

# US LHCNet Acceptable Use Policy

Last Updated January 29, 2007

## SCOPE

The purpose of this document is to convey the acceptable use policy (AUP) governing utilization of US LHCNet, including its domestic and wide area network connections linking its points of presence at New York City, Chicago, CERN and Amsterdam, and its site facilities scattered throughout the continental US. The policy set forth below, defining acceptable practices, is subject to all applicable U.S. federal and state laws, and to the relevant rules and regulations of the U.S. Department of Energy and the National Science Foundation.

Any restriction of use contained within this AUP is to protect this DOE Office of High Energy Physics (OHEP) resource for its intended use, and for which funding is appropriated.

## MISSION

US LHCNet is a Wide Area Network (WAN) infrastructure project that supports the high energy physics research mission of the U.S. Department of Energy and the National Science Foundation, with a focus on the U.S. Large Hadron Collider (LHC) program.

US LHCNet supports the agencies' and the high energy physics community's strategic and tactical goals and objectives by providing interoperable, effective, and reliable transatlantic communications infrastructure and leading-edge network facilities and services in support of the US LHC program, as well as the other major programs supported by the DOE Office of High Energy Physics (OHEP).

The highest priority mission of US LHCNet is to provide reliable, dedicated, high-bandwidth connectivity between the U.S. Tier1 centers and CERN (e.g., the LHC Optical Private Network (OPN) physical links). An additional mission is to support high bandwidth traffic flows as needed, between the U.S. LHC Tier1 and European Tier2 centers as well as between the U.S. Tier2 centers and European Tier1 centers

Finally, traffic to and from additional centers funded by other agencies or universities, that participate as operational partners in the organized production, distribution and analysis of LHC data working together with the Tier1 and Tier2 centers recognized in the US LHC program also are considered to fall within the umbrella of US LHCNet's high priority mission. (See appendix A for specific examples.)

US LHCNet also participates in providing transatlantic network connectivity, together with its U.S. and international partner networks, between U.S. physics groups funded by

DOE and NSF and their collaborators overseas. These groups may send traffic over US LHCNet provided that traffic is within the DOE OHEP mission and is consistent with US LHCNet's effective use in support of the U.S. LHC program. (See appendix B for example services.)

## **ACCEPTABLE USE**

Acceptable use of US LHCNet includes any transatlantic network traffic that originates or terminates at the site of a U.S. physics group<sup>1</sup> supported by the DOE Office of High Energy Physics or the National Science Foundation's Elementary Particle Physics office, for the purpose of research and education, that supports the mission of the U.S. LHC program, or other programs supported by the DOE Office of High Energy Physics.

Traffic to and from any US LHCNet point of presence also is permitted, wherever it is needed for effective operations, maintenance, monitoring, benchmarking and/or performance optimization, and the development of services that are required to support of the US LHCNet mission on an ongoing basis.

## **MODIFICATIONS**

US LHCNet management and the Office of High Energy Physics may work with other DOE and NSF programs, as well as its U.S. and international network partner organizations as appropriate, to establish Memoranda of Understanding (MOU) to broaden access to and use of US LHCNet in furtherance of its mission. Any broadening of access will have the sole aim of more effectively serving the US LHC and other DOE- and NSF-funded high energy physics programs, in concert with its U.S. and international network partners, by allowing US LHCNet to carry out parts of its mission that are not otherwise possible, or to improve its overall performance or reliability through peerings, mutual backup arrangements, or other appropriate mechanisms.

Any modifications of this US LHCNet AUP, or broadening of the US LHCNet access or mission, will be done in consultation with the US LHC Network Working Group, and with the prior approval of the DOE Office of High Energy Physics.

## **Appendix A. Examples of other Physics groups that may use the US LHCNet**

Other sites that serve the US LHC mission for the production-oriented processing and distribution of data, working together with the US Tier1s and Tier2s, may use US LHCNet. Current examples include Vanderbilt, the Wisconsin GLOW project, and the

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<sup>1</sup> The "site of a U.S. physics group" should be interpreted as meaning wherever a part of the group works on a regular basis, notably CERN.

Tier2s in Rio and Sao Paulo that are closely federated with the US CMS Tier2 organization and which have dedicated bandwidth (2 X 1 Gbps as of this month) to Miami and then to Starlight via Florida Lambda Rail. The Miami – Sao Paulo link is funded by NSF’s CHEPREO and WHREN projects (the latter being part of the IRNC program).

Other cases are expected to arise in the future. These will be handled through the MOU process described below

In general, “supporting the mission” should include the use of leveraged facilities, funded by other agencies or universities. A practical approach should be taken so that US LHCNet can provide service to the US HEP community wherever it is required and possible to do that, and where the effect of such service does not have a significant, deleterious impact on the highest priority traffic flows as defined above.

## **Appendix B. Sample services provided by the US LHCNet**

USLHCNet will define and provide a number of well defined services to the US HEP community. The initial primary services will be:

- Participation in the LHC OPN by providing dedicated high-bandwidth connectivity between US LHC Tier-1 centers and CERN, and among the Tier-1 centers as needed.
- High-bandwidth connectivity between US LHC Tier-2 centers and European Tier-1 centers.
- High-bandwidth connectivity between US LHC Tier-1 centers and European Tier-2 centers.

Where other services are provided, they should not interfere with the primary services, which are those listed above.