

Department of Electrical Engineering (DEE)

## A new MDI-SOA based framework for Intercloud Interoperability

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### Researchers

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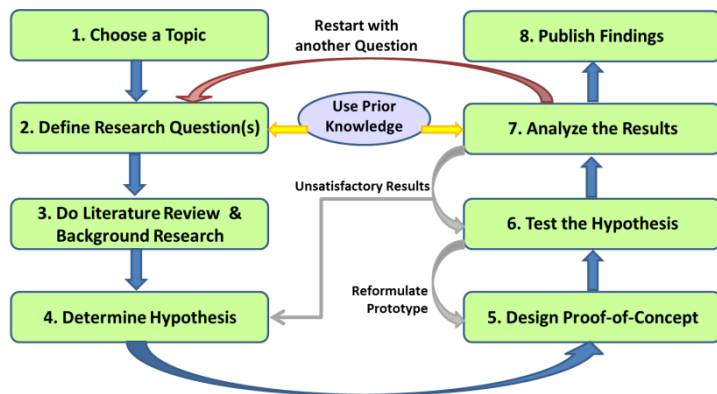
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### Objectives

- Compilation of State of the Art research in Intercloud Interoperability, Model Driven Architecture (MDA), Model driven Interoperability (MDI) and Service Oriented Architecture (SOA) research areas (Fig 1 to Fig 4)
- Developing a novel framework based on MDI and SOA approaches to improve “Intercloud Interoperability” and support simultaneous data processing and collaboration between interconnected clouds through this framework to provide better computing services for cloud customers and reduce scaling/producing cost within cloud vendors.
- Test and validate the applicability of the framework for various Cloud Computing companies.

### Methodology



Q1: Based on the OMG well-defined standards and Service Oriented Architecture (SOA) how can MDI-SOA based approach be integrated to Cloud Computing systems to improve Intercloud Interoperability?

### Expected Results

It is predicted in the near future expansion of cooperation between the different cloud computing providers is required. Exploiting the MDI-SOA framework for Interoperability among cloud computing vendors should be able to provide:

- Quality of Service (e.g scalability and better reliability, service availability and performance).
- Reduction of power consumption and labor costs due to delivering services from one location over another.
- Enabling inter-cloud resource sharing and providing cloud users the ability of using combined services from collected service providers.

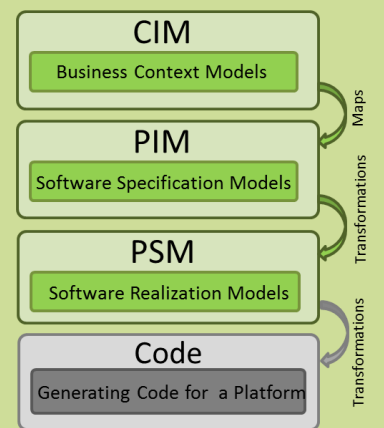


Fig1 - Model Driven Architectures levels.

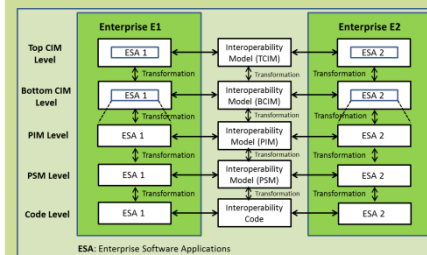


Fig 2 - Reference Model for MDI

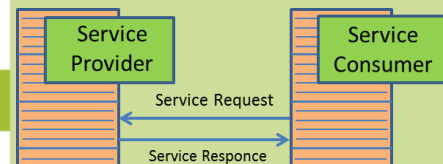


Fig 3 - A basic service-oriented architecture

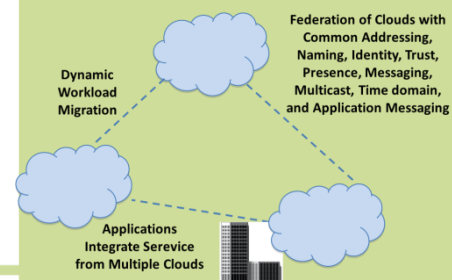


Fig 4 - Intercloud Vision