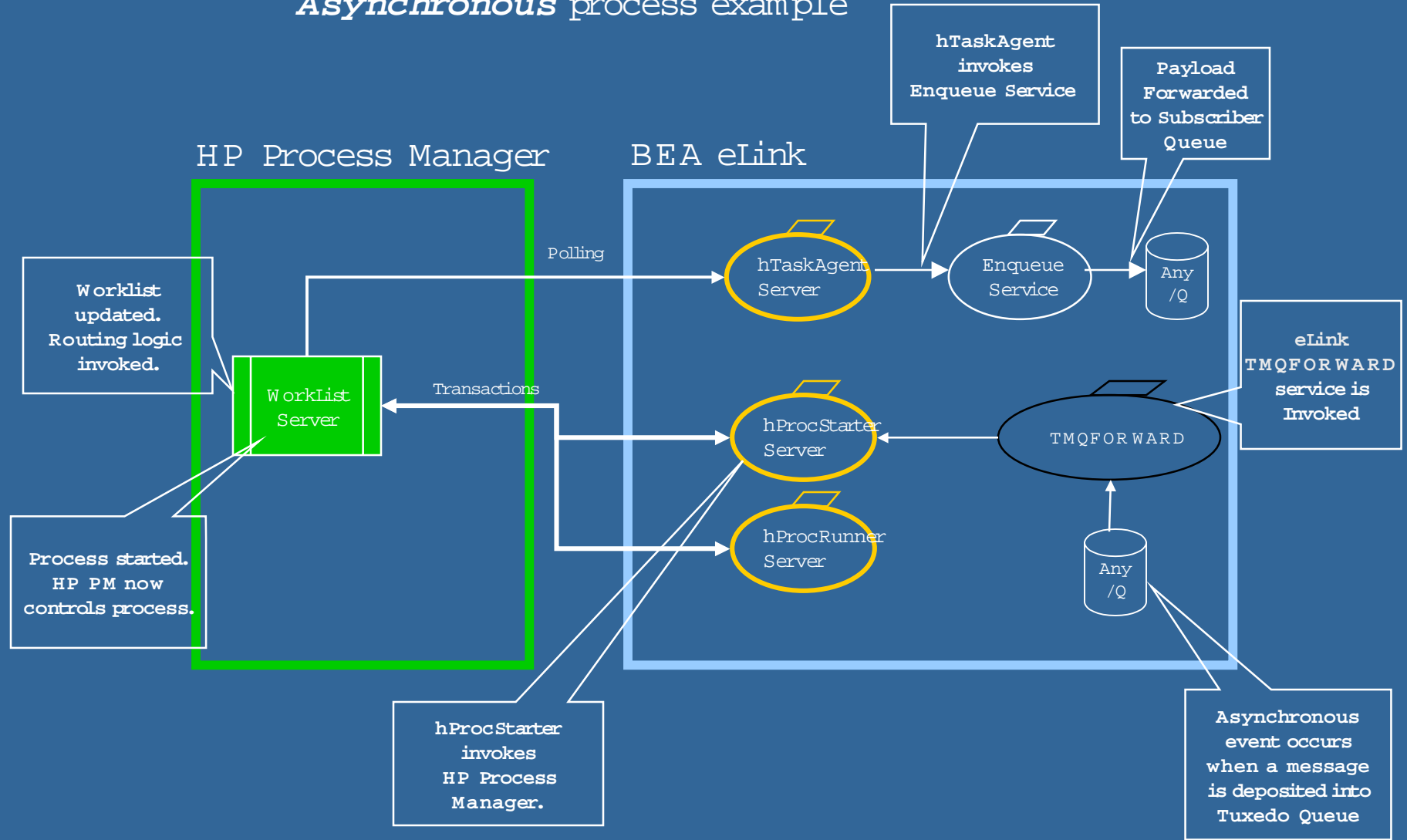
HP Process Manager

BEA eLink (Tuxedo)

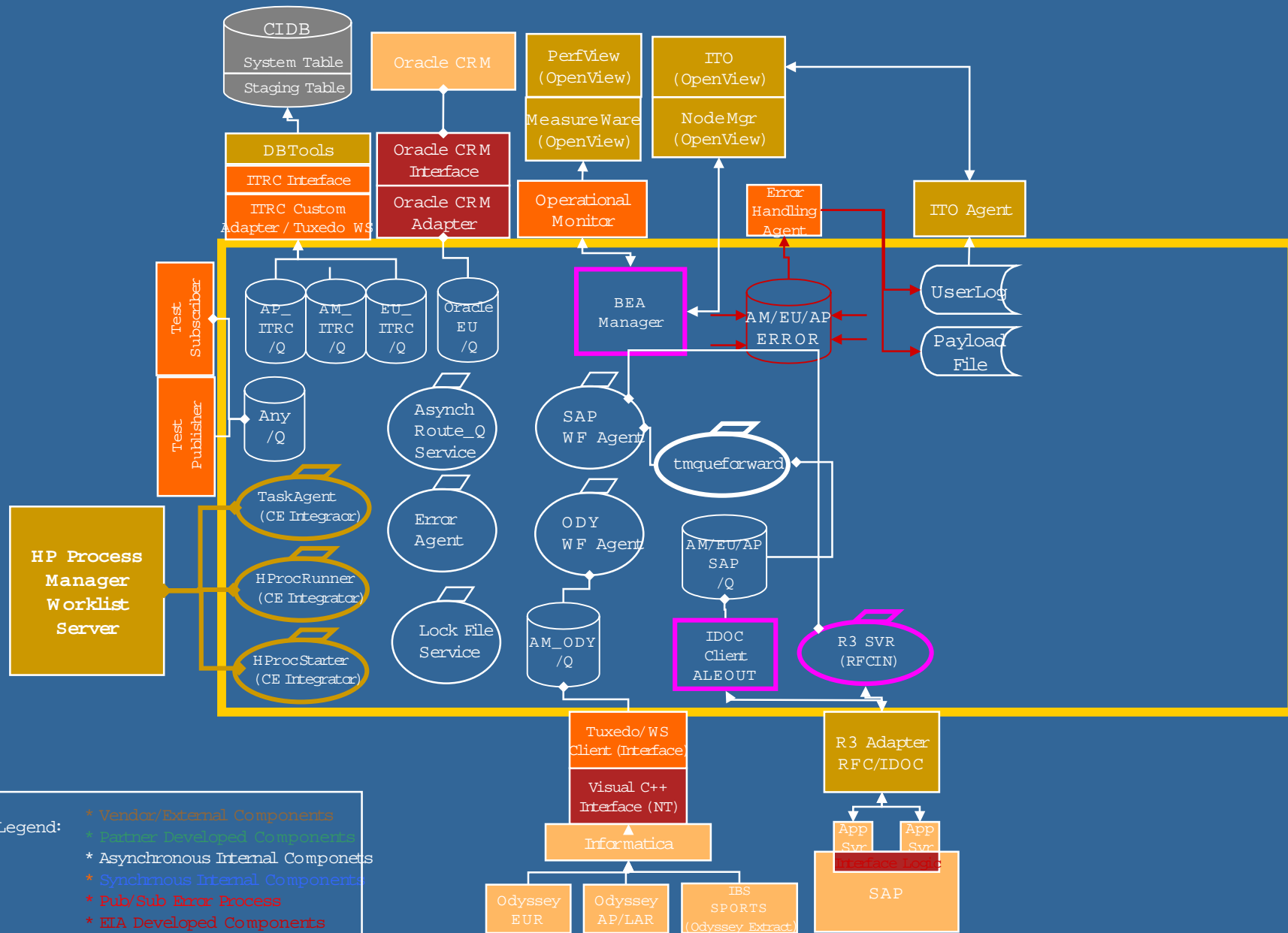


# HP Process Manager / Tuxedo Adapter

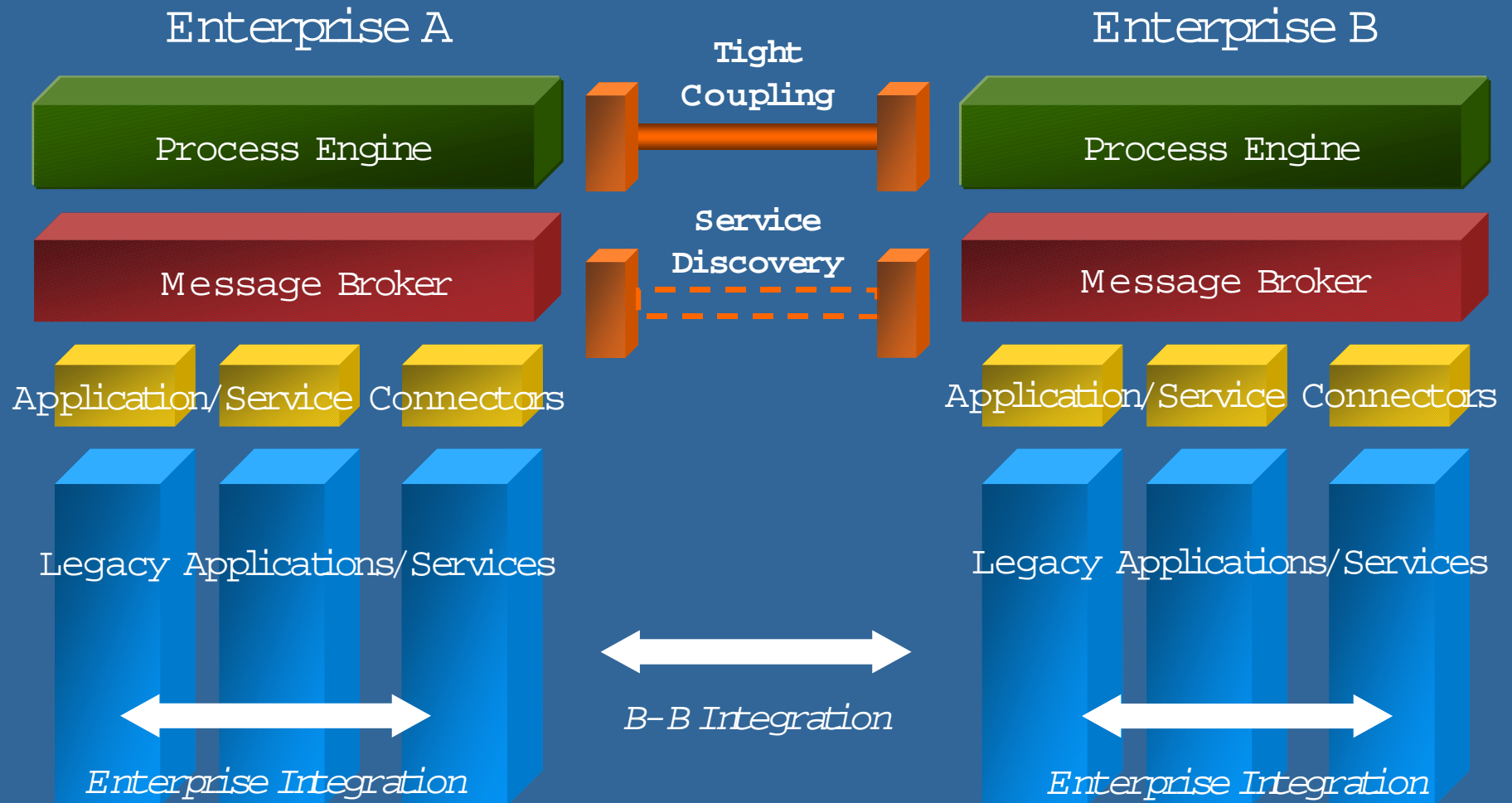
## *Asynchronous* process example



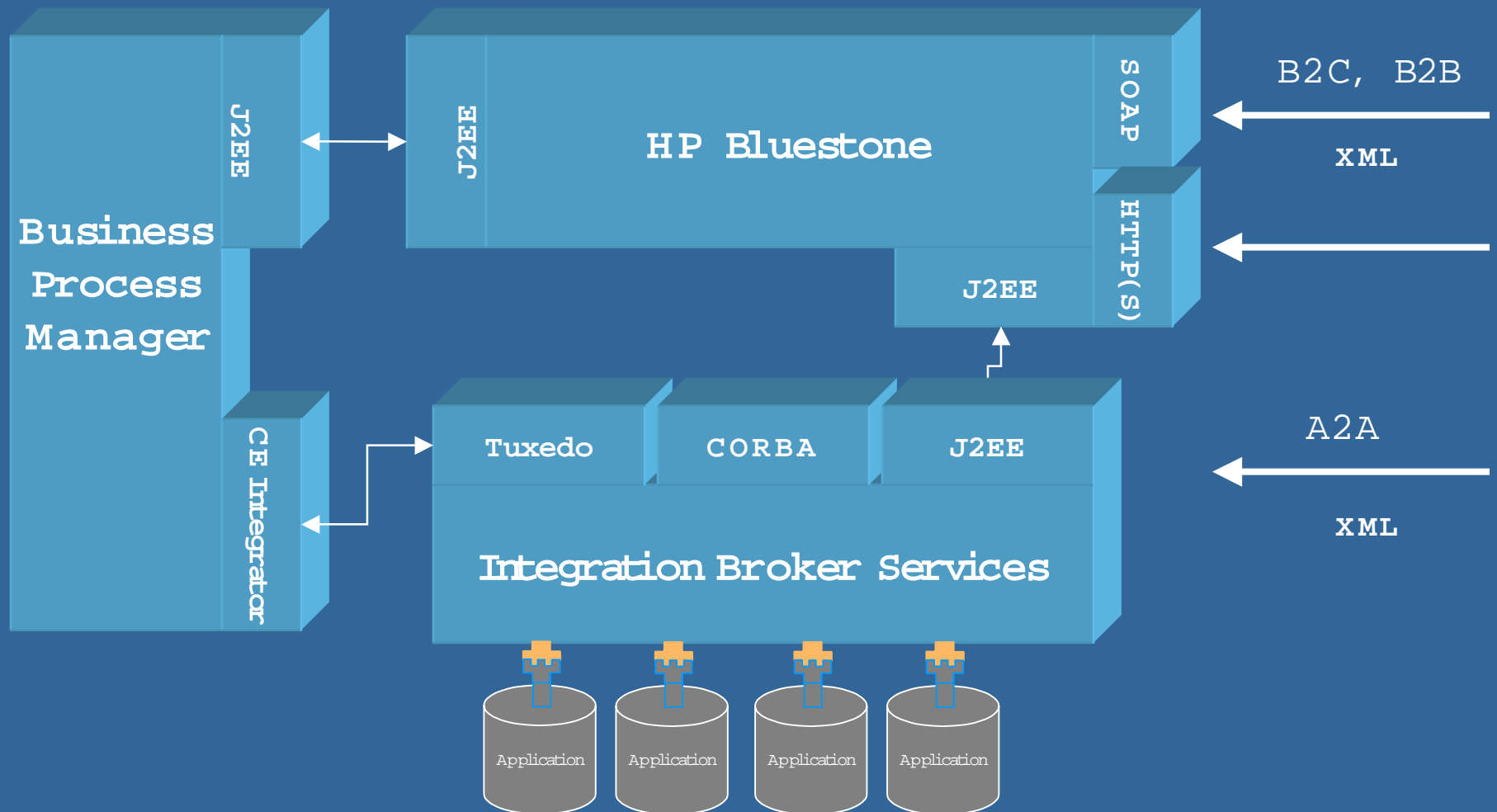
# EIA Wave #2 Asynchronous Architecture



The proper technical architecture will enable cross-enterprise and B2B business process integration.



# EIA Architectural Framework Implementation (Current-State)



## Case Study Conclusions?

Business Process Management  
CAN control workflow/routing  
within the Integration Broker!

Needs interface to the J2EE  
platform, to extend BPM control  
over B2B, eCommerce and Web  
Services.

Very useful "Guardian Angel"  
when implemented in a complex  
and/or stateful application  
environment.

