
Towards Developing Grid Middleware for Software Evolution

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Abstract

- Grid Computing
- Grid Middleware
- From Software Evolution Perspective
- Future Work

Grid Computing

Definition:

- *As an emerging trend in Net-Centric Computing, Grid computing enables users to collaborate securely by sharing processing, applications, and data across systems to facilitate collaboration, faster application execution, and easier access to data.*

Characteristics

- Large-scale
- Collaboration
- Resource sharing
- Hardware utilisation
- Leveraging existing investments

Grid Middleware

- **Raising the level of abstraction**
- **Reducing the accidental complexities**

Performance:

- Track which node has computational servers running and which are provided with.
- Track each node's workload to locate the best choice for a given job request.
- Take care of the details in finding machines on which to execute computational tasks.

From Software Evolution Perspective

- Allow legacy and new applications to operate seamlessly over Grid environment.
- Make better utilisation of the available computing resources among distributed environment.
- Provide transparent access to legacy resources concerning process
- Enable dynamic load distribution, fault resilience, ease system administration and data access locality.

Future work

- Research and develop high-performance, scalable middleware based on Grid technology oriented approach for Software Evolution.
- Investigate the architecture of large, distributed, computing infrastructures, high-speed networks to support legacy systems, and methodologies for effective software evolution on the underlying distributed infrastructure.



Thank you!

