



Towards a Reference Architecture for IBN

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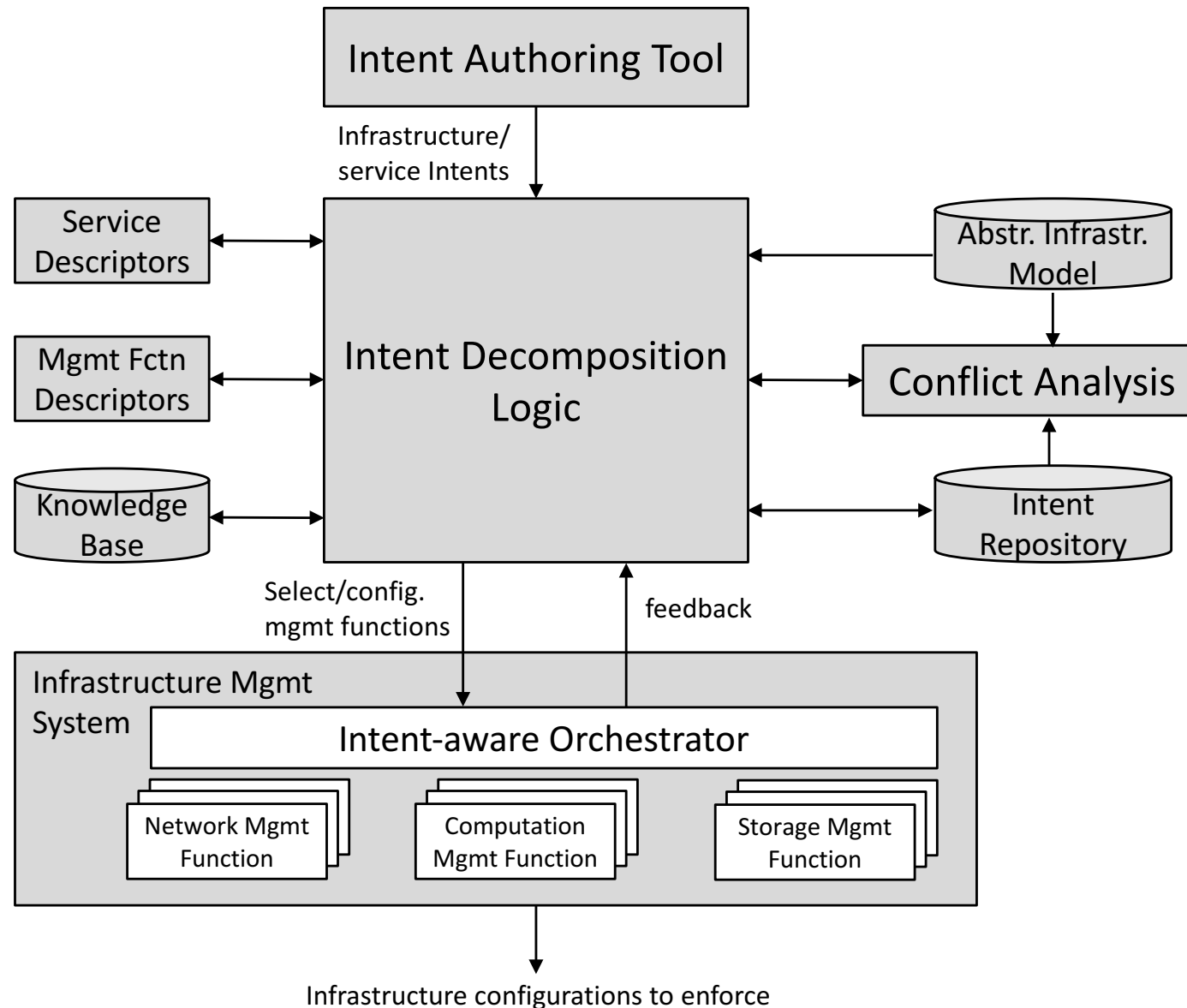
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IRTF NMRG Meeting, 25 April 2019

Considerations for the design of IBN

- Objective: decompose human-friendly intents to configuration commands
- Intents should be agnostic of implementation details (importance of right abstractions)
- Automatic decomposition of intents
- Conflict free intents
- Continuous enforcement of intents

Initial Thoughts on IBN Architecture



Architecture Components (1/2)

- Intent authoring
 - Human-friendly definitions (who is it for?)
 - High-level technical requirements to drive management functions
 - Service- and infrastructure-oriented intents
- Decomposition logic
 - Resolve intent to relevant service and select appropriate mgmt function(s)
 - Methods and techniques should not be specified (only guidelines)
- Decomposition facilitated by
 - Abstract infrastructure model – resources and commodities
 - Service and management function descriptors – representative attributes
 - Knowledge base – prior knowledge, best practices

Architecture Components (2/2)

- Intent repository
 - Store/retrieve intents – both high-level and low-level
- Conflict analysis
 - Detect/resolve inconsistencies, e.g. as a result of competing goals
 - Carried out at decomposition level
- Interface to management system
 - Selected management functions and execution parameters
 - Orchestrator as 'contact point' in infrastructure management system
 - Feedback – feasible configurations? Has intent stopped being met?