

May 29, 2008

ITEM 139-116-R0508

**Montana University Research and Education Network
Business Plan**

THAT:

The Board of Regents approves the Montana University Research and Education Network (MUREN) business plan.

EXPLANATION:

This item requests approval of two primary components related to MUREN:

- 1) approval of the *Northern Tier network plan*, including one-time-only and on-going financial commitments; and
- 2) approval of *MUS Research Connections upgrade plan*, including the use of research network funding appropriated by the 2007 Legislature.

Montana Research and Education Network Business Plan

UM - R.Ford, MSU - G.Jacobs

May 2008

In the 2007 Legislative Session the State/ITSD and Montana University System asked for funding to support a two part intra and inter-state network upgrade plan:

1. **Northern Tier Plan.** Working with research and education partners in Washington and North Dakota, to implement a very high bandwidth network path running through Montana by lighting currently dark fiber available to the R&E community.
2. **In-State Network Upgrade.** To extend and expand connectivity on the ITSD/MUS network connecting State and MUS facilities within the state through the normal (then pending) contract re-bid process.

After considerable debate the Legislature (i) funded an in-state network upgrade, but prohibited use of those funds for the Northern Tier Plan, thus forcing ITSD to acquire all in-state connectivity through local telecommunications vendors; and (ii) provide the MUS a special one-time appropriation of roughly \$1.2M for network enhancement, but with ambiguously worded constraints on the use of this funding –in one place suggesting “for research and education” but in another suggesting “research only”. Given this mixed message, the MUS has carefully considered appropriate uses of this funding, and now proposes the *MUS Research Connections Upgrade Plan* outlined below.

Northern Tier Business Plan

Fiscal analysis of the Northern Tier network plan suggests that vendor alternatives are roughly equivalent in cost if only current needs are considered, but the Northern Tier partnership with regional R&E partners is clearly advantageous when future expansion options are added. Therefore we recommend that UM/MSU proceed to finalize the Northern Tier plan. This will commit UM and MSU to pay substantial one-time set up and on-going operational costs, but in return UM and MSU will receive an initial bandwidth resource an order of magnitude beyond what they currently have, along with the ability to add substantial additional bandwidth at incremental cost. The result is capacity which should be sufficient to meet the most ambitious needs envisioned for UM/MSU for the next 10 or more years, at predictable, bounded cost.

Completing the Northern Tier plan will involve finalizing a contract (the “Agreement”) involving UM and MSU and R&E participants in Washington and North Dakota, as well as a memo of understanding (the “MOU”) involving UM and MSU. The Agreement will outline for each participant/state how resources and costs will be divided, and how operational decisions will be made. The MOU will outline how resources, costs, and operational elements assigned to Montana are divided between UM and MSU.

In terms of resources, the Agreement will assure that UM/MSU receive high bandwidth, low cost access to national R&E connection points in Seattle and Minneapolis, as well as additional high bandwidth, low cost access to the Montana portion of the network from Spokane to Glendive. The Agreement will include a multi-state governance structure to guide system wide management decisions, and guarantee a “fair” return to all parties of any resources obtained by the subsequent participation of other users. The MOU will dovetail with the Agreement to provide comparable in-state assurances.

In terms of fiscal commitment, UM and MSU will commit to pay approximately \$2M in one-time costs plus \$350K/year in on-going costs. UM and MSU will each borrow \$1M over 7-10 years to cover one-time costs. UM and MSU will pay debt service on their loans and annual operating costs from current operating budgets.

MUS Research Connections Upgrade Plan

The MUS will utilize the special appropriation to enhance connectivity between MUS *remote research sites* and their home campuses. This will allow the MUS to address critical needs related to its research support mission, while at the same time acting in a manner consistent with even the most restrictive interpretation of the appropriation language. That is, the funds will not be used to support the Northern Tier network, and all capabilities obtained will be acquired through standard and open procurement. The MUS will use the specific process outlined below as a way to allocate the special appropriation and address Legislative reporting requirements.

MUS RESEARCH CONNECTIONS UPGRADE - IMPLEMENTATION PROCESS

- (a) The appropriation will be divided, with half made available to UM, half to MSU.
- (b) The UM and MSU CEOs will each develop and publicize details of the process to be used on their multiple campuses to identify and prioritize needs for their remote research sites. UM and MSU will use those processes to identify qualifying sites and their bandwidth needs, estimate costs, prioritize use of its share of the funds accordingly, and present an **Implementation Plan** to the Commissioner of Higher Education for approval.
- (c) Once the implementation plan is approved, UM and MSU will utilize standard and open procurement to acquire the necessary connections.
- (d) Once the connections have been acquired, UM and MSU will each present an **Implementation Report** to the Commissioner of Higher Education, showing how the funds were used and outlining how on-going costs will be absorbed after the one-time State funds are exhausted.
- (e) The Commissioner will use the **Implementation Plans** to report to the Legislature in 2008, and the **Implementation Reports** to report to the Legislature in 2009.