GRAPLEr Demonstration

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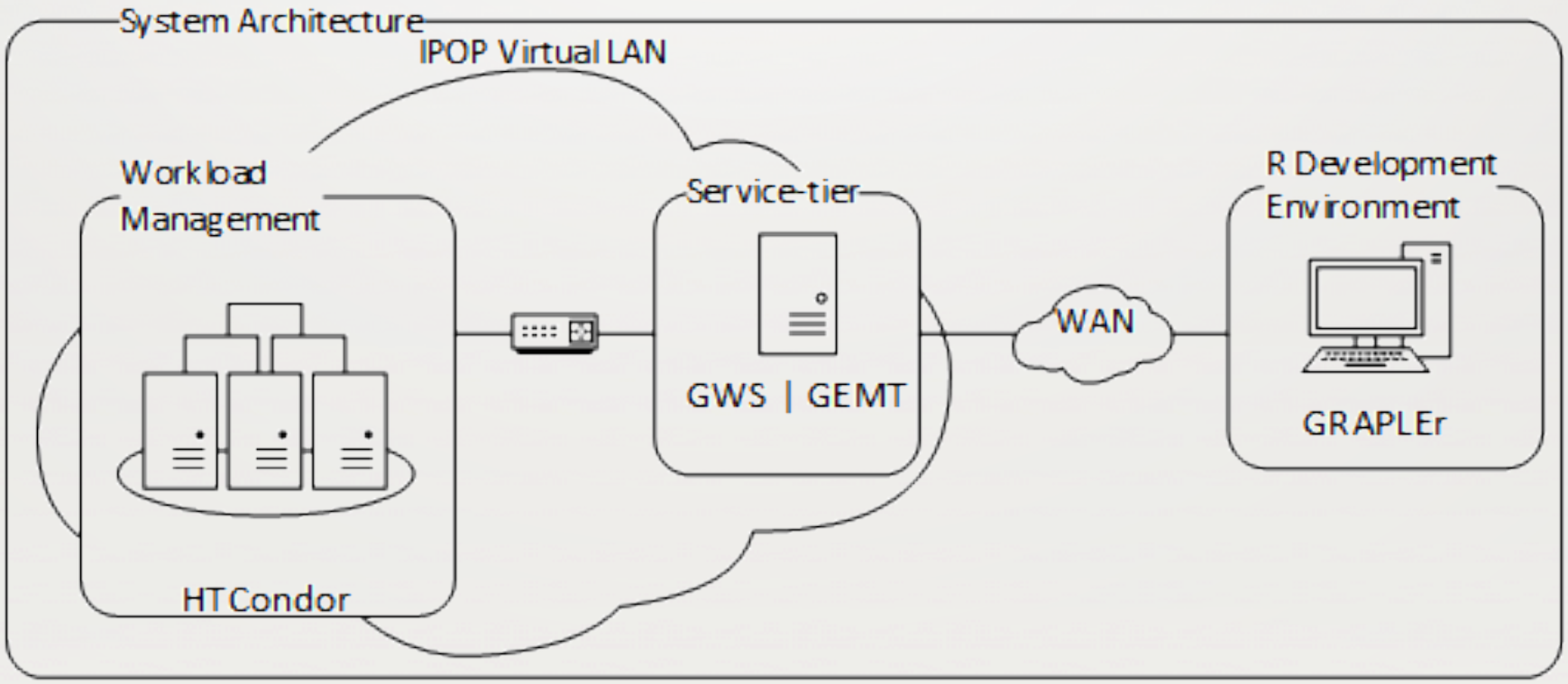
DYNAMIC ADDITION OF SDSC COMET AND PRAGMA CLOUD NODES TO A GRAPLER POOL

Qualities

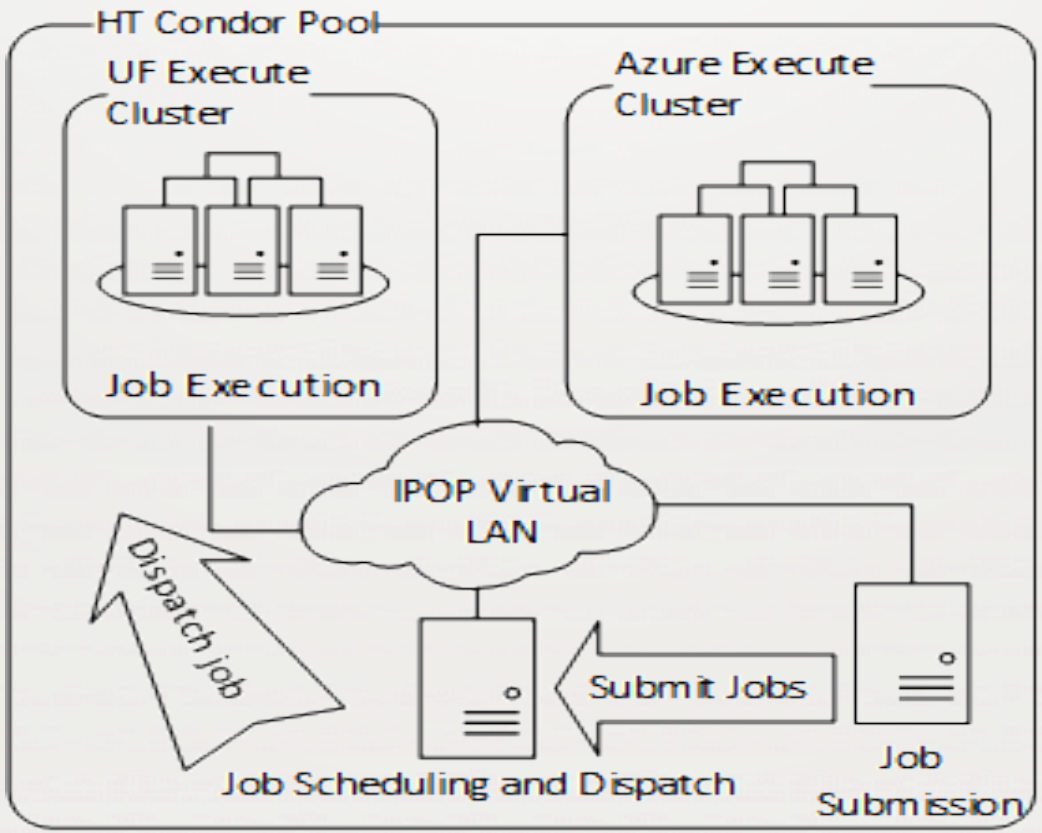
A multi-tiered distributed solution with elastic scale out workload capabilities.

- A cyberinfrastructure that is unique in how it seamlessly integrates a collection of distributed hardware resources through the IP-over-P2P overlay virtual network,
- Additional compute resources can be added and removed to and from the cluster as needed with interruption to system function.
- Exposes a user-friendly interface that integrates with R-based desktop environments through a Web service.

GRAPLEr System Architecture



GRAPLEr Cluster



Demonstration Description

1. Begin with UF GRAPLEr cluster
2. Start multiple experiments that fully utilizes all available compute nodes
3. Additional jobs are in waiting queue
4. Start PRAGMA Cloud node and add it to cluster
5. Start Comet Node and add it to cluster
6. Queued job are sent to new compute resources
7. Idle/excess resources are removed without interrupting cluster functionality

Next Steps

- Automate this process of adding / removing compute nodes
- Identify criteria for these processes
  - Use the issuer's identity to choose which resources to bring online