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SOA Symposium – cracking the tough SOA nuts ..  
 UI Mediation and transactions – service oriented

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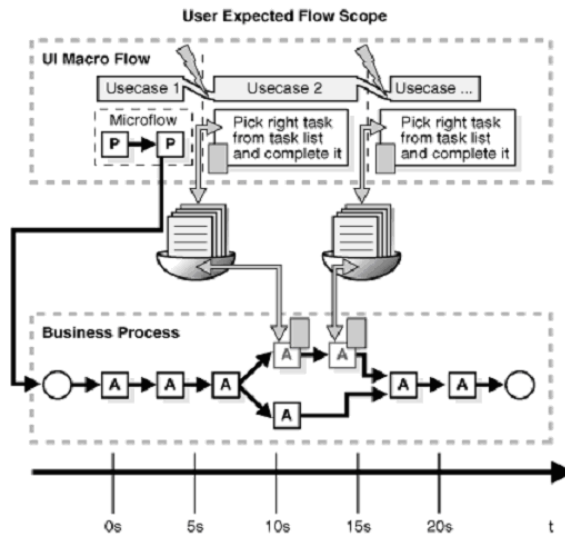
## The pain and problems with UIs in an SOA



## UI Mediation – motivation?

- Several micro-usecases (aka. Services) with Human Interactions are needed to complete a process – many many times (e.g. Journal entries)
- In pattern words:  
“In short running processes the user desires interactions in a comfortable, familiar way - close to a synchronous “request-reply” behavior. This is typically not natively supported in the context of an SOA based, asynchronous communication style”

## UI Mediation – the problem in a pict’e



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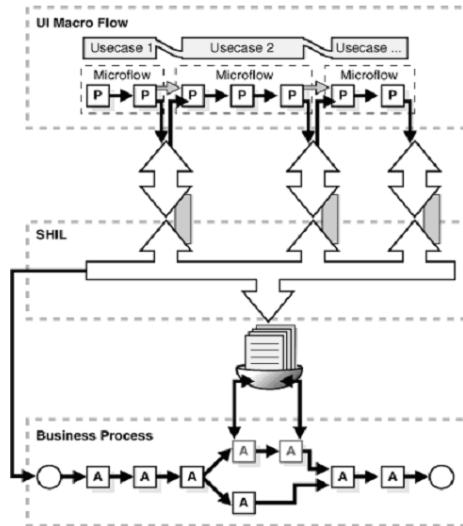
## UI Mediation - Solution

- Establish a Service Human Interaction Layer (SHIL) to emulate synchronous request-reply behavior for the end user.
- The participant is transparently “guided” through a set of human tasks (each representing its own micro-usecase)..

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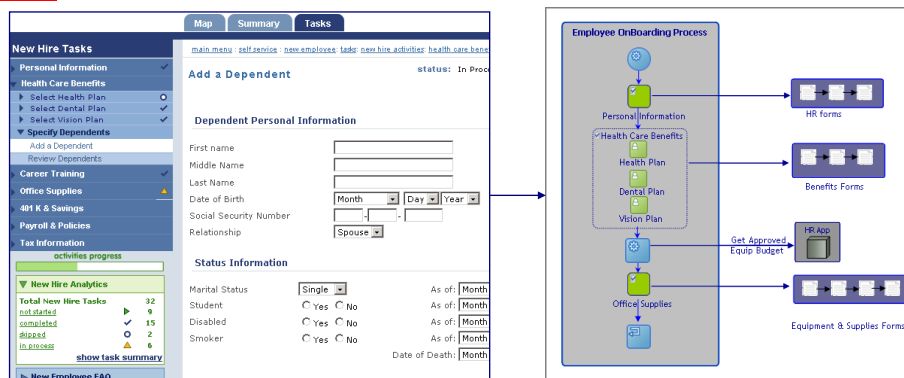
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## UI Mediation – the solution in a pict’e



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## The next gen’ – “Activity Guides”



- Business view of process milestones as it relates to the user interacting with the process
- Guided multi-session interactions with application. Activity Guide can be completed by one or more users
- Enable business users to compose activity guides using predefined activities

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## SOA & transactions: Loosely coupled?!



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## Transactions – the challenge

- “Whereas uncontrolled runtime exceptions can jeopardize a service composition, wrapping the composition in an atomic transaction can tie up too many resources, thereby negatively affecting performance due to the duration of the transaction”
- Relationships between services create dependency graphs
  - E.g. “Create an employee and update it later”
  - What to do if the latter fails?
- Biggest problem today?
  - Many SOA solutions have ties with legacy systems (e.g. DBs)
  - Triggers and “down the line” execution that is non reversible

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## Transactions – the solution

- Two options
  - Forward based compensation model (=> compensation)
  - Backward based compensation model (=> TX manager / 2PC)
- Forward based
  - Error occurs, implementor needs to create the “undo” logic
  - Benefits / Problems
    - Full control over what happens
    - Store state somewhere, but still might not be able to recover to previous state
- Backward based
  - Infrastructure locks resources during the transaction
  - Full “restore” of the previous state (aka. rollback)

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