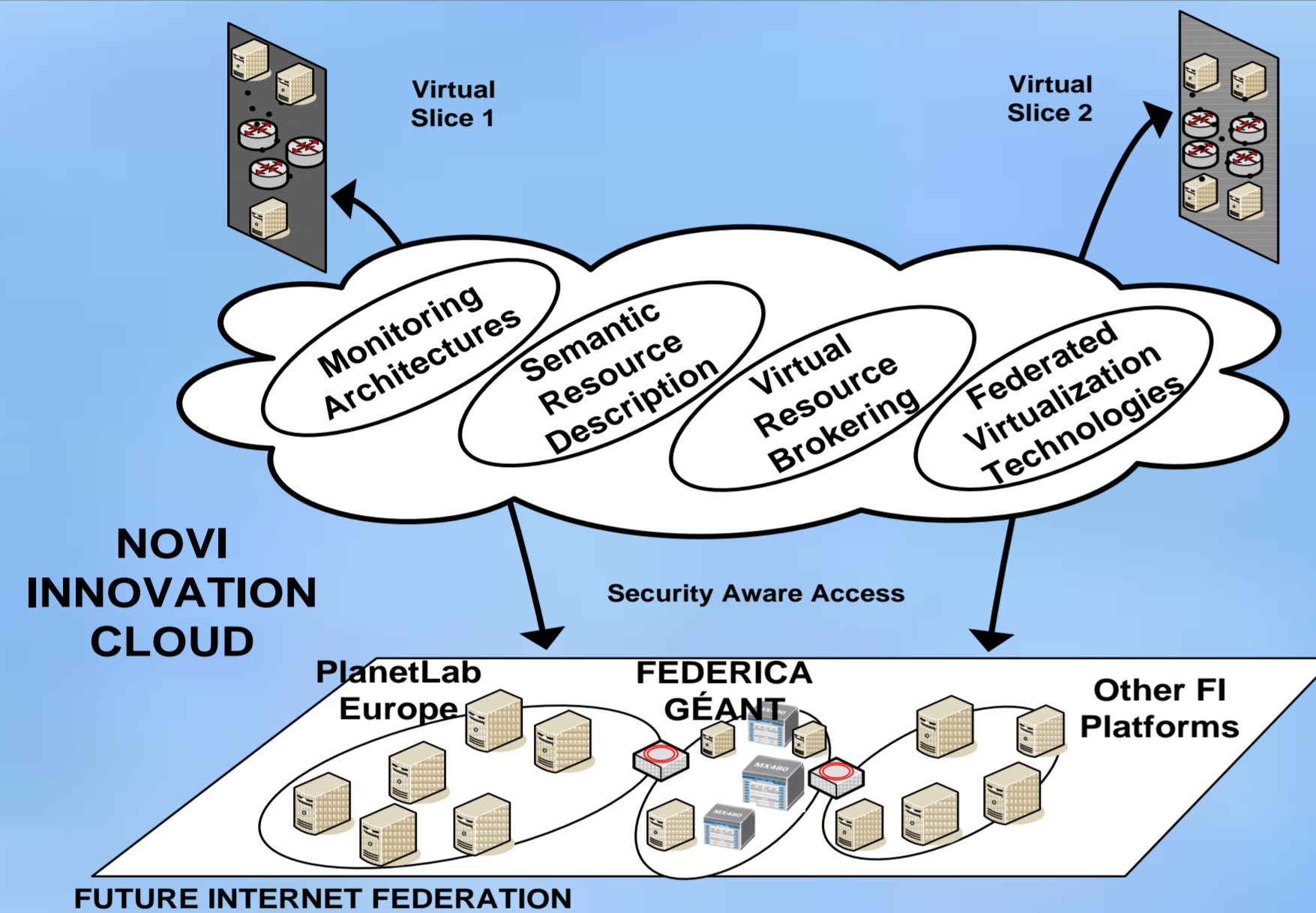


NOVI concentrates on methods, algorithms and information systems that will enable users to compose and manage isolated slices, baskets of virtual resources and services provided by diverse yet federated Future Internet (FI) platforms. Its research objectives can be classified within four closely related areas, visualized in the figure below as oval objects within the **NOVI Innovation Cloud**. Users are assigned slices consisting of virtual instances of networking and processing resources, drawn from a federated FI substrate.



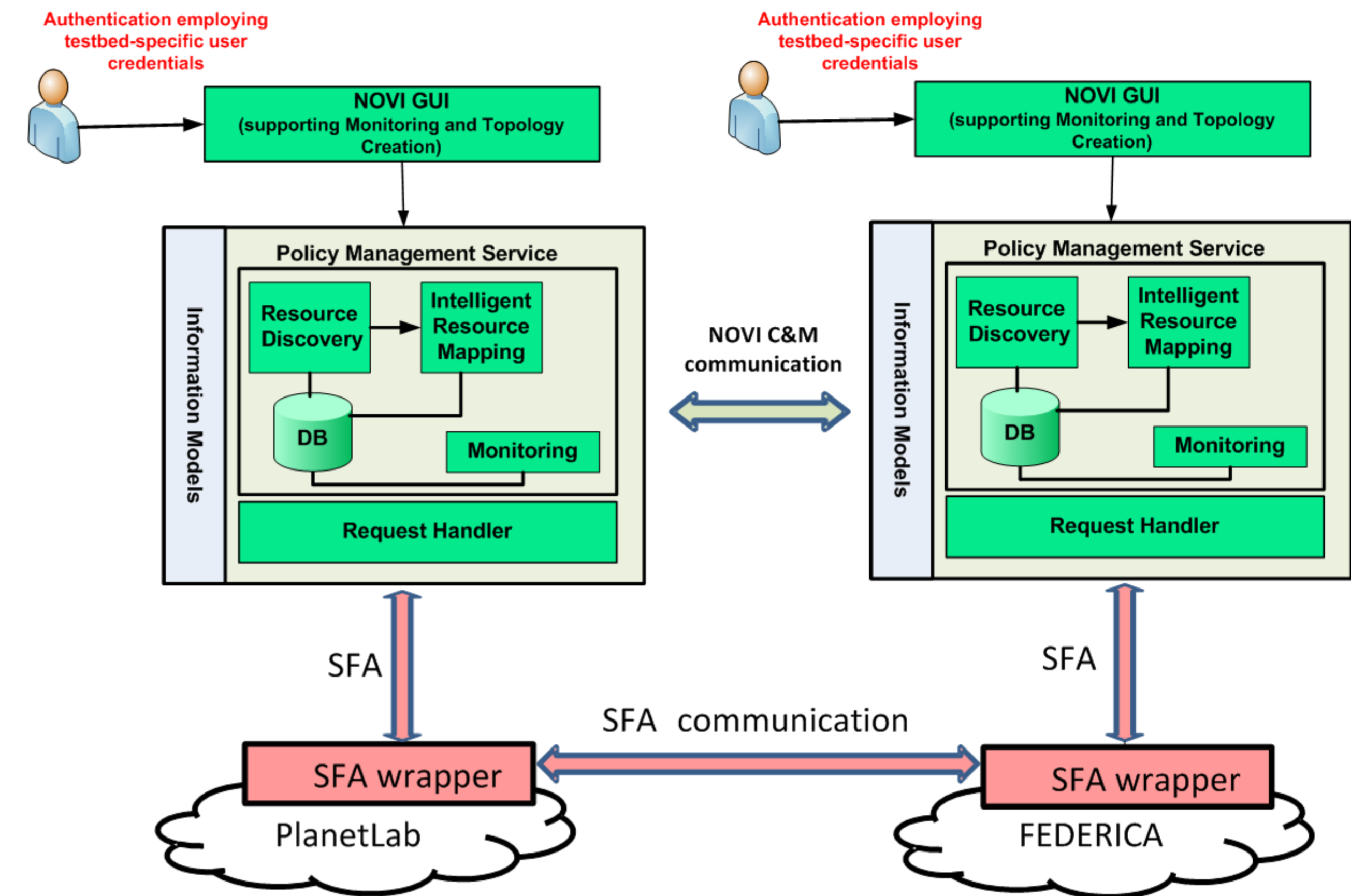
- ✓ The NOVI Information Model provides abstractions and semantics of federated virtualized resources, enabling ontology based tools and algorithms of the NOVI Innovation Cloud.
- ✓ A distributed software NSwitch (NOVI virtual switch) extends virtual connectivity of user slices across federated platforms.
- ✓ Control and management federation will be based on widely adopted architectures (initially the well established GENI SFA; other federation architectures, e.g. the PII Teagle will be considered as they mature).

NOVI is a project in the FIRE Initiative of 7th FP Grant Agreement No. : 257867

More Information at : <http://www.fp7-novi.eu>

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Architectural View



Each platform participating in the NOVI federation implements the following intelligent services:

- ✓ An *Intelligent Resource Mapping Service* that provides the functionality to support embedding user requests within the physical substrate.
- ✓ A *Discovery Service* able to efficiently find resources based on their context, i.e. “find a computer resource with CPU utilization less than 30% and RAM more than 2Gb, within the remote domain”.
- ✓ A *Monitoring Service* enables NOVI users and administrators to retrieve temporal information behaviour of resources of the network substrate via active network measurements.
- ✓ A *Policy Management Service* that governs the intra and the inter domain behavior within or amongst member domains of the NOVI federation.
- ✓ A *Database Service* storing the objects representing entities defined within NOVI Information Model.
- ✓ A *Request Handler Service* delivers requests of services and resources appropriately formatted to NOVI Service Layer.