



CCLRC

e-Business Integration Using Mobile Services for the Small to Medium Enterprise

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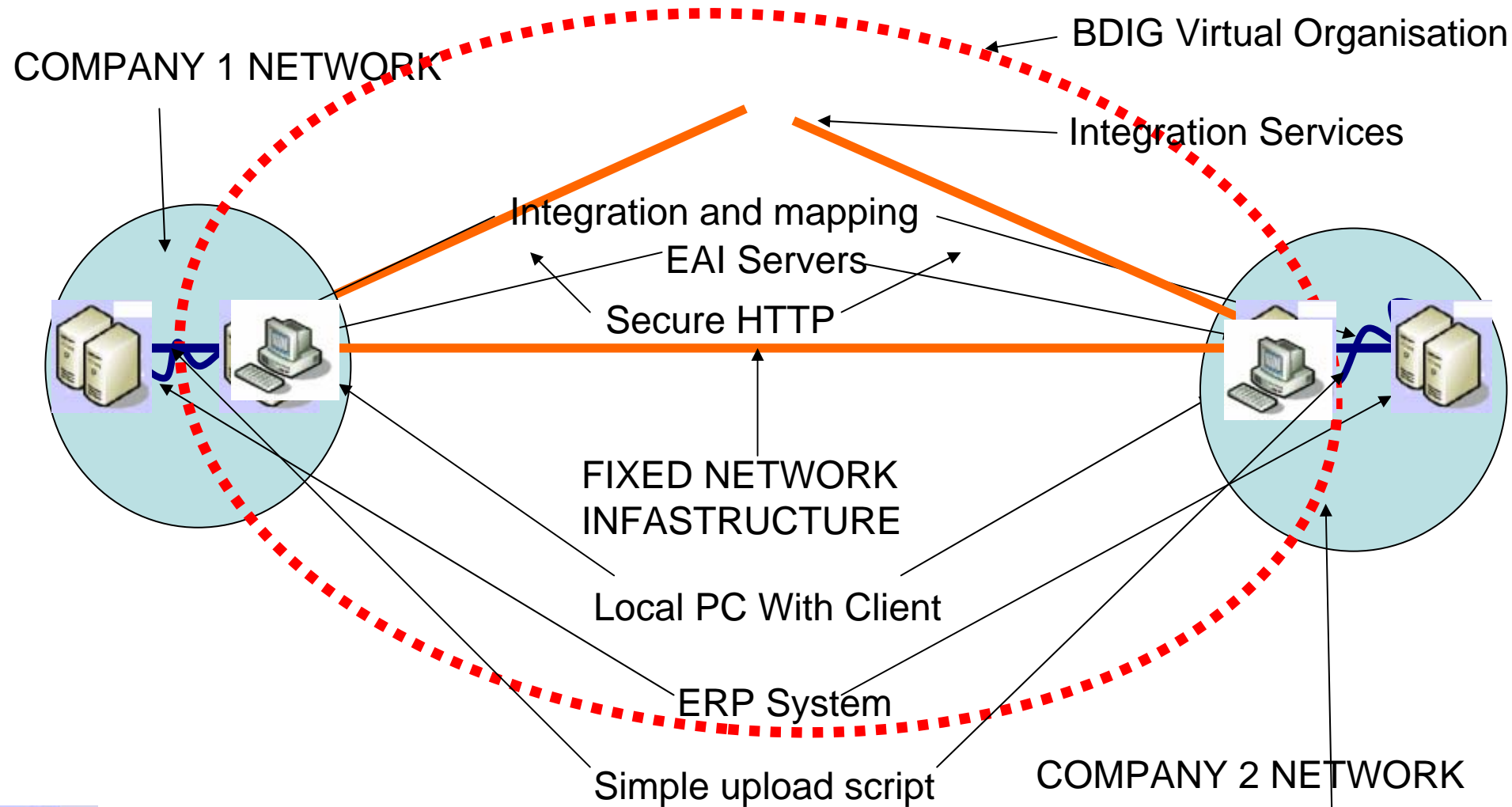
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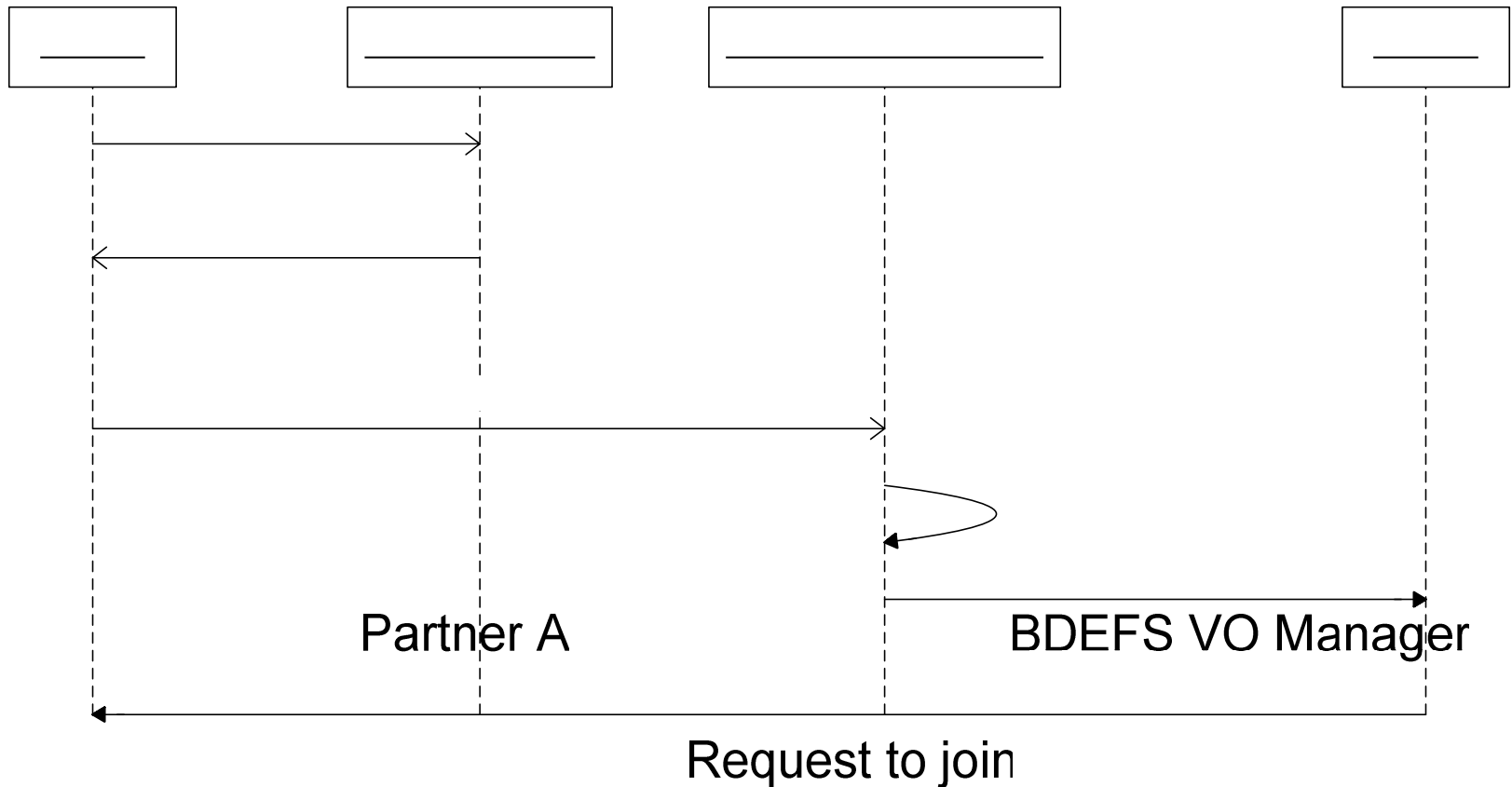
Integration and the SME

- In the UK, 65% of all electronic trade is conducted via automated E-Business technology,
 - this embraces only 2% of the UK's SMEs.
 - very few E-Business solutions that target the SME
 - because of their complex nature, few Enterprise Application Integration (EAI) systems target the SME.
- But this data integration and transaction automation is the key to e-business success.
- Introducing Mobile services brings new SME opportunities but introduces another level of complexity.
- The Business Data Integration Grid (BDIG) aims to offer an alternative Grid based ASP solution.

Traditional EAI evolving to ASP Grid EAI



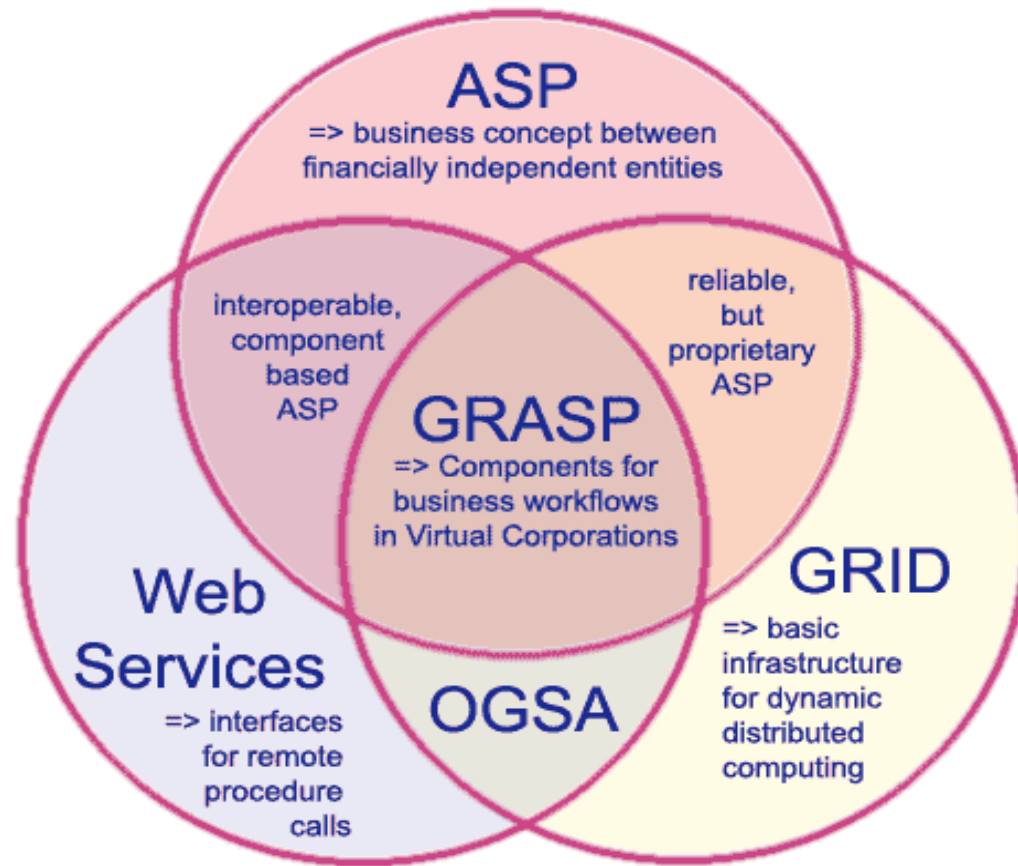
Simple Business Data Integration Grid Workflow



Business Benefits of the Business Data Integration Grid Approach

- Unlike traditional EDI ...
 - Alternative fee structures ... can pay per transaction
 - Simple to use, basic functionality for specific transaction
 - Require minimal consultancy to implement
 - upload scripts.
 - Require no large investment in IT network or hardware
 - no leased lines, just secure HTTP.
- By using Grid services the main bulk of this effort can be hosted off site and the data retrieved from a server.
- SMEs download clients download from portal
- Functionality based on standard business messages as defined in EBXML standard.

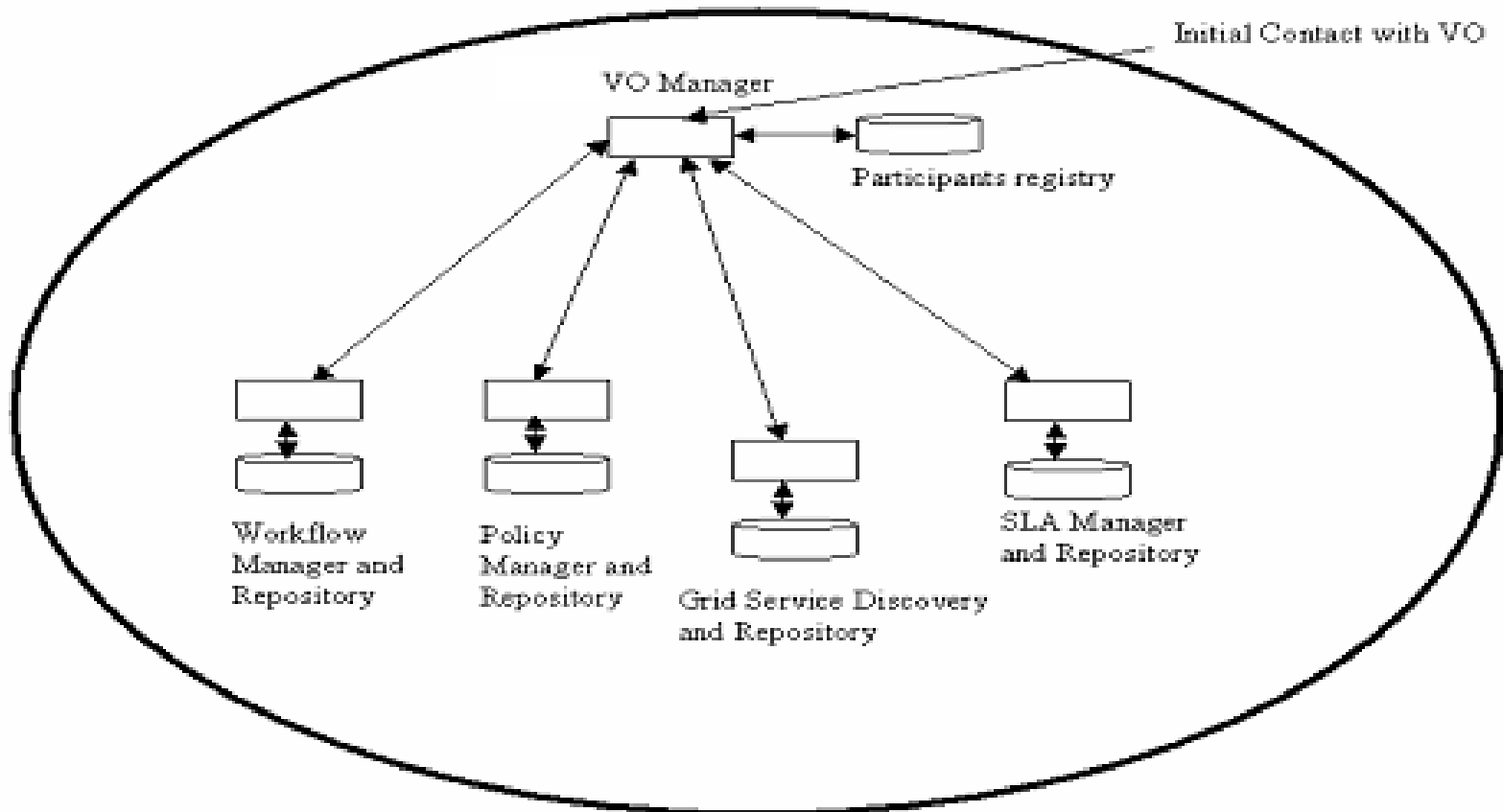
The ASP Grid



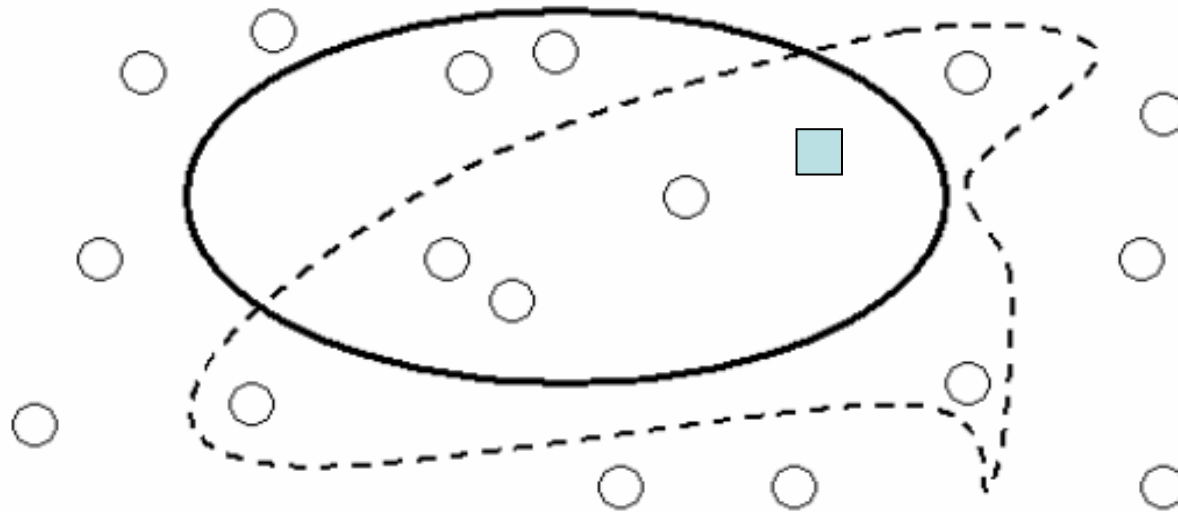
The ASP Grid

- The GRASP project: aims to explore a new advanced system infrastructure for Application Service Provision based on GRID technologies.
- Using distributed services presented in Dynamic Virtual Organisations – discover and build applications on-the-fly.
- Recursive, service providers can use GRASP to built their own services.
- This has increased the flexibility of the Grid concept and also the types of applications it can support.
- The Akogrimo and Business Data Integration Grid build on these concepts.

Base ASP Grid Components



Using Services in ASP Grid



- | | |
|-------|-----------------------------------|
| ○ | Service |
| ■ | VO manager |
| - - - | VO (collaborating services) |
| — | A Base VO (administrative domain) |

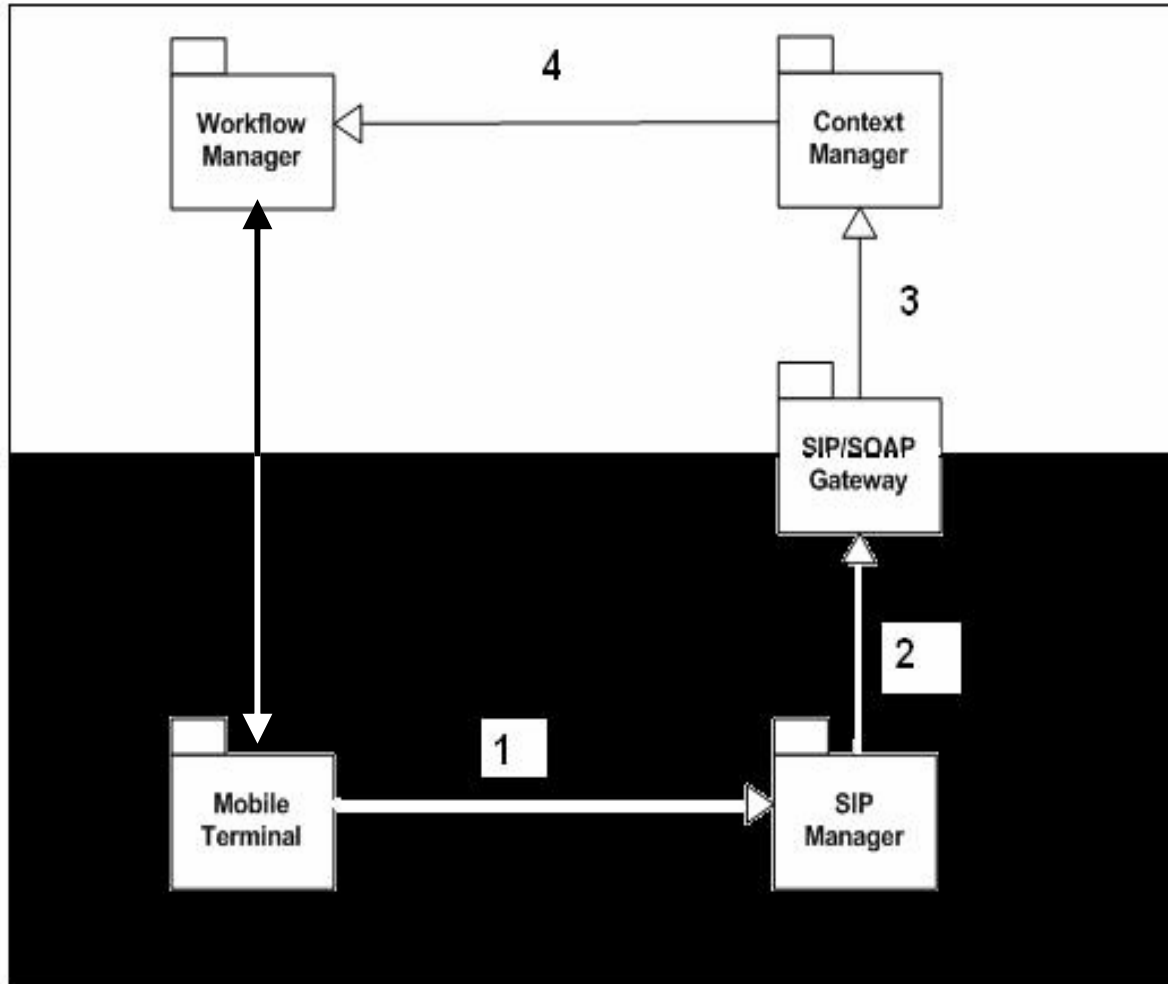
GRASP and BDIG

- GRASP targeted highly dynamic VOs built on-the-fly
 - key features are
 - Service discovery
 - SLA management
 - Billing&Accounting
- SMEs require much simpler infrastructure, especially at the SME end.
 - VO managed at the server end.
 - use BDIG framework to handle inter-service messages
 - service discovery will increase business opportunities

Mobile Services

- Mobile computing introduces devices like Smartphones, Laptops and vehicles into our computing infrastructures.
- Mobile Services residing on these devices present new types of information, eg context, voice calls.
- This extra data needs to be integrated and also managed in respect to the central needs of the business.
- This can be modelled in a Grid Service Infrastructure.
- Akogrimo: Access to knowledge through the Grid in a mobile world, aims to design a grid middleware prototype capable of supporting mobility.
- Akogrimo is working with an Emergency Response scenario, eLearning scenarios, ...

Managing Mobile Data



Akogrimo and BDIG

- Key services are the context manager and gateway services to present data from the network and services.
 - “service” could be a human expert on the phone
 - capture workforce context, including connectivity
 - workflow adapts to changing context
- Allows service SMEs, with small workforces, to participate in large scale projects
 - on-the-fly process adaptability probably less important, need to avoid the “commoditization of service” inherent in GRASP/Akogrimo

Future

- The Business Data Integration Grid is currently working with an industrial partner on a supply chain integration project.
 - less dynamic, less orchestrated than GRASP
- Akogrimo project is completing ER test bed and expanding into E-learning and E-Health.
- Next step is to add mobile services to BDIG
 - main issue is the mobile terminal infrastructure
- The future of the supply chain integration will involve mobile work force integration into the infrastructure using the services discussed here today.

Thanks for listening

Any Questions?