The Intersection of Grids and Networks: Where the Rubber Hits the Road

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Abstract

As distributed systems, Grids depend completely on networks to provide the communication related services that interconnect the Grid system components. Various sorts of Grid services need to be able to specify, and request of the network, Quality of Service, transport services, and monitoring services, etc. Additionally there are services such as identity and rights management, temporary storage and compute relative to network locale, etc., that may be most advantageously provided to Grids by the network organization.

From the network point of view, the world is fragmented into many different administrative domains (Autonomous Systems). There may or may not be a common control plane for resource management related to QoS, resource allocation and allocation management will be dealt with independently in each different AS, transport service definition and availability will be AS dependent, monitoring and measurement may or may not be provided and may or may not be considered a good thing, the parent organization may be long-lived and able to provide highly secure and persistent information services, or it may be a contractor that rotates every few years, etc., etc.

This talk will discuss some of the issues and approaches to providing network related Grid services in the real world of multiple network domains.

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