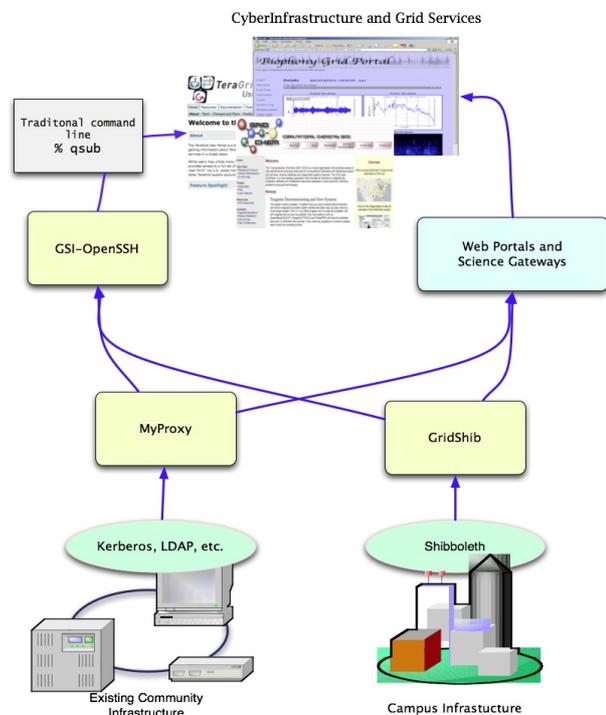


CILogon: Secure Access to National-Scale CyberInfrastructure

Jim Basney, Randy Butler, and Von Welch (NCSA)

The emergence of cyberinfrastructure (CI) that supports the global research community by linking together researchers, computational resources, instruments, and data, has had a significant impact on the science and engineering research communities. At the heart of CI is trust, between collaborators, organizations, providers, users, applications and services. Security services, specifically authentication and authorization, are foundational services that facilitate trust between those entities. Without the establishment and maintenance of trust, collaborative relationships served by CI are jeopardized. As the role of cyberinfrastructure increases, so do the challenges for the authentication infrastructure. Initially interactions were between a single user and a single resource within a single administrative domain. With grid computing we saw the growth of multi-organization collaborations among national and state centers, supporting entire communities and collections of resources distributed geographically. More recently projects such as NSF TeraGrid and LIGO are actively extending the breadth and depth of these collaborations.

The goals of the CILogon project (www.cilogon.org) are to maintain and provide critical enhancements for CI security technologies developed at the National Center for Supercomputing Applications (NCSA) and to foster science and engineering by helping additional communities build secure CI on these services. The MyProxy, GridShib, and GSI-OpenSSH security technologies were developed through great effort by the NSF community and represent a major success story for NSF by supporting science and engineering research throughout the world. MyProxy is the de facto grid credential management service used worldwide. GridShib bridges campus to grid identity management systems, facilitating seamless access from campuses to the NSF computational centers, observatories and other major research equipment and facilities construction supported projects. GSI-OpenSSH provides a single sign-on remote login and file transfer capability using grid security. CILogon leverages NSF's considerable previous investment and will ensure the continued community-driven development and support of MyProxy, GridShib, and GSI-OpenSSH in support of NSF funded collaborative research.



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