Dynamic Resource Allocation in Cloud Computing

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Outline

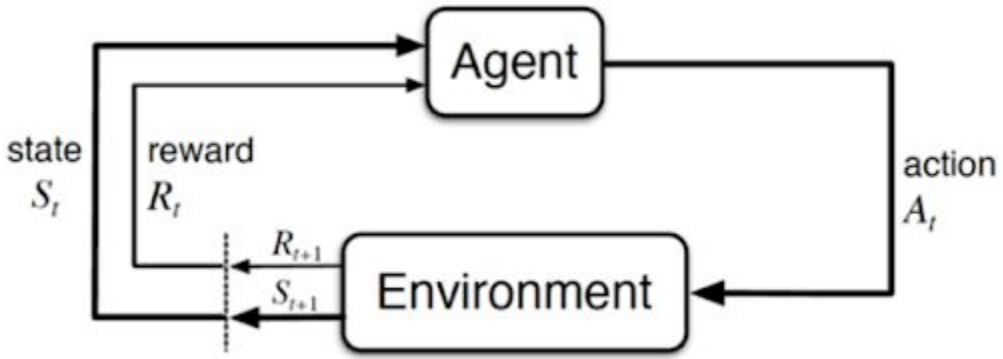
- Describe Problem
- Method
- Why this Method ?
- Basic Terminologies
- Execution Example

Problem

Save Energy

- Only Turn On System When User Need it.
- Give Min Resources or Decrease it so for less Energy.

Method :: Markov Decision Process



Why MDP ?

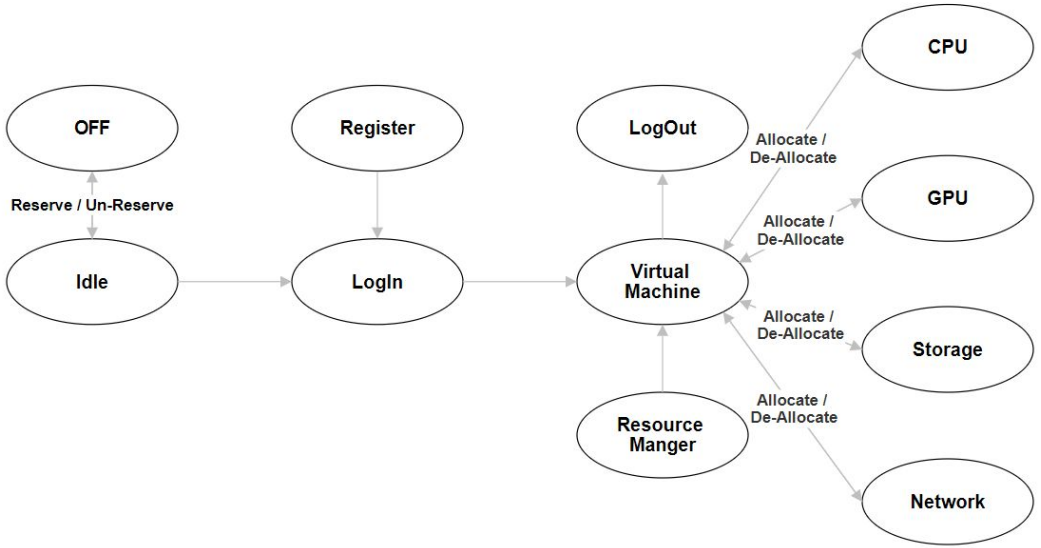
- Finite States
- Finite Actions
- Rewards Maximization
- Optimal Policy Sample Space Small

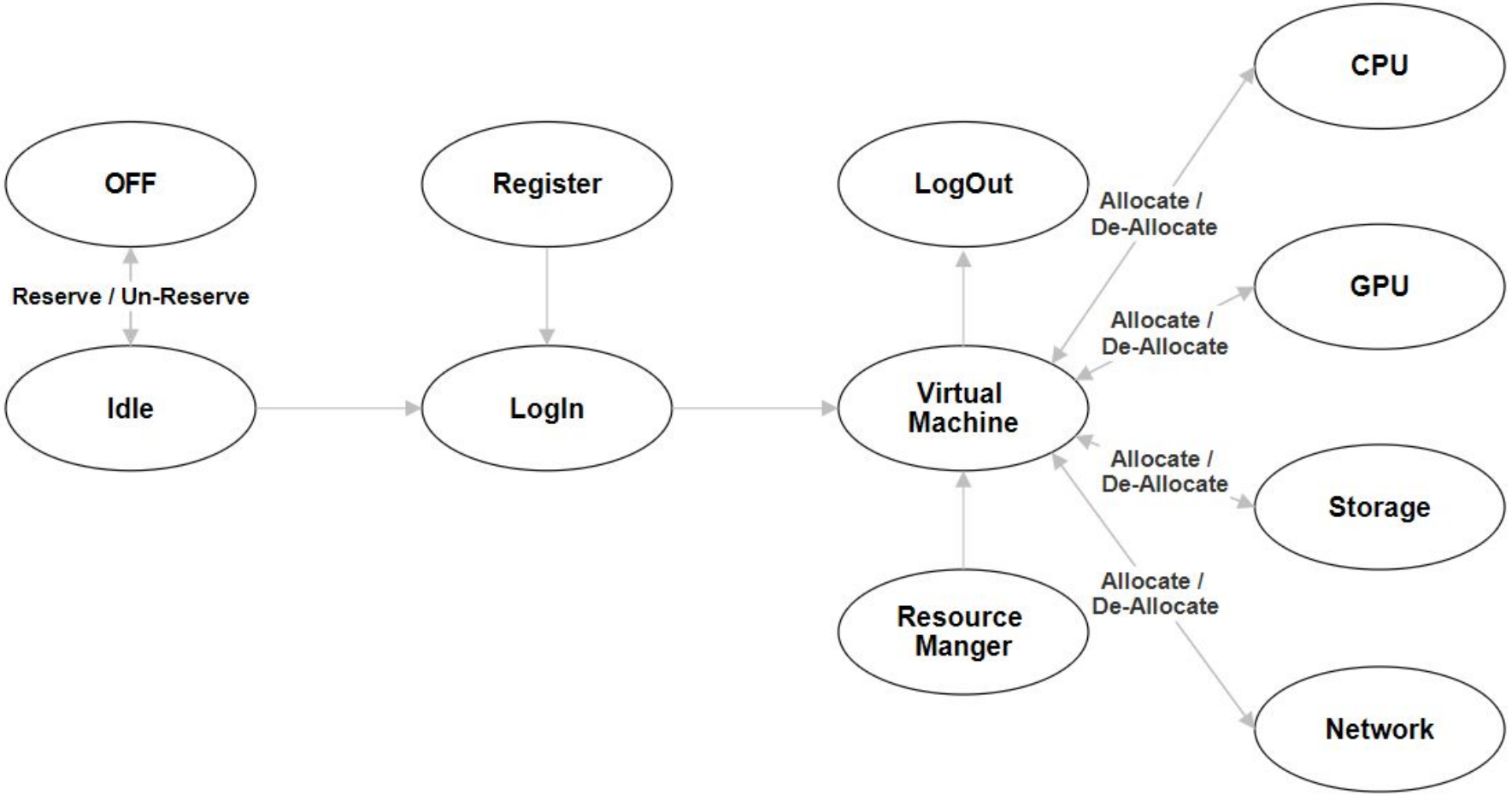
Basic Terminologies and Execution Example

- States are in Oval
- Actions are on vertex
- One Arrow means

  Single Direction

GitHub




OFF
Reserve / Un-Reserve
Idle
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Resource Manger
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Allocate / De-Allocate
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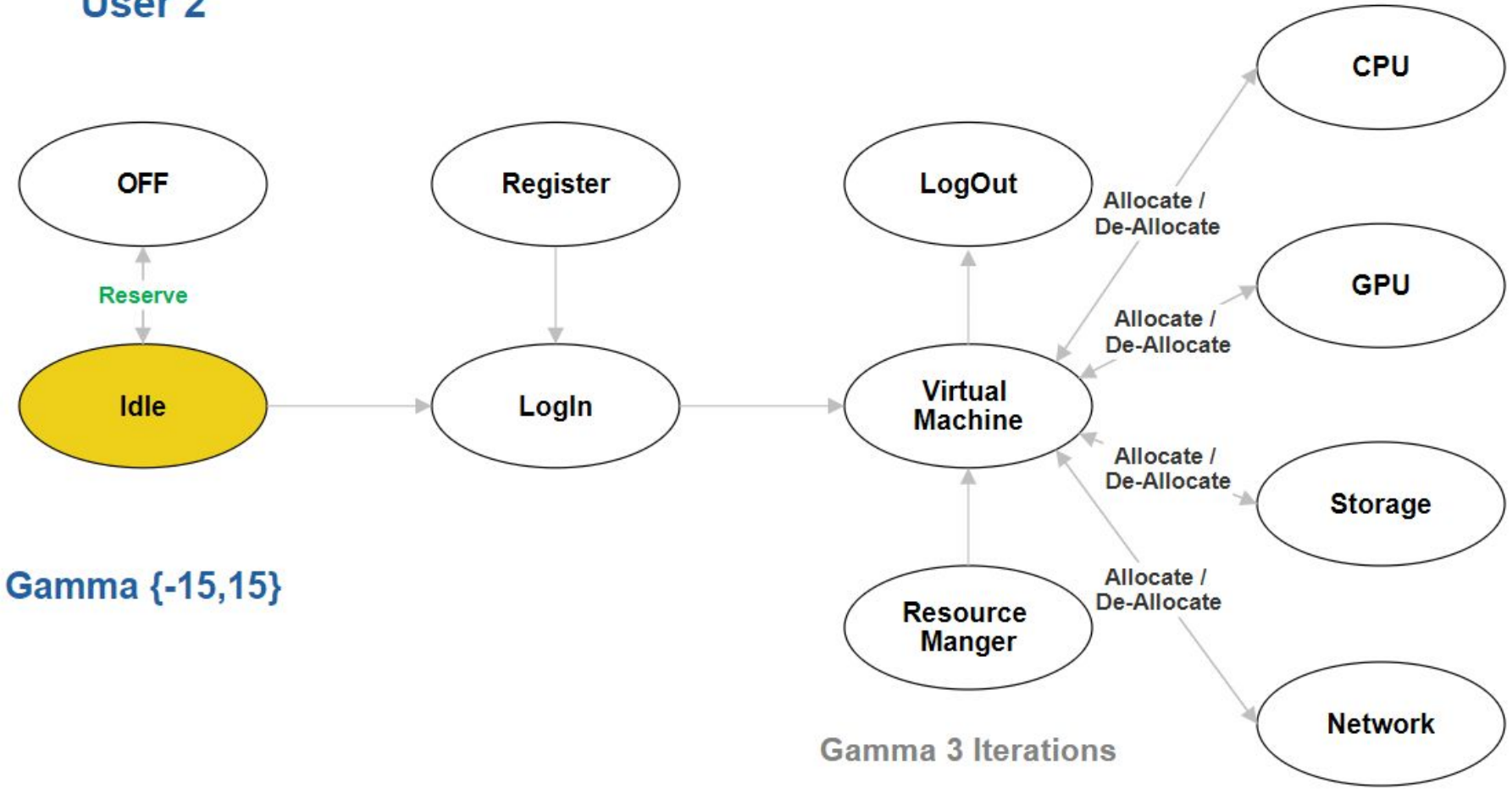
CPU
GPU
Storage
Network

User 2



Gamma {-15,15}

Gamma 3 Iterations

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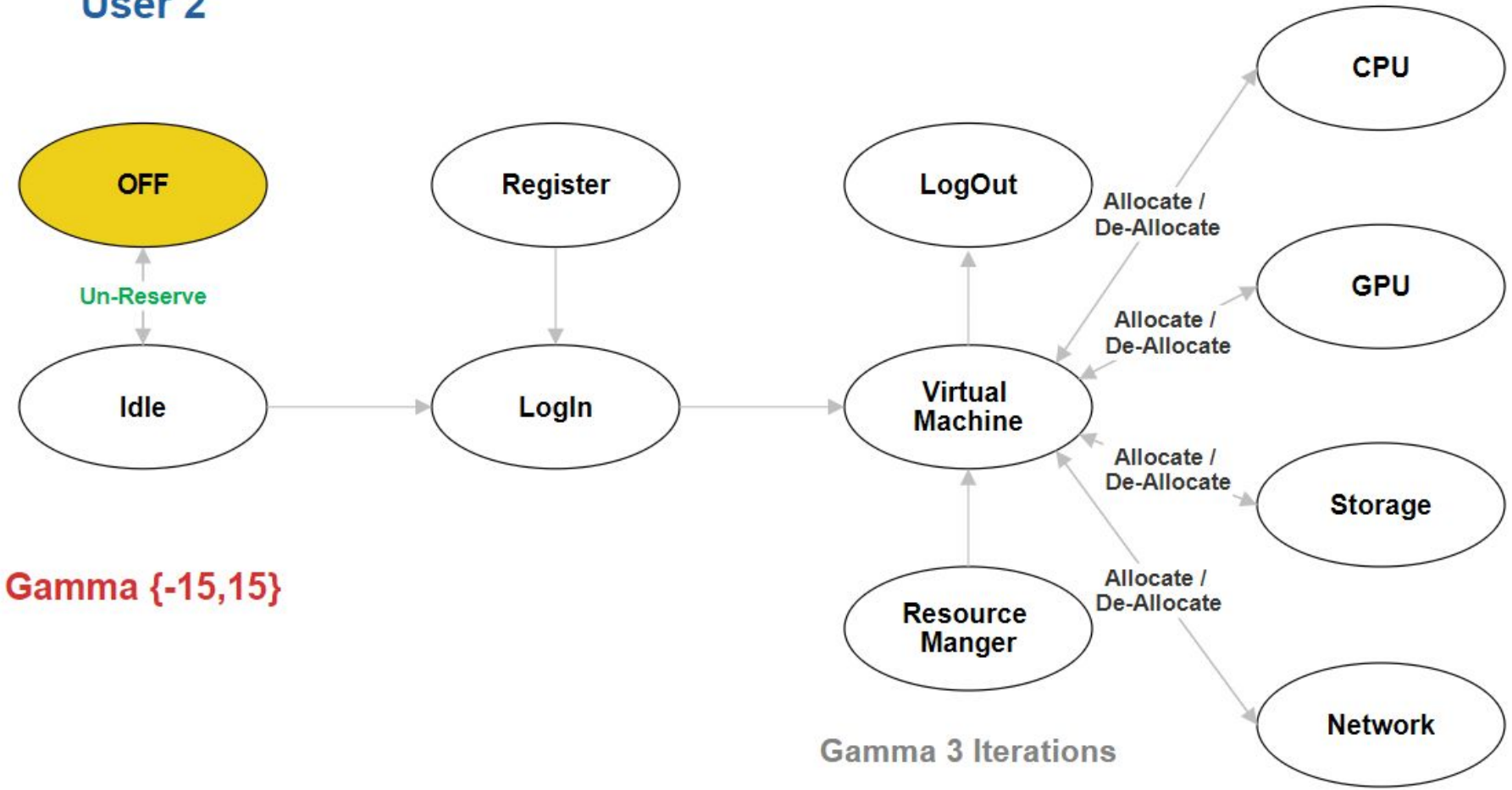

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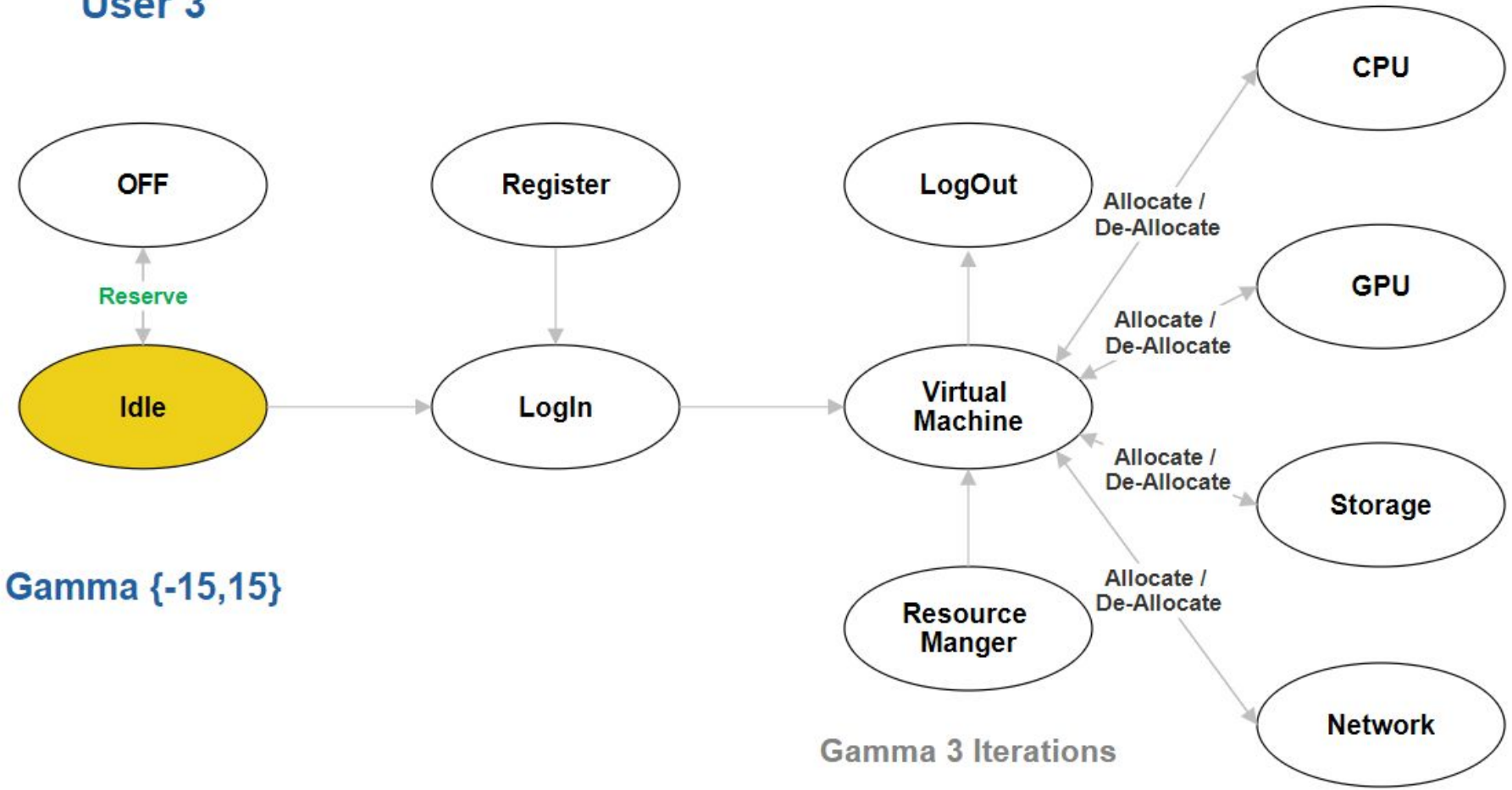
User 3



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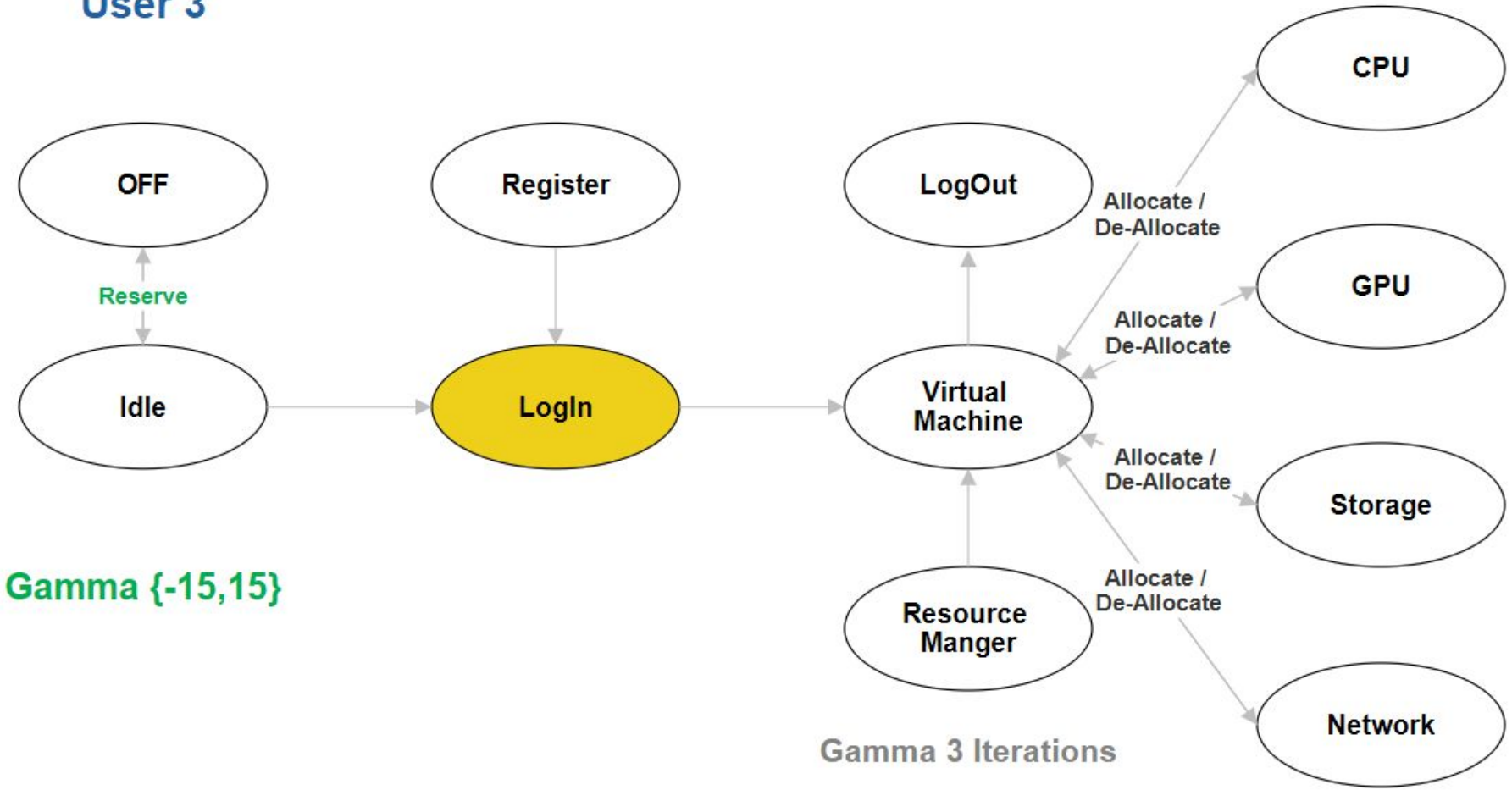

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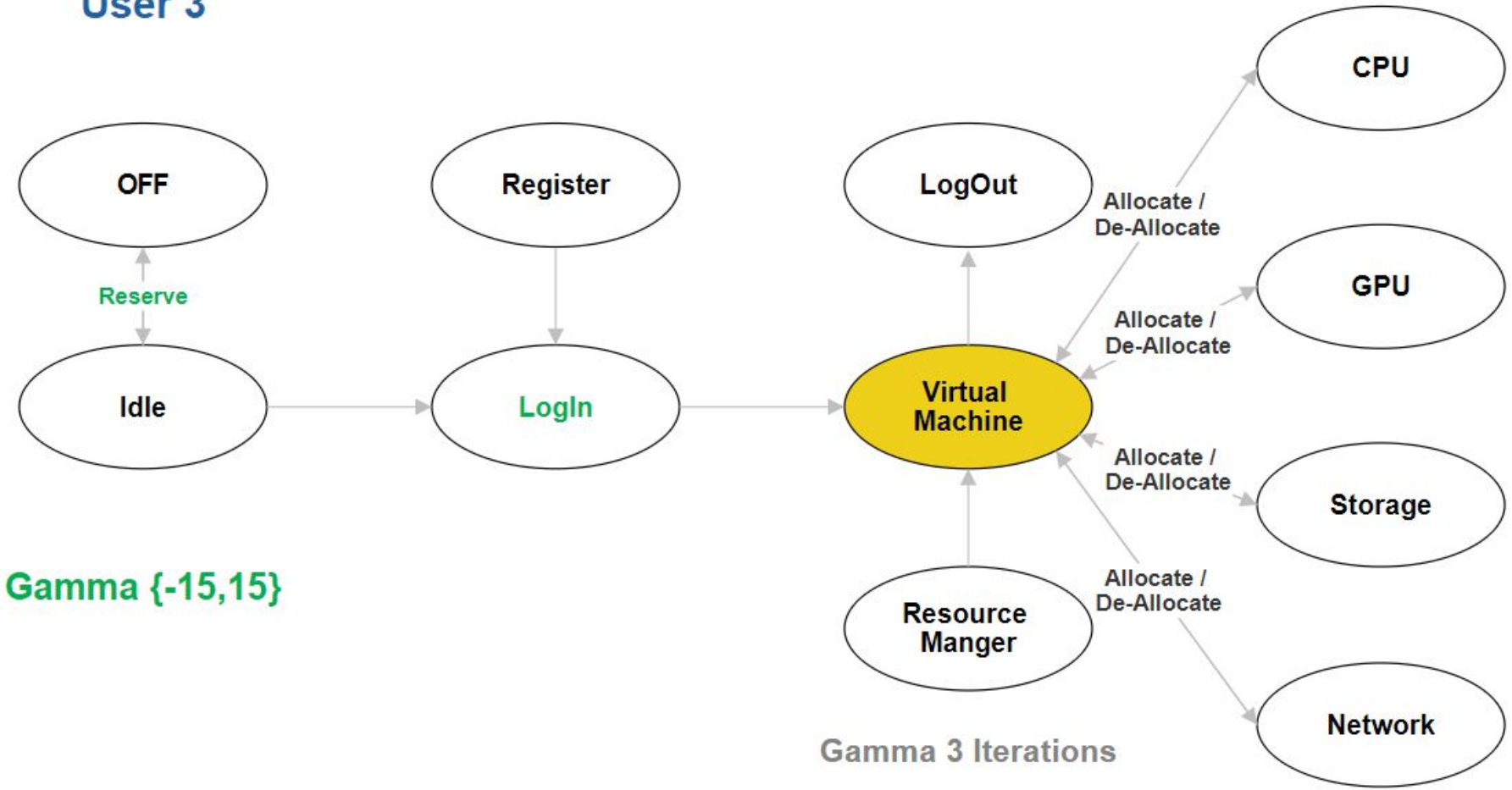

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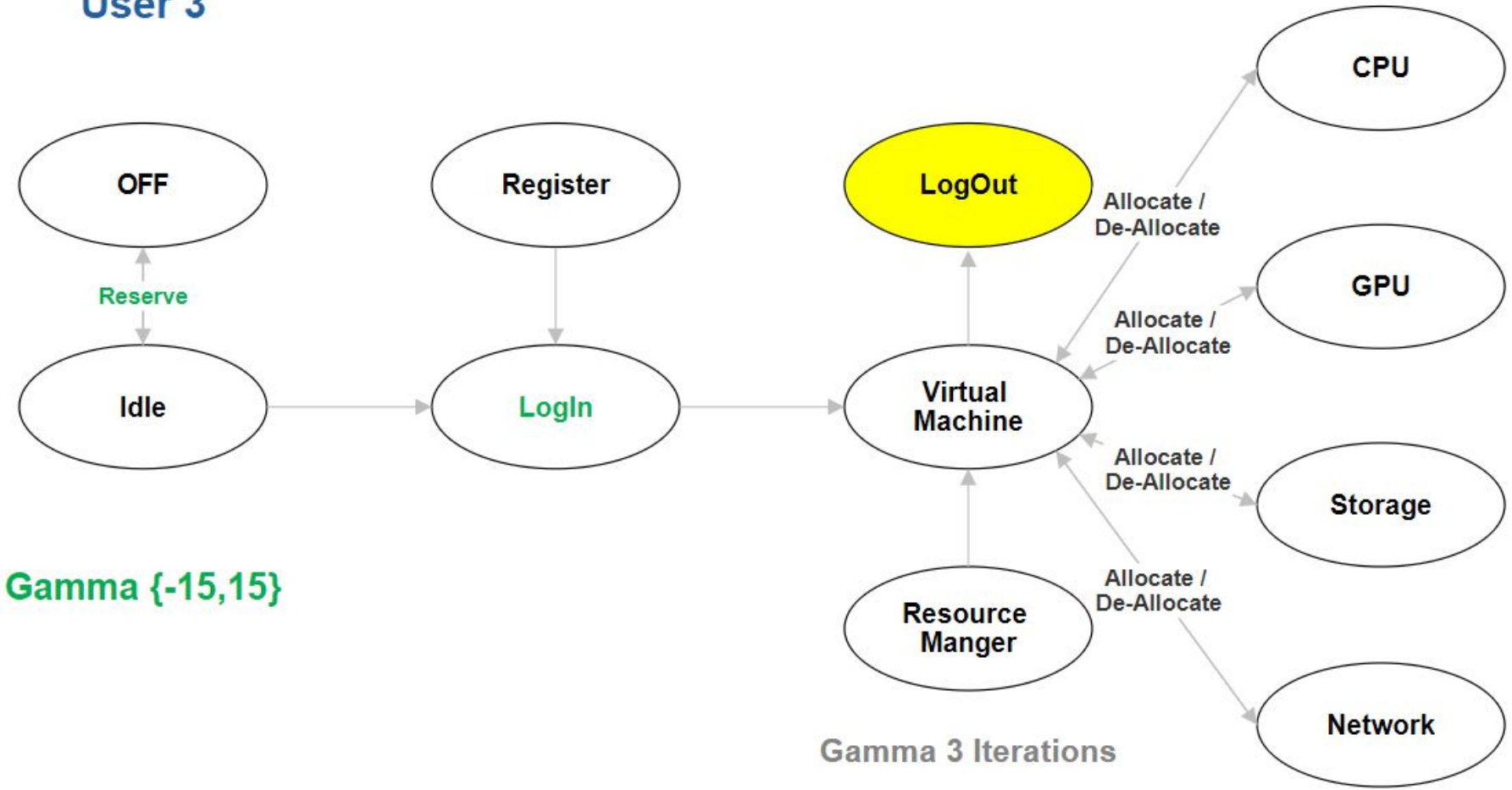

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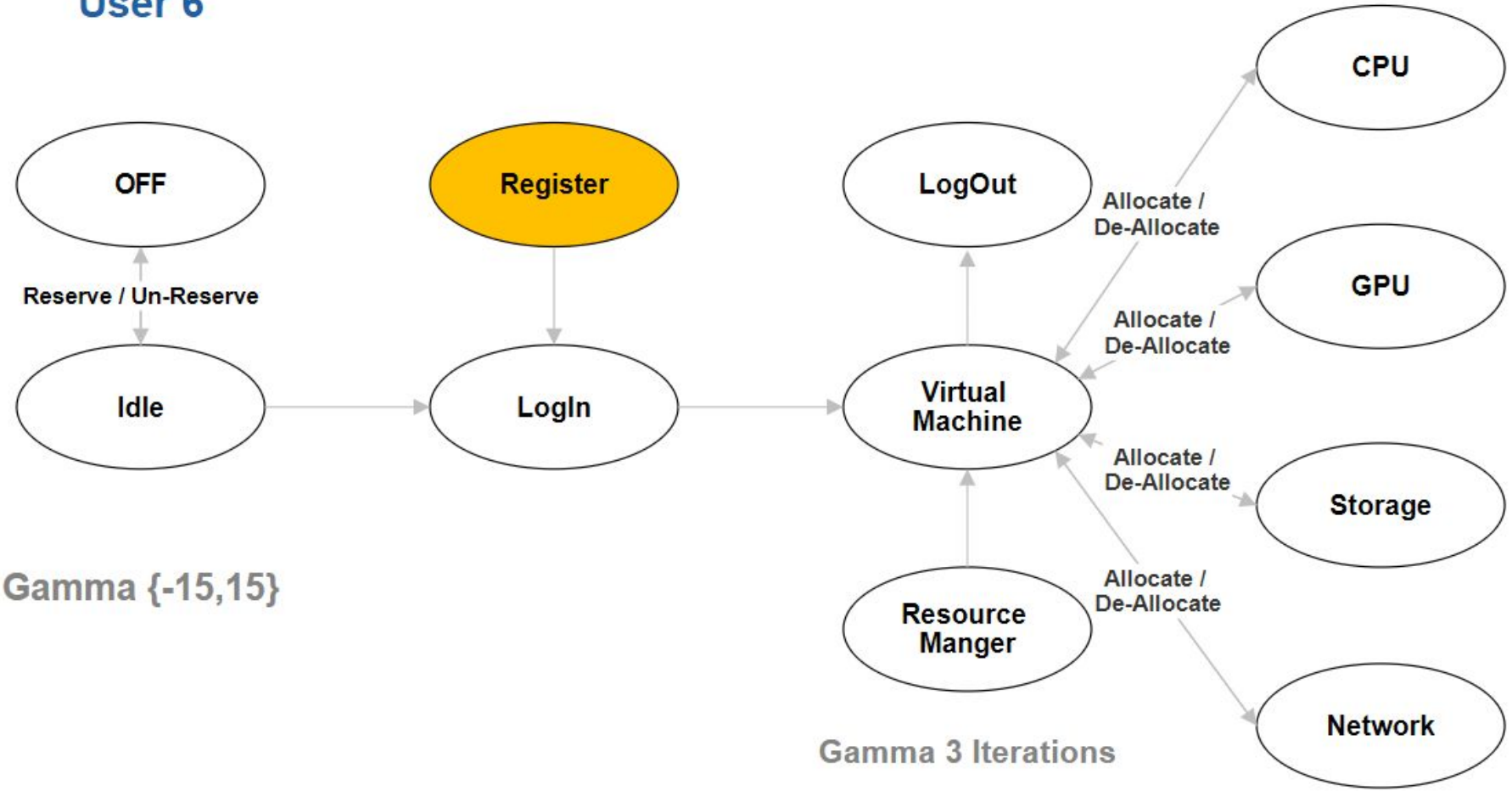

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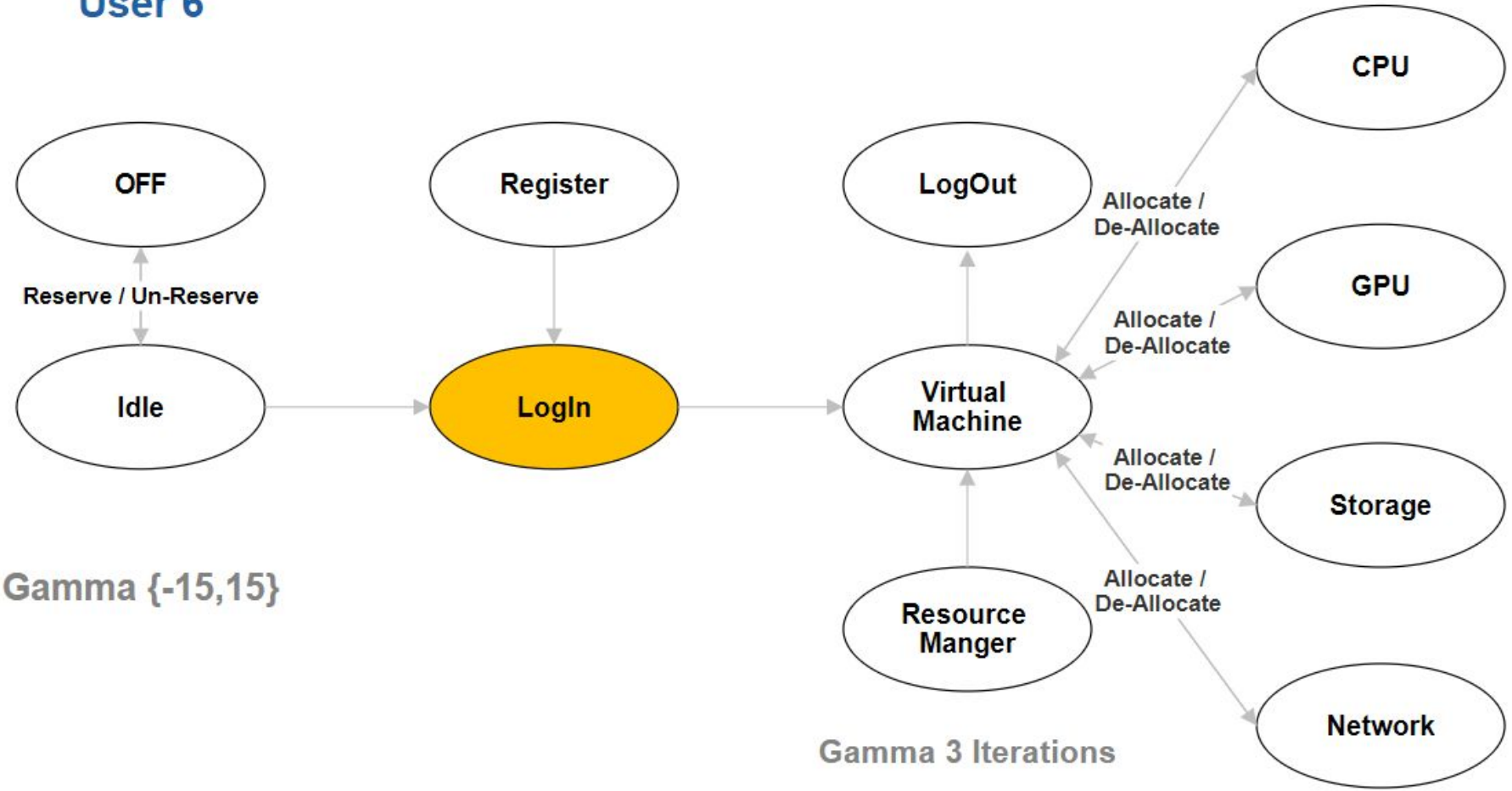

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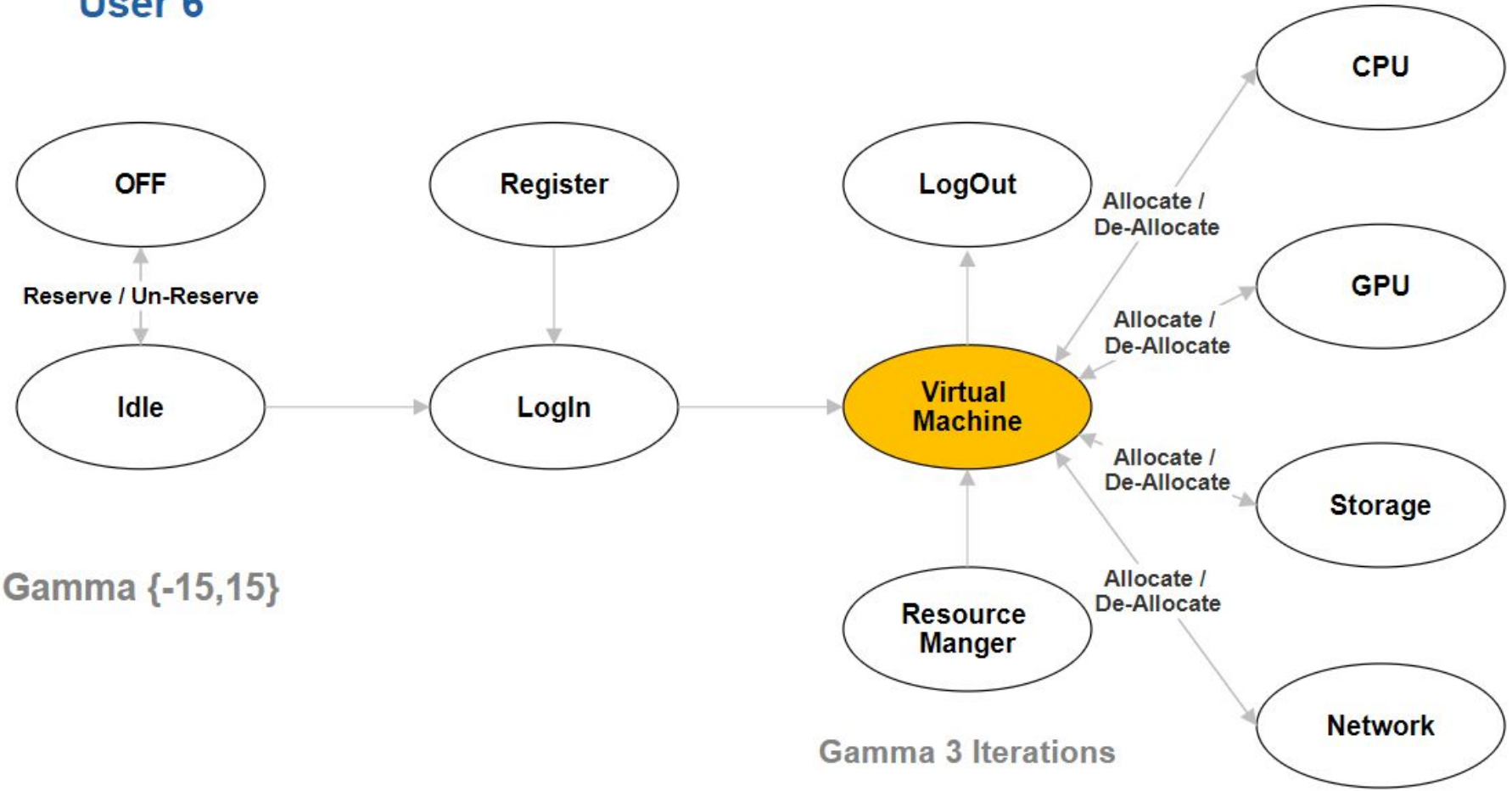

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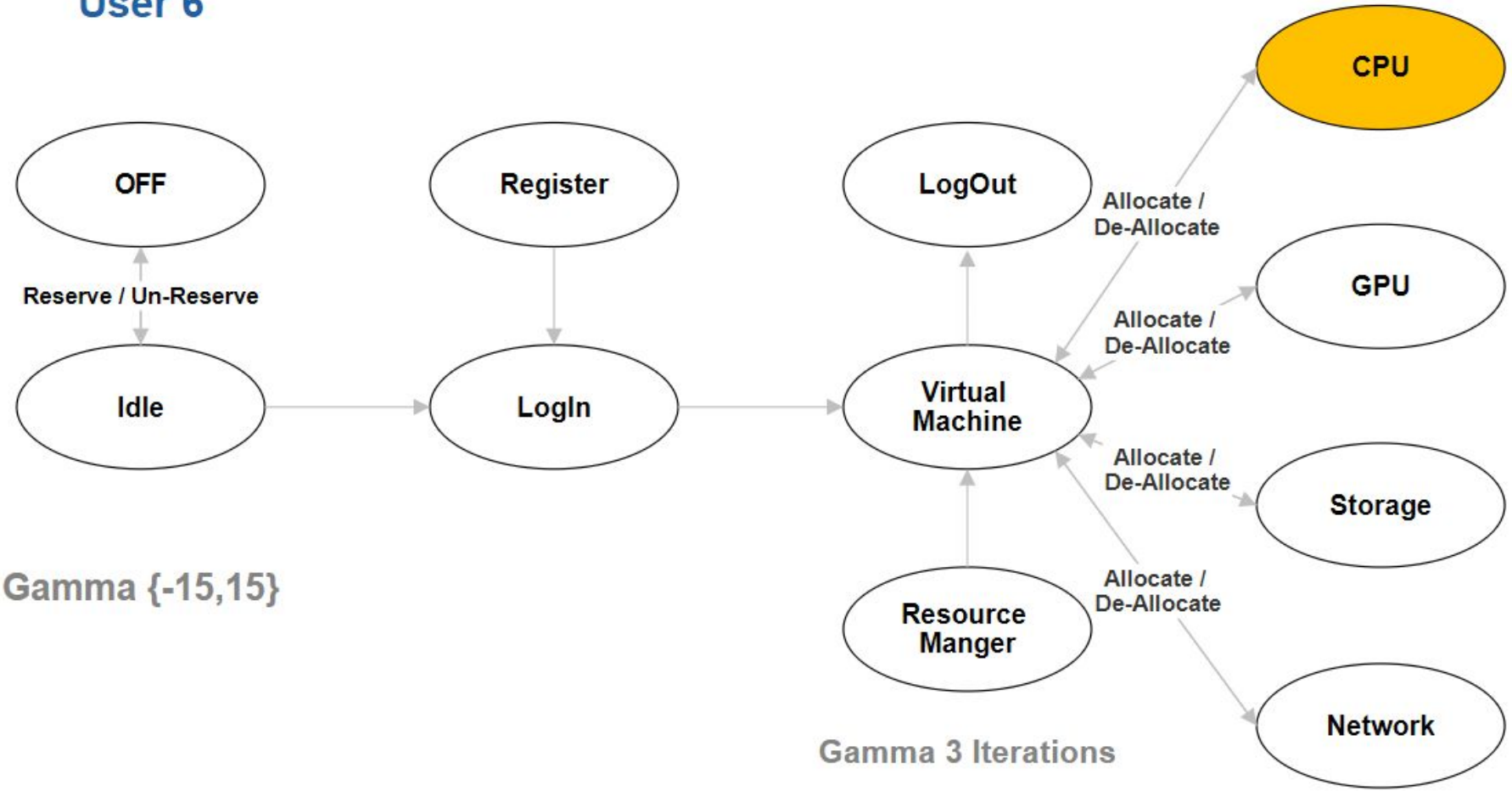

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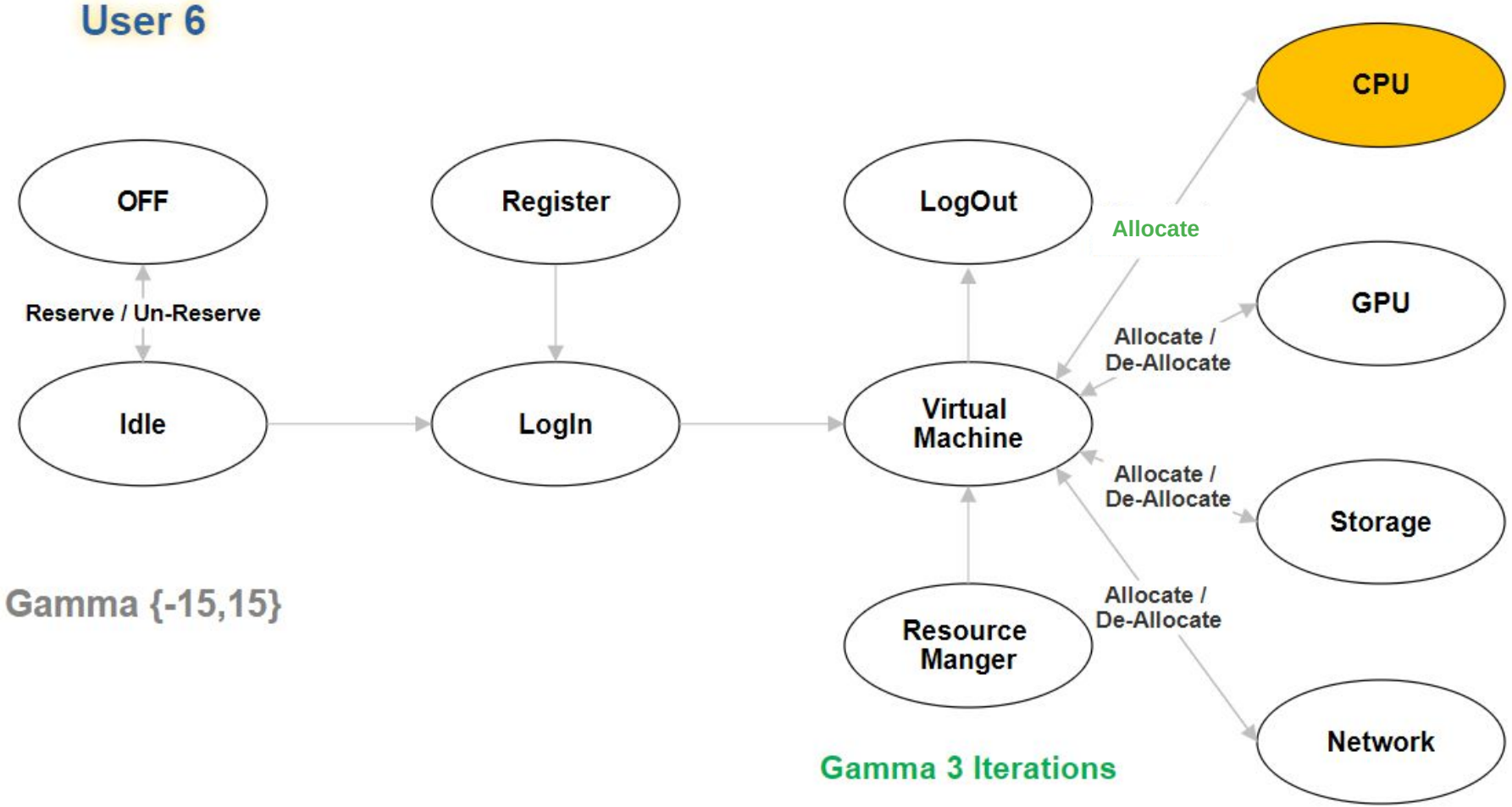
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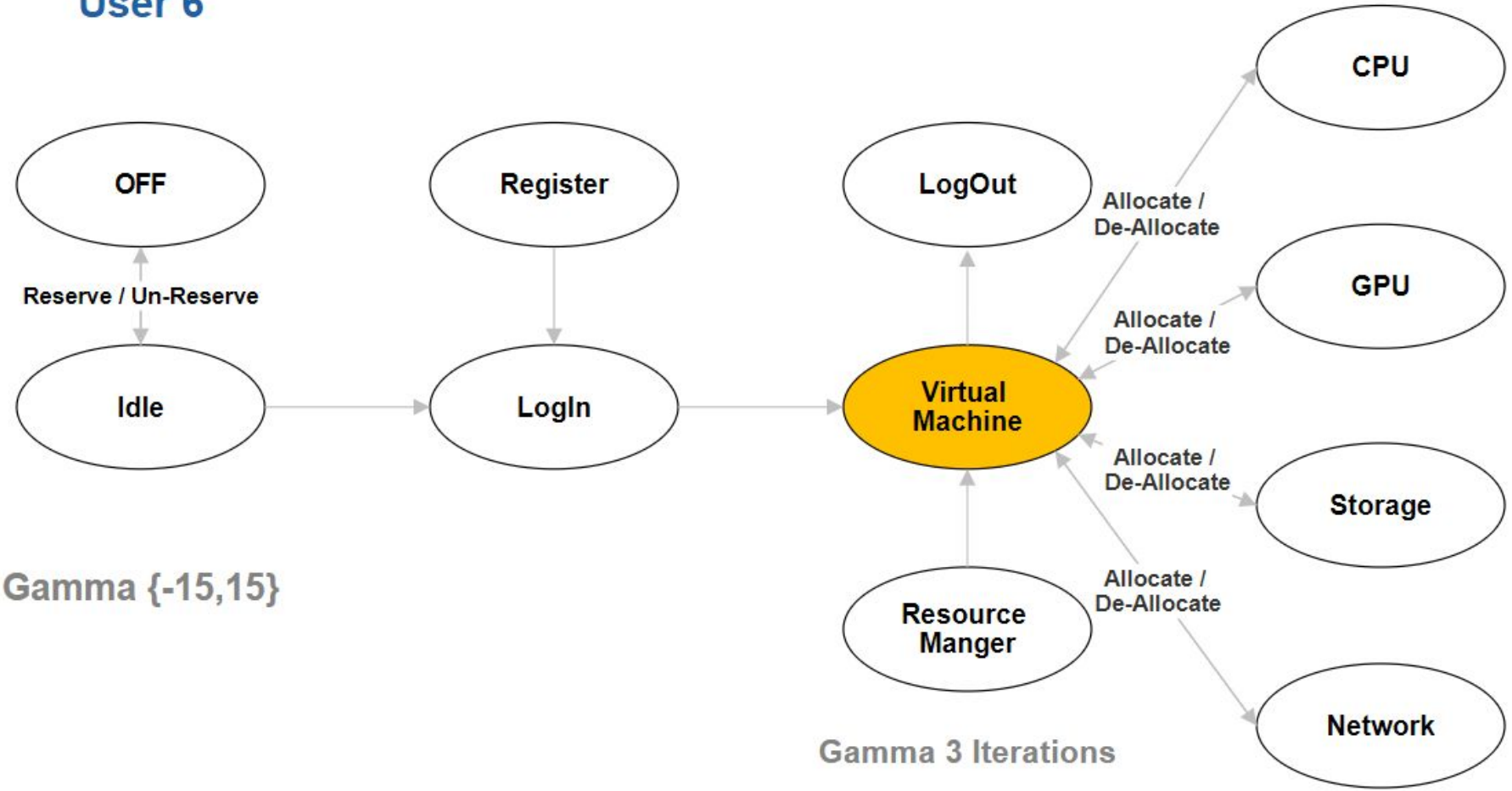

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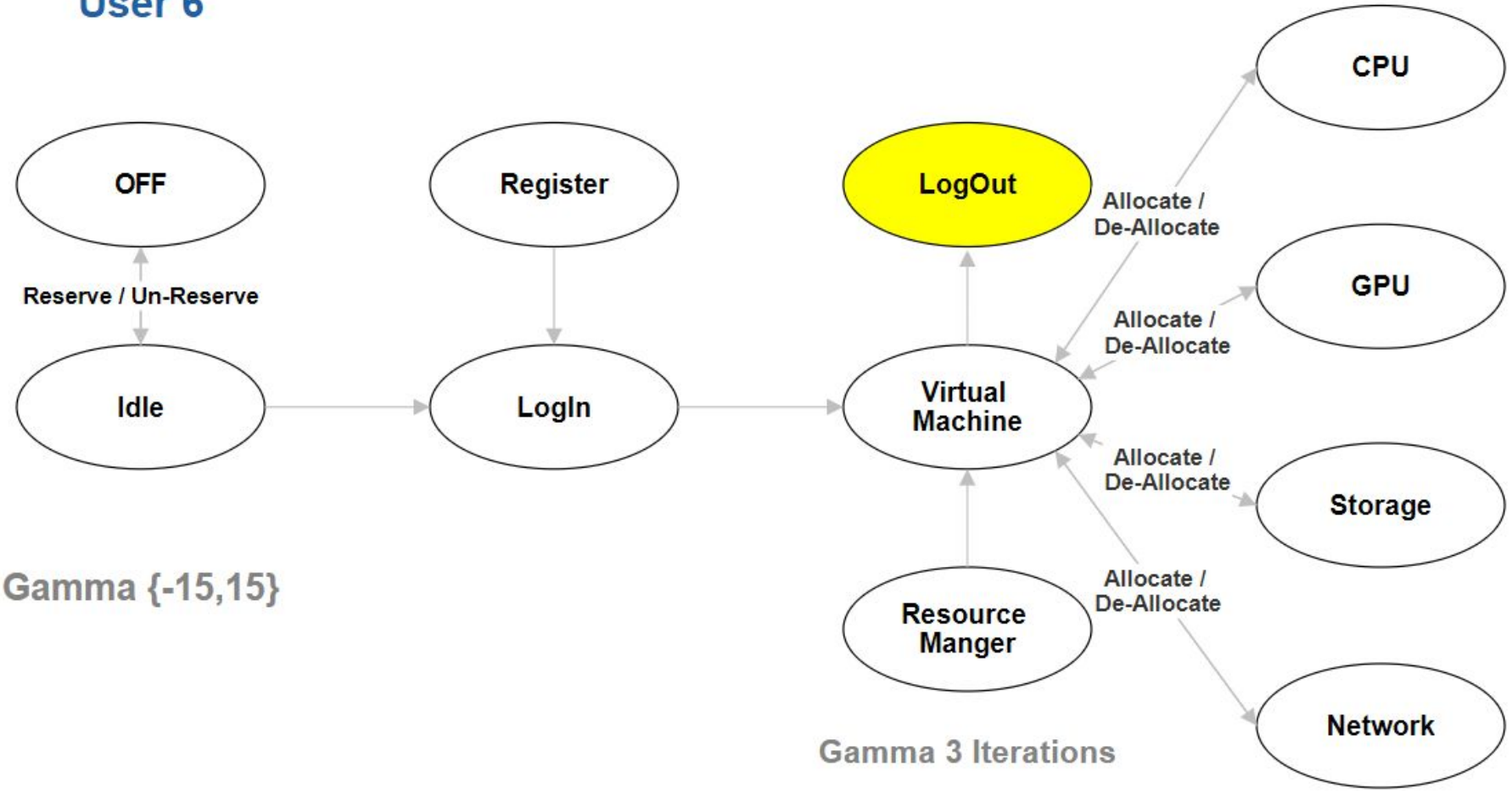

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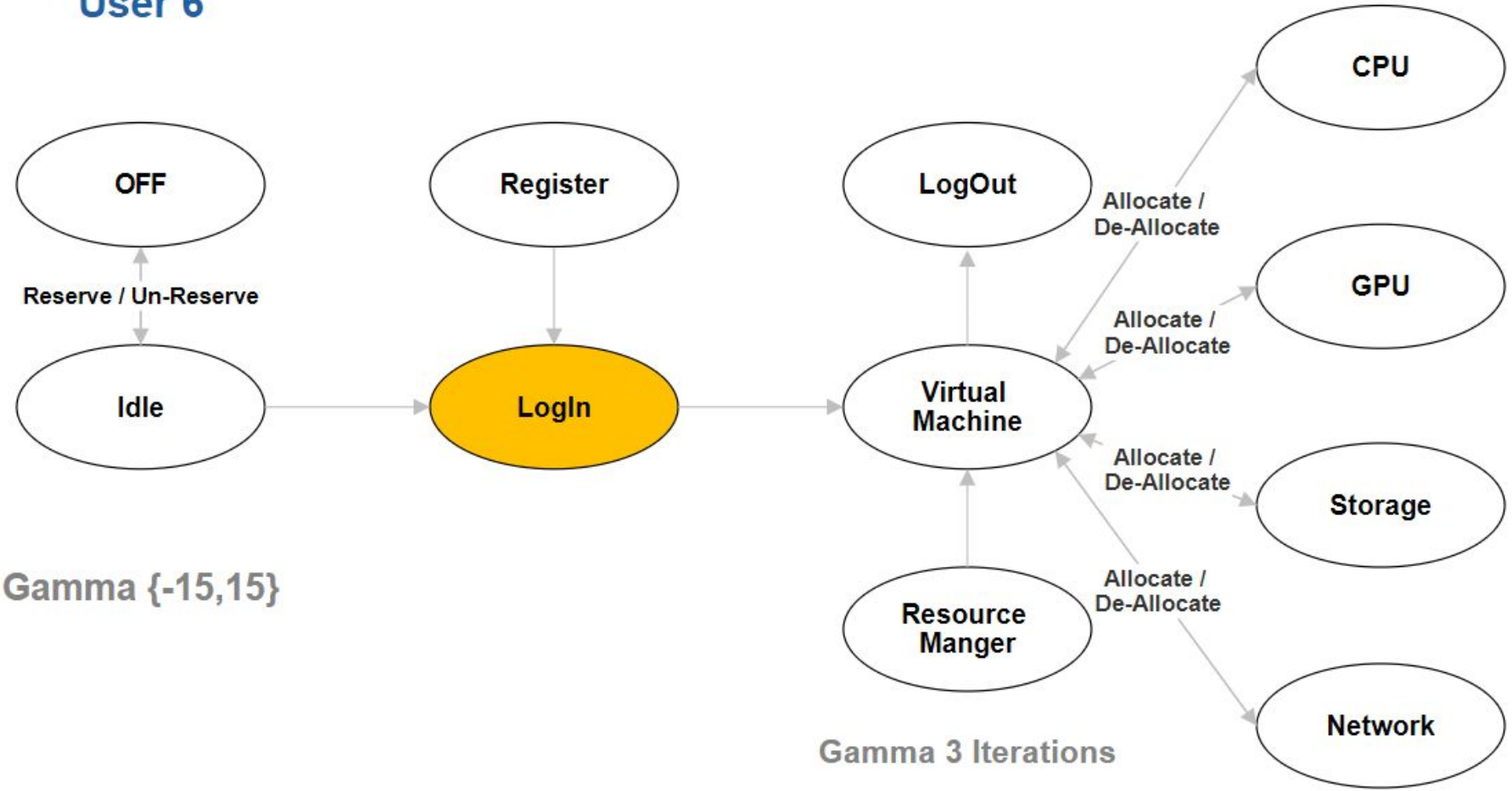

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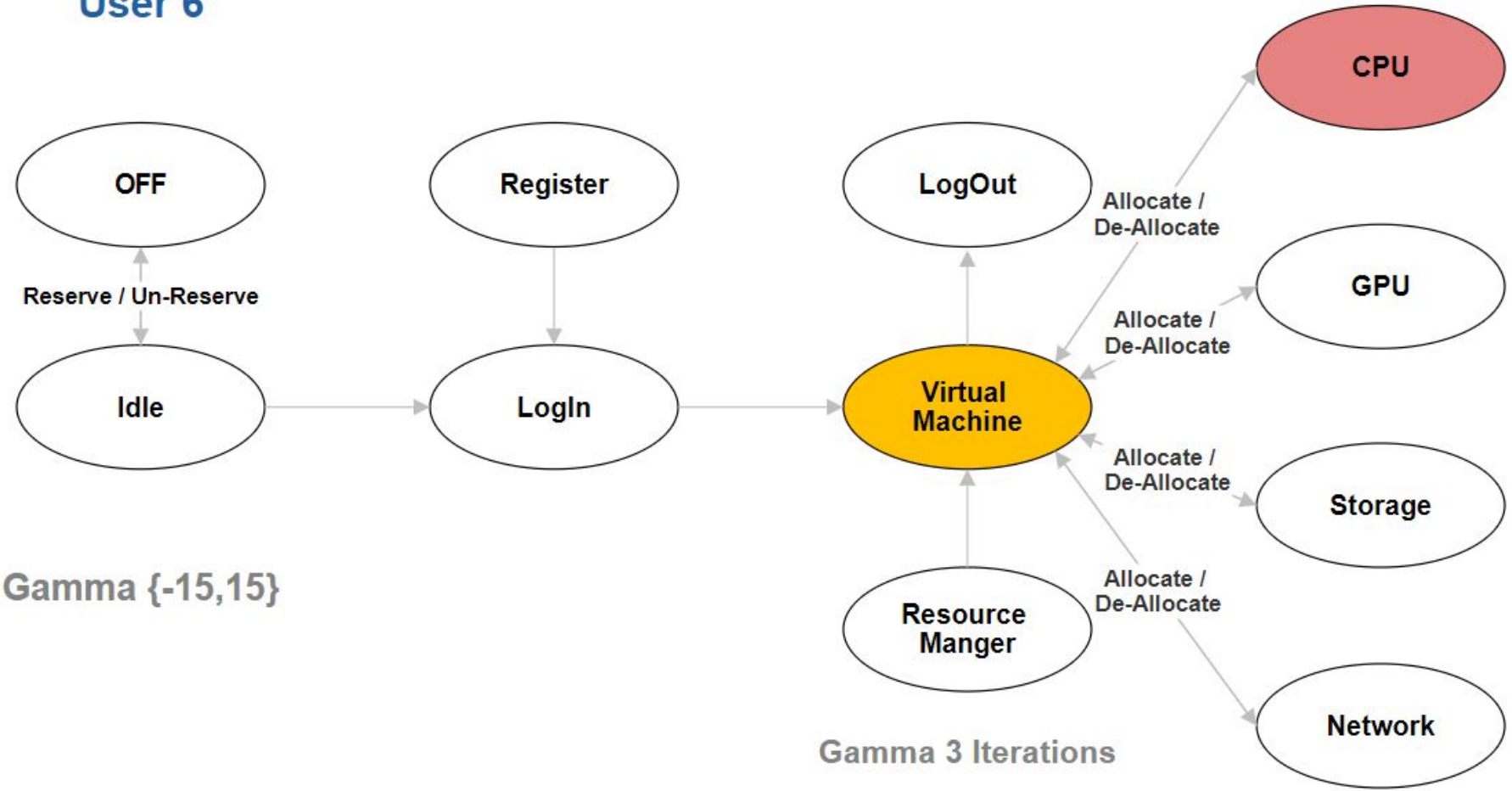

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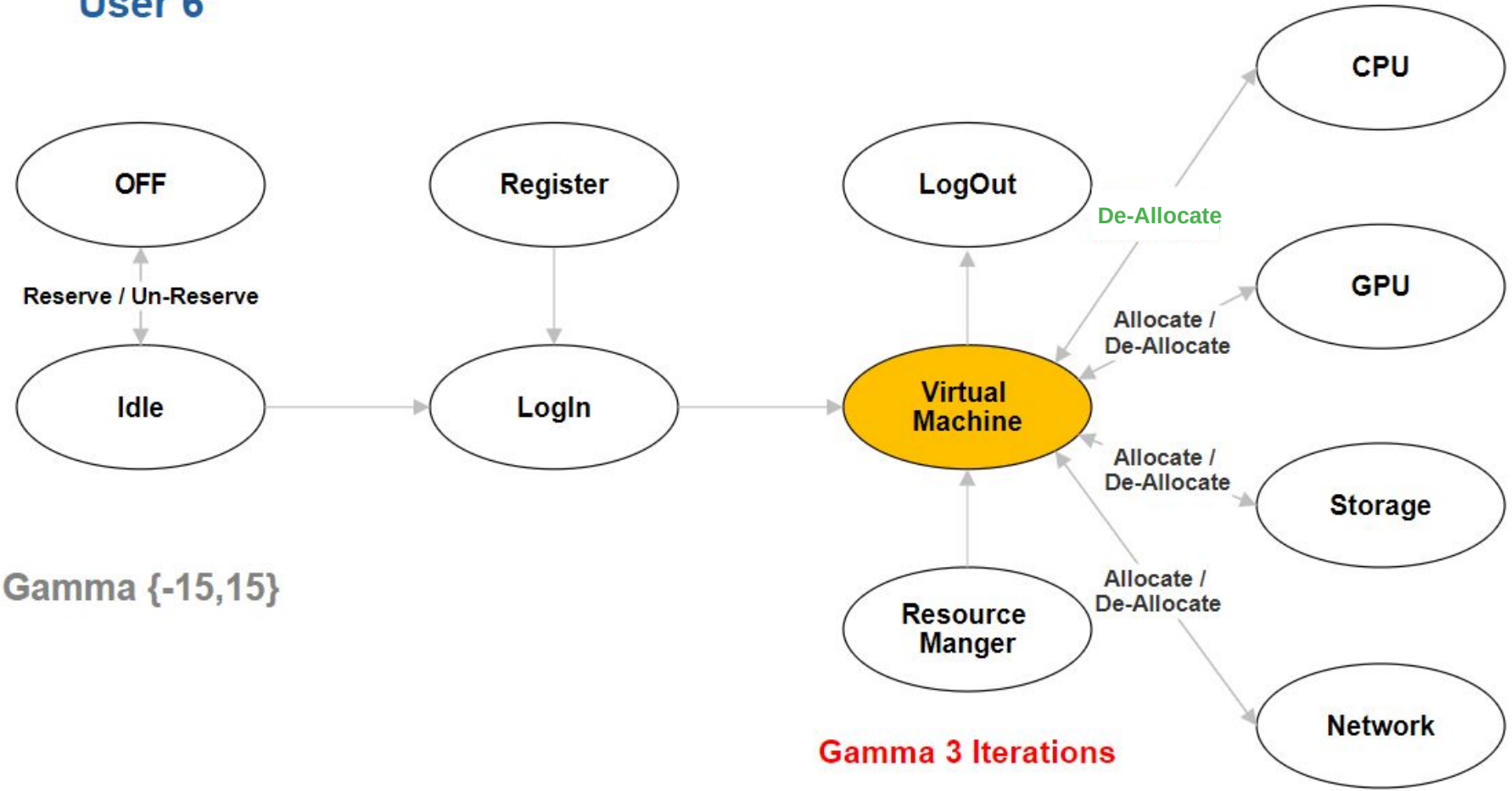

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